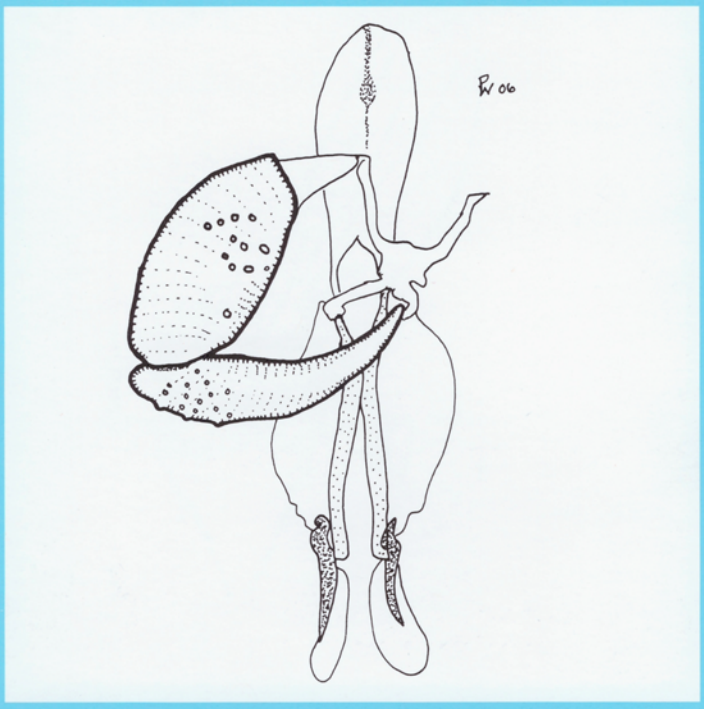
Dipterists Digest



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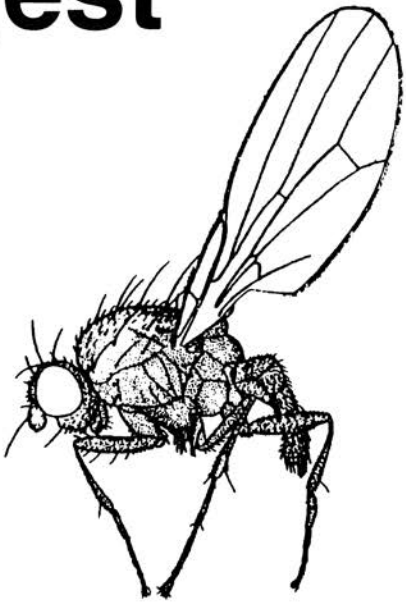

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Dipterists Digest is the journal of the **Dipterists Forum**. It is intended for amateur, semi-professional and professional field dipterists with interests in British and NW European flies. All notes and papers submitted to **Dipterists Digest** are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

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- 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;
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- notes on identification including deletions or amendments to standard key works and checklists.

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Style and format should follow articles published in the most recent issue. A short Summary (in the form of an Abstract) should be included at the beginning of each article and should be supplied with the article. References to journals should give the title of the journal in full. **Scientific names should be italicised.** Authors of scientific names should be given in full (with parentheses if applicable) and nomenclature should follow the most recent checklist, 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.

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

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Dipterists Digest 2006 **13**, 1-4

Previously unpublished British records of *Piophila casei* (Linnaeus, 1758) (Diptera, Piophilidae) and records associated with imported commodities

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Summary
Previously unpublished data from the collection and records of the Central Science Laboratory are presented for *Piophila casei* (Linnaeus, 1758) (Diptera, Piophilidae).

Introduction

The recent note by David Notton (2005) regarding the find of a single specimen of the 'cheese skipper' *Piophila casei* (Linnaeus) noted that there are no specimens of British origin in the Diptera collection of the Natural History Museum, London, collected later than 1952 and that there had apparently been no British records for at least 50 years. This prompted me to examine the specimens held in the collection of the Central Science Laboratory (CSL).

The collection includes specimens accumulated between 1921 and 1986 by the former Ministry of Agriculture and Food, Infestation Control Division (M.A.F. Inf. Con. Div.) which became the Ministry of Agriculture, Fisheries and Food Infestation Control Headquarters (M.A.F.F. Inf. Con. H.Q.), then the Pest Infestation Control Laboratory (PICL), and later the Storage Pest Department, before relocating from Slough, Berkshire, to Sand Hutton, near York, as part of CSL.

Piophila casei is represented in the collection by 33 pinned adults (with 22 puparial cases) and in the spirit collection by 34 final instar larvae and 43 puparia. However, eight of the adults, the larvae and 21 of the puparia lack collection details. These specimens are derived from 10 separate samples. In addition, the identification log-books provide details of a further 22 samples collected in the field for which there is no corresponding material in the collection, these having been returned to their respective collectors. In total there are 32 records; eight are of British origin of which five were collected between 1975 and 1986. The identity of all the adult flies present in the collection was verified with reference to Stubbs and Chandler (2001). I can therefore confirm that *P. casei* has been recorded in Britain within the last 50 years, although there are no verifiable specimens associated with the post 1950 records. The 24 remaining records are of specimens collected in association with a variety of goods imported into Britain between 1950 and 1980 and adults have been verified for eight of these records, the most recent being from 1974. No additional specimens have been seen from any source since 1986.

The apparent absence of any British records of *P. casei* at CSL since 1986 may well be due, as suggested by David Notton, to general improvements in hygiene and the widespread use of domestic refrigerators. The lack of *P. casei* records in association with

imported commodities since 1980 is probably analogous to the situation reported for the weevil *Caulophilus oryzae* (Gyllenhal) (Coleoptera, Curculionidae) by Morris and Ostojá-Starzewski (2001), who suggested that the lack of *C. oryzae* records on imported commodities in the last quarter century may have been due to '...cleaner cargoes in seaborne trade in general (Aitken 1975), together with the discontinuation of routine cargo inspection' and that the '...more general use of containers rather than hold cargo may also have reduced the number of records'.

None of the aforementioned records have been accessible outside these organisations or published before. Full details for all but the two earliest records can be located from the Identification Reference Number (**Id. Ref. No.**), and records from which material was retained in the collection are indicated by a Specimen Reference Number (**Sp. Ref. No.**). All the records are summarised and listed below in chronological order. Those for which adult specimens survive in the CSL collection are marked *:

British records before 1952

*SURREY, Surbiton. On bacon. Seven adults. Coll. C. Long. 1921. Det. ?, confirmed by the author (General insect collection) **No Sp. Ref. No.**

*MERSEYSIDE, Birkenhead. Grape crates. One adult. Coll.? Det. H. Oldroyd (BMNH) 17.ix.1947, confirmed by the author (General insect collection). **No Sp. Ref. No.**

*SALOP (Shropshire), Whitchurch. Two adults. Cheshire cheese in store. Coll. F.R. Cann 3.x.1950. Det.? , confirmed by the author. **Sp. Ref. No. 72/50** M.A.F. Inf. Con. Div.

British records after 1952

DERBYSHIRE, Chesterfield. In cheese. Life stage not recorded. Coll. M.G. Jefferies 17.ix.1975. Det. R.G. Adams 18.xi.1975. **Id. Ref. No. 18213**

LONDON, Hackney. In smoked herring. Life stage not recorded. Coll. J.R. Sanderson 24.x.1980. Det. R.G. Adams 4.xi.1980. **Id. Ref. No. 24144**

LONDON SE1. Found in grated Parmesan cheese packed in the UK. Life stage not recorded. Coll. 17.ii.1982. Det. R.G. Adams 17.ii.1982. **Id. Ref. No. 25494**

DERBYSHIRE. Found between beams in an old cottage. Life stage not recorded. Coll. P. Wilson 6.ii.1984. Det. R.G. Adams. **Id. Ref. No. 27076**

DEVON, Exeter. Found in household dust. Life stage not recorded. Coll. K.B. Wildey 31.i.1986. Det. R.G. Adams. **Id. Ref. No. 29179**

Records associated with imported commodities 1950 - 1980

*LONDON, Wapping. One adult. Cheese residues. Coll. J. Thompson 3.iv.1950. Det. G.A. Brett, confirmed by the author. **Sp. Ref. No. 23/50 M.A.F. Inf. Con. Div.**

*MERSEYSIDE, Liverpool. Three adults. In kibbled carobs. Coll. M. Jennings 27.iv.1959. Det. H. Oldroyd (BMNH) 21.vii.1959, confirmed by the author. **Sp. Ref. No. 143/59 M.A.F.F. Inf. Con. H.Q**.

*NORTHAMPTONSHIRE, Corby. One adult. In raisins ex California. Coll. R. Kennedy 13.x.1970. Det. B.H. Cogan (BMNH) 28.x.1970, confirmed by the author. **Id. Ref. No. 13563. Sp. Ref. No. 12/71. M.A.F.F. P.I.C. Lab**.

*BUCKINGHAMSHIRE, Colnebrook. Five adults. Caked soya flour ex Canada. Coll. N. Hunter 27.ix.1971. Det. R.G. Adams 18.x.1971, confirmed by the author. **Id. Ref. No. 14390. Sp. Ref. No. 237/71 M.A.F.F. P.I.C. Lab.**

*BRISTOL. One adult. In feathermeal ex Canada. Coll. W.F. Parker 24.x.1971. Det. R.G. Adams 29.x.1971, confirmed by the author. **Id. Ref. No. 14417. Sp. Ref. No. 246/71 M.A.F.F. P.I.C. Lab.**

*MANCHESTER. Two adults and 20 preserved puparia. On salted cattle hides ex Canada. Coll. J. Thompson 18.x.1972. Det. R.G. Adams 7.xi.1972, confirmed by the author. **Id. Ref. No. 15501 Sp. Ref. No. 220/72 M.A.F.F. P.I.C. Lab.**

BRISTOL, Avonmouth. Life stage not recorded. In feathermeal ex Canada. Coll. J. D. Ethelstone 24.x.1972. Det. R.G. Adams 10.i.1973. **Id. Ref. No. 15637**

MANCHESTER. Adults, puparia and larvae. On wet hides ex Australia. Coll. M.E. Dearden 13.iv.1973. Det. R.G. Adams 18.iv.1973. **Id. Ref. No. 15785**.

NOTTINGHAM. Life stage not recorded. On wet salted hides ex Australia. Coll. M.G. Jefferies 25.iv.1973. Det. R.G. Adams 18.v.1973. **Id. Ref. No. 15827**

MANCHESTER. Life stage not recorded. On salted hides ex Australia. Coll. J. Thompson 9.v.1973. Det. R.G. Adams 23.v.1973. **Id. Ref. No. 15838**

MANCHESTER. Life stage not recorded. On sheepskins ex Canada. Coll. M.E. Dearden 21.vi.1973. Det. R.G. Adams 18.vii.1973. Manchester. **Id. Ref. No. 16037**

MANCHESTER. Life stage not recorded. On wet salted hides ex USA. Coll. M.E. Dearden 21.vi.1973. Det. R.G. Adams 18.vii.1973. **Id. Ref. No. 16038**

CAMBRIDGESHIRE, Sawton. Life stage not recorded. In container of wet hides ex USA. Coll. P. Baker 9.vii.1973. Det. R.G. Adams 10.viii.1973. **Id. Ref. No. 16133**

*MANCHESTER. Two adults. With pig skins ex Houston, USA. Coll. M.E. Dearden 1.x.1974. Det. R.G. Adams 17.x.1974, confirmed by the author. **Id. Ref. No. 16284. Sp. Ref. No. 25/74 M.A.F.F. P.I.C. Lab.**

BIRMINGHAM. Life stage not recorded. Container depot, in assorted Chinese foodstuffs. Coll. B. Turner 23.vii.1973. Det. R.G. Adams 26.vii.1973. **Id. Ref. No. 16102**

MANCHESTER. Two puparia. On sheepskins ex Canada. Coll. M.E. Dearden 21.vi.1973. Det.?. **Id. Ref. No 16037. Sp. Ref. No. 10/74**

MERSEYSIDE, Liverpool. Life stage not recorded. On pigskins ex Canada. Coll. G.W. Pemberton 7.vii.1975. Det. R.G. Adams 15.vii.1975. **Id. Ref. No. 17944**

MERSEYSIDE, Liverpool. Life stage not recorded. On Moroccan cured sardines. Coll. W. Pemberton 24.ix.1975. Det. R.G. Adams 27.x.1975. **Id. Ref. No. 18227**

MANCHESTER. Life stage not recorded. In raisins ex Cyprus. Coll. J. Thompson 15.xi.1976. Det. R.G. Adams 8.xii.1976. **Id. Ref. No. 19600**

MANCHESTER. Life stage not recorded. Dead on sacks of millet ex Australia. Coll. M.E. Dearden ?.xii.1976. Det. R.G. Adams 12.i.1977. **Id. Ref. No. 19738**

MANCHESTER. Life stage not recorded. Empty container that probably carried hides to Israel. Coll. J. Thompson 25.xi.1977. Det. R.G. Adams 12.xii.1977. **Id. Ref. No. 21071**

EAST YORKSHIRE, Hull. Life stage not recorded. In fish residues. Coll. B. Wright 10.vii.1978. Det. R.G. Adams 21.vii.1978. **Id. Ref. No. 21533**

MANCHESTER, Hull. Life stage not recorded. In fish residues. Coll. M.P. Kelly 14.vii.1978. Det. R.G. Adams 25.vii.1978. **Id. Ref. No. 21565**

MANCHESTER. Life stage not recorded. Dead in 'sultana raisins' ex Cyprus. Coll. J. Thompson 29.ix.1980. Det. R.G. Adams 2.x.1980. **Id. Ref. No. 24074**

Acknowledgements

Thanks are due to Richard. G. Adams for his helpful correspondence and information regarding the insect collection catalogue of the former Storage Pest Department, and Peter Chandler for providing a copy of the key used to verify the identity of the CSL specimens.

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Stubbs, A.E. and Chandler, P.J. 2001. A provisional key to British Piophilidae (Diptera) and *Parapiophila flavipes* (Zetterstedt, 1847) new to Britain *Dipterists Digest* (*Second Series*) **8,** 71-78).

Dipterists Digest 2006 **13**, 5-10

Dolichopus excisus Loew, 1859 (Diptera, Dolichopodidae) new to Britain discovered in southern England

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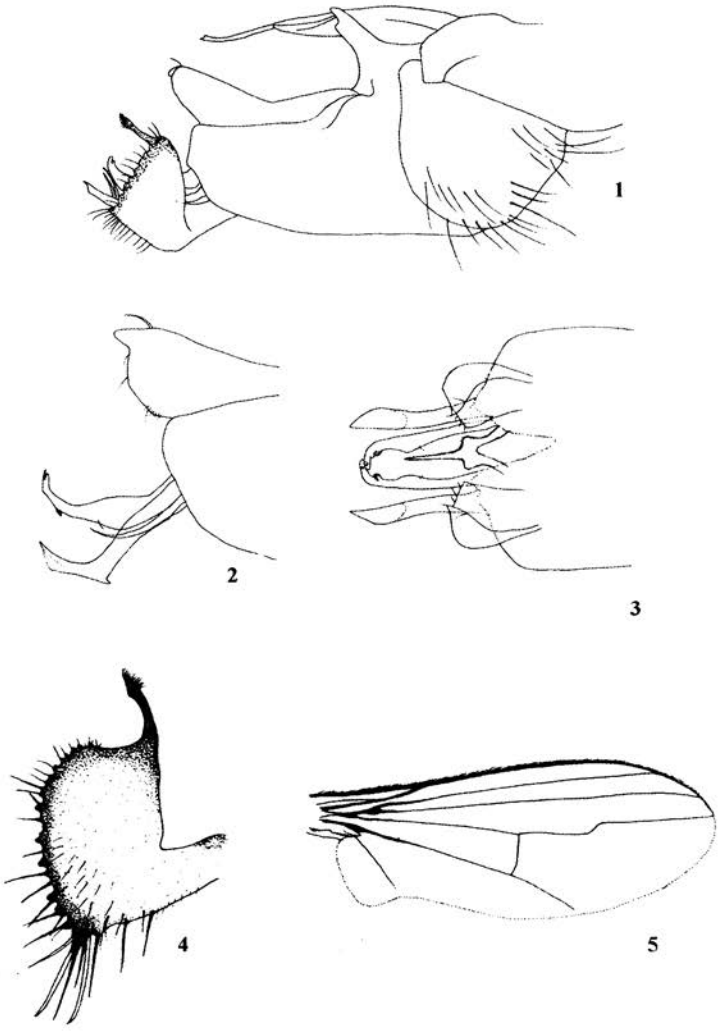
Summary
Single males of *Dolichopus excisus* Loew, 1859 (Diptera, Dolichopodidae) were discovered at Poole Harbour, Dorset, in May and August 2005. The identification of both sexes is discussed and the male genitalia are illustrated.

Introduction

In 2005 I undertook a survey of wetland habitats at the transition between freshwater marshes and saltmarsh around the southern margin of Poole Harbour, Dorset. Dolichopodidae are an important component of both fresh and brackish wetlands so large samples of this family were captured. From one site, Shotover Moor, I obtained two male *Dolichopus* which, at first sight, looked like the very common *D. nubilus* Meigen, 1824 but a glance at the genitalia confirmed that they could not be this species. Using the keys provided by d'Assis-Fonseca (1978) they could not be satisfactorily identified so I ran them through Parent's (1938) key, where they readily keyed to *D. excisus*. The excellent illustrations of the male genitalia given by Párvu (1996) served to confirm determination.

Identification

Males. In the key by d'Assis-Fonseca (1978) *D. excisus* will run to couplet 54 where it fits most closely the yellow-legged form of *D. andalusiacus* Strobl, 1899, having a hairy face and no ventral fringe of pale hairs to the hind femur. However, *D. excisus* differs strikingly in the form of the cercus (genital lamella of d'Assis-Fonseca 1978). In *D. andalusiacus* the cercus is simply triangular with a rather dense tuft of black hairs on a short prominence at the inner angle (see d'Assis-Fonseca 1978, Fig. 73). The cercus of *D. excisus* is conspicuously shorter, curving up and ending in a long, black process, which is surmounted by a brush of short hairs (Fig.4). Another remarkable character of *D. excisus* is the strongly developed anal lobe of the wing, which creates a conspicuously excised area between the anal lobe and the rest of the wing (Fig.5). When Loew (1859) described *D. excisus* he also described *D. excisus siculus* Loew, 1859 as a variety of his new species. This treatment of *siculus* has been followed by subsequent workers, including Negrobov (1991) in the Catalogue of Palaearctic Diptera. More recently, Párvu (1996) demonstrated that *siculus* deserves full species status based on details of the male genitalia. *Dolichopus siculus*, which shares with *D. excisus* the strongly developed anal lobe of the wing, is a rare species of southern and eastern Europe and Israel and so unlikely to be found in Britain.



Figs 1-5. Male of *Dolichopus excisus* Loew. 1, genitalia (dry pinned); 2 and 3, tip of hypopygium (macerated) showing apicoventral epandrial lobe, lobes of surstylus and postgonite: 2, left lateral, 3, ventral; 4, left cercus (genital lamella); 5, right wing (terminology follows Brooks 2005).

Females. Unfortunately no female specimens were found at Poole Harbour but three specimens from Jersey, collected in association with three males, were examined at the Natural History Museum, London. Given the variability in leg colour female *D. excisus* is very difficult to distinguish from the other hairy faced species *D. andalusiacus, D. nubilus* and *D. latilimbatus* Macquart, 1827. The best character noticed from the specimens seen is the more developed anal lobe in *D. excisus* (Fig. 6). This is much less obvious in females than it is in males but still apparent when compared directly with the common *D. nubilus* (Fig. 7). Differences in the bends in the discal vein mentioned by Parent (1938) were not apparent in the specimens examined.

The keys given by d'Assis-Fonseca (1978) may be modified as follows:

Males

53 Antenna black, at most reddish at top of 1st segment beneath..... 54
- At least 1st antennal segment yellow along whole of length beneath..... 55

54 Face hairy. Hind femur without a ventral fringe of pale hairs..... 54a
- Face bare. Hind femur with a complete fringe of short pale hairs beneath. Genital lamella oval (Fig. 71, d'Assis-Fonseca 1978)..... ***caligatus*** Wahlberg

54a Anal lobe normal. Genital lamella more or less triangular (Fig. 73, d'Assis-Fonseca 1978)..... ***andalusiacus*** Strobl
- Anal lobe strongly developed (Fig. 5). Genital lamella shorter, curving up and ending in a long, black process, which is surmounted by a brush of short hairs (Fig. 4). ..... ***excisus*** Loew

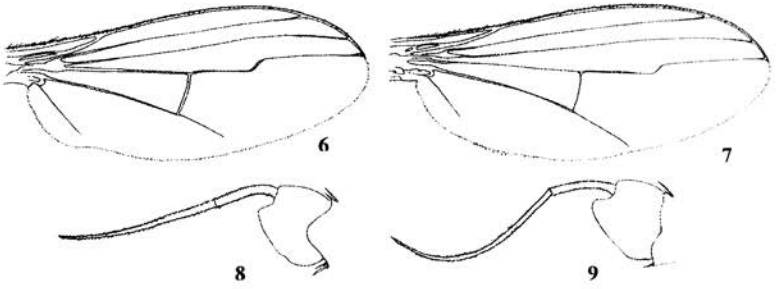
Females

19 Face uniformly hairy..... 20
- Face bare, or at most with hairs on clypeus and a few isolated hairs above..... 22

20 Hind tibia entirely yellow..... ***andalusiacus*** Strobl
- Hind tibia distinctly darkened at apex, especially on posterior face..... 21

21 Hind femur dorsally at tip only feebly brown, hind tibia only brownish at apex, even on posterior face..... ***latilimbatus*** Macquart
- Hind femur dorsally at tip distinctly blackish brown, hind tibia distinctly blackish posteriorly at apex..... 21a

21a Anal lobe slightly but distinctly developed (Fig. 6). Outer face of fore coxa darkened for more than half its length. Arista shorter and a little thicker (Fig 8). Blackish apicodorsal spot on hind femur larger..... ***excisus*** Loew
- Anal lobe not at all developed, hind wing margin smooth (Fig. 7). Fore coxa darkened at extreme base only. Arista longer and finer (Fig 9). Blackish apicodorsal spot on hind femur smaller..... ***nubilus*** Meigen



Figs 6-9. Female *Dolichopus*. 6 and 8, *Dolichopus excisus* Loew: 6, wing; 8, antenna. 7 and 9, *Dolichopus nubilus* Meigen: 7, wing; 9, antenna.

Biology

In Belgium *D. excisus* seems to prefer very humid (preferably permanent) conditions and is most abundant in open short grazed, sedge vegetation (Pollet 2000; Pollet *pers. comm.*). In Romania *D. excisus* is known from sandy plains, mountains and limestone areas (Párvu 1996). The two specimens from Poole Harbour were taken on the upper saltmarsh dominated by sea club-rush *Bolboschoenus maritimus*; with much bare, nitrogenous mud and some freshwater seepages along the margins with some *Juncus*. Table 1 lists all the other species of Dolichopodidae found at the sample site during the survey. Because it was a qualitative survey, numbers of individuals captured was not recorded. The site was visited on four dates to take sweep-net samples and a water trap was operated for a few days in June.

Distribution

In Continental Europe *D. excisus* is widespread from The Netherlands east to Russia, extending beyond the Urals, and south to Spain in the west and Turkey in the east (Pollet 2004). Given this wide distribution in general, and its presence in countries just across the Channel like The Netherlands, Belgium and France in particular, *D. excisus* is not a surprising addition to the British fauna. In Flanders (northern Belgium) it is considered to be "fairly rare", as it has been collected since 1981 in only 7.2% of the sampled UTM 5x5km squares. To date it has not been recorded in the southern part of Belgium (Wallony) (Pollet 2000; Pollet *pers. comm.*). Its occurrence at a coastal location in the very south of England suggests that this is either a rare species on the edge of its range or a recent colonist from the continent.

Material examined

BRITAIN, Dorset, Poole Harbour, Shotover Moor V.C. 9, SY9985, 18 May 2005 1♂ (leg. D.J. Gibbs); 9 August 2005 1♂ (leg. D.J. Gibbs)

Argyra diaphana (Fabricius)
Argyra vestita (Wiedemann)
Chrysotus gramineus (Fallén)
Chrysotus neglectus (Wiedemann)
Dolichopus atripes Meigen
Dolichopus nubilus Meigen
Dolichopus plumipes (Scopoli)
Dolichopus popularis Wiedemann
Dolichopus strigipes Verrall
Dolichopus ungulatus (Linnaeus)
Dolichopus diadema Haliday
Gymnopternus aerosus (Fallén)
Ethiromyia chalybea (Wiedemann)
Hercostomus cupreus (Fallén)
Poecilobothrus nobilitatus (Linnaeus)
Tachytrechus notatus (Stannius)
Hydrophorus oceanus (Macquart)
Machaerium maritimae Haliday
Thinophilus ruficornis (Haliday)
Thrypticus pollinosus Verrall
Rhaphium consobrinum Zetterstedt
Campsicnemus armatus (Zetterstedt)
Campsicnemus curvipes (Fallén)
Campsicnemus loripes (Haliday)
Campsicnemus pusillus (Meigen)
Campsicnemus scambus (Fallén)
Micromorphus sp.
Sympycnus desoutteri Parent
Syntormon aulicum (Meigen)
Syntormon pallipes (Fabricius)
Syntormon pumilum (Meigen)
Telmaturgus tumidulus (Raddatz)
Teuchophorus spinigerellus (Zetterstedt)

Table 1. Dolichopodidae found at same site as *D. excisus* in 2005

CHANNEL ISLANDS, Jersey, Handois, Upper reservoir 9 July 1956, 3♂3♀ (leg. J. Cowley; coll. BMNH).

ITALY, Viterbo, Lago di Vico, 26 July 1953 1♂ (leg. A. Giordani Soika; coll. BMNH)

Acknowledgements
I am very grateful to Peter Dyte for his comments on the specimens, Marc Pollet for information on the species in Belgium and e-mail discussions, Scott Brooks for a copy of his phylogenetic work and Corneliu Párvu for his paper on *Dolichopus siculus*. I would also like to thank Darren Mann and David Notton for facilitating access to the collections at the Oxford University Museum and the Natural History Museum, London respectively. The survey was commissioned by John Day and the Poole Harbour Study Group.

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Dipterists Day Exhibits 2005 - compiled by Editor from exhibitors' notes

Again only those exhibits that did not also appear at the Exhibition of the British Entomological and Natural History Society, are included here; details of the exhibits by A.J. Halstead, I. Perry, M. Parker, B. Schulten and J.W. Ismay will be included in the BENHS Exhibition Report.

GIBBS, D.J. - Some scarcer Diptera collected in 2005: *Tipula marginella* Theowald (Tipulidae), Morriston, Swansea, Glamorgan, V.C. 41 (SS6599), 27.vi; *Mycetobia gemella* Mamaev (Mycetobiidae), Longleat (Center Parcs), Wiltshire, V.C. 8 (ST8343), 25.v, a new record for England; *Allodia czernyi* (Landrock) (Mycetophilidae), Whinfell Forest (Center Parcs), Cumbria V.C. 69 (NY5826), 23.vii; *Rymosia connexa* Winnertz (Mycetophilidae), Whinfell Forest (Center Parcs), Cumbria V.C. 69 (NY5727), 24.vii; *Eupachygaster tarsalis* (Zetterstedt) (Stratiomyidae), Elveden (Center Parcs), Suffolk V.C. 26 (TL8080) emerged vi from poplar *Populus* rot-hole sample, Mark Ash Wood, Hampshire V.C. 11 (SU2407), 23.vi; *Zabrachia tenella* (Jaennicke) (Stratiomyidae), Elveden (Center Parcs), Suffolk V.C. 26 (TL7980), emerged v and vi from samples of pine bark; *Chrysopilus laetus* Zetterstedt (Rhagionidae), Warfield, Berks V.C. 22 (SU8871), at window indoors, 10.vii; *Atylotus fulvus* (Meigen) (Tabanidae), Shotover Moor, Poole Harbour, Dorset V.C. 9 (SY9985), 8.vii; *Haematopota bigoti* Gobert (Tabanidae), Coombe Heath, Poole Harbour, Dorset V.C. 9 (SY9787), 9.viii; *Atylotus latistriatus* Brauer (Tabanidae), Shipstal Point, Poole Harbour, Dorset V.C. 9 (SY9888). 8.vii; Coombe Heath, Poole Harbour, Dorset V.C. 9 (SY9787), 8.vii; Brand's Bay, Poole Harbour, Dorset V.C. 9 (SZ0284), 8.vii; *Medetera inspissata* Collin (Dolichopodidae), Arno's Vale Cemetery, Bristol V.C. 6 (ST6071), emerged from samples of white poplar bark, 9-16.v; *Medetera unisetosa* Collin (Dolichopodidae), Mark Ash Wood, Hampshire V.C. 11 (SU2407), 23.vi; *Telmaturgus tumidulus* (Raddatz) (Dolichopodidae), Shotover Moor, Poole Harbour, Dorset V.C. 9 (SY9985), 18.v and Wytch Moor, Poole Harbour, Dorset V.C. 9 (SY9885), 8.vii; *Microdon analis* (Macquart) (Syrphidae), Mark Ash Wood, Hampshire V.C. 11 (SU2407), 23.vi; *Allopiophila* (=

Parapiophila) *flavipes* (Zetterstedt) (Piophilidae), Whinfell Forest (Center Parcs), Cumbria V.C. 69 (NY5727), 24.vii; *Periscelis annulata* (Fallén) (Periscelididae), Morriston, Swansea, Glamorgan V.C. 41 (SS6599), 15.vii; *Lasiambia brevibucca* (Duda) (Chloropidae), Morriston, Swansea, Glamorgan V.C. 41 (SS6599), 15.viii; *Gymnochiromyia inermis* (Collin) (Chyromyidae), Whinfell Forest (Center Parcs), Cumbria V.C. 69 (NY5727), 24.vii; *Delia diluta* (Stein) (Anthomyiidae). Morriston, Swansea, Glamorgan V.C. 41 (SS6599), 15.vii; *Neolimnophora maritima* (von Röder) (Muscidae), Titchwell RSPB reserve Suffolk V.C. 26 (TF7544), 13.vii; *Cistogaster globosa* (Fabricius) (Tachinidae), Radstock Sidings, Somerset V.C. 6 (ST6954), 18.vi; *Phasia barbifrons* (Girschner) (Tachinidae), Radstock Sidings, Somerset V.C. 6 (ST6954), 2.viii.

MERRIFIELD, K. Photographs taken with a Nikon Coolpix 4500: *Ctenophora pectinicornis* (Linnaeus) (Tipulidae), 8 June 2005, Ruislip Woods NNR, Park Wood, Middlesex (TQ092886), seen flying across an open ride and photographed initially in a specimen tube and when held for further photographs it curled and waved its abdomen as if trying to sting; *Ptychoptera contaminata* (Linnaeus) (Ptychopteridae), 9 June 2005, Ruislip LNR, Ruislip Woods NNR, Middlesex (TQ0989), seen walking over a bramble leaf apparently feeding (presumably on honeydew).

SOLOWSKI, M. A range of illustrations comprising whole insect drawings, mainly of Ephydridae and Heleomyzidae. These had been drawn for publications by Polish authors, in particular Tadeusz Zatwarnicki and Andrzej Woźnica. An example of an article including some of these figures was also exhibited.

Corrections and changes to the Diptera Checklist (15) – 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. Zoological Record for 2005 has been consulted and taken into account.

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 4 losses due to synonymy, deletion of 4 species and addition of 131 species, resulting in a new total of **6953** species.

Changes

Pediciidae. The following addition reported by K. MERRIFIELD (2003. communication at meeting of British Entomological and Natural History Society on 13 May 2003 (*British Journal of Entomology and Natural History* **16,** 199) has been repeatedly overlooked:
Ula ***mixta*** Starý, 1983

Bibionidae. The following new synonymies are proposed in the present issue:
Bibio ***longipes*** Loew, 1864 = *Bibio lepidus* Loew, 1871, syn. nov.
Bibio lanigerus Meigen, 1818 = *Bibio hybridus* Haliday, 1833, synonymy reinstated
Bibio varipes Meigen, 1830 = *Bibio edwardsi* Freeman & Lane, 1985, syn. nov.

Mycetophilidae. The following addition results from J. KJAERANDSEN and P.J. CHANDLER (2006. On the identity of *Pseudexechia parallela* (Edwards, 1925) (Diptera: Mycetophilidae) and description of a new related species from Great Britain. *British Journal of Entomology and Natural History* **19,** 41-49):
Pseudexechia ***monica*** Kjaerandsen & Chandler, 2006

The following change results from A.I. ZAITZEV, J. JAKOVLEV and A.V. POLEVOI (2006. Palaearctic species of the *Boletina nitida*-group (Diptera: Mycetophilidae) including the description of a new species. *Studia dipterologica* **12** (2005)**,** 243-253):
Boletina ***bidenticulata*** Sasakawa & Kimura, 1974 = *dispecta*: Edwards, 1941, misident.
Deletion of *Boletina dispecta* Dziedzicki, 1885

Sciaridae. The following taxonomic changes and additions result from F. MENZEL, J.E. SMITH and P.J. CHANDLER (2006. The sciarid fauna of the British Isles (Diptera: Sciaridae), including descriptions of six new species. *Zoological Journal of the Linnean Society* **146,** 1-147). Citations of Menzel, 1998 refer to the Sciaridae part of the checklist, of which he was the author:

Bradysia ***fenestralis*** (Zetterstedt, 1838) = *arcana*: Menzel, 1998, misident. This name is reinstated to the British list but true *B. arcana* is also added (see below).

Bradysia rufescens: Menzel, 1998, misident. comprised material of both *B. lobulifera* Frey, 1948 and *B. rectinervis* Frey, 1948, both of which are added to the British list while *rufescens* is deleted.

Corynoptera recurvispina Freeman, 1987 = *dentiforceps*: Menzel, 1998, misident. All British material previously referred to both names is conspecific, resulting in deletion of *C. dentiforceps*

Corynoptera irmgardis (Lengersdorf, 1980) = *subtilis*: Menzel, 1998, misident. but the true *C. subtilis* (Lengersdorf, 1929) is also newly added (see below).

Corynoptera tetrachaeta Tuomikoski, 1960 = *inexspectata*: Menzel, 1998, misident. [misspelt as *inexpectata*];. *C. tetrachaeta* is thus new to the list but true *C. inexspectata* Tuomikoski, 1960 is also newly added (see below).

Leptosciarella (*Leptosciarella*) ***nigrosetosa*** (Freeman, 1990) is reinstated and its synonymy with *truncatula* Mohrig & Menzel, 1997 is proposed; = *truncata*: Menzel, 1998, misident.

Lycoriella (*Hemineurina*) *inflata* (Winnertz, 1867) = *venosa*: Menzel, 1998, misident. and *L. venosa* (Staeger, 1840) is deleted from the British list.
Lycoriella (*Lycoriella*) *subterranea* (Märkel, 1844) = *vanderwieli*: Freeman, 1983, misident. The species identified as *vanderwieli* by Freeman was placed in error in synonymy of *L. cellaris* by Menzel (1998) and is now reinstated under the name *subterranea*.

Sciara nursei Freeman, 1983 is reinstated and its synonymy with *ulrichi* Menzel & Mohrig, 1998 is proposed; it also = *flavomarginata*: Menzel, 1998, misident., so *flavomarginata* Mohrig & Mamaev, 1982 is deleted from the British list.

The above changes overall result in four deletions: *Bradysia rufescens*, *Corynoptera dentiforceps*, *Lycoriella venosa* and *Sciara flavomarginata*.

In the same paper the following 114 species were added to the British Isles list, those marked + from Ireland as well as from Britain and the two species marked ++ from Ireland only:

Bradysia ***angustata*** Tuomikoski, 1960
Bradysia ***angustoocularis*** Mohrig & Krivosheina, 1989
Bradysia ***arcana*** Menzel & Mohrig, 1998 [previously included due to a misident.]
Bradysia ***ascenda*** Rudzinski, 1994
Bradysia ***austera*** Menzel & Heller in Menzel, Smith & Chandler, 2006 +
Bradysia ***brevispina*** Tuomikoski, 1960
Bradysia ***bulbostyla*** Mohrig & Menzel, 1990 +
Bradysia ***cinerascens*** (Grzegorzek, 1884 - *Sciara*) +
Bradysia ***flavipila*** Tuomikoski, 1960 +
Bradysia ***helleri*** Menzel & Mohrig, 1998
Bradysia ***heydemanni*** (Lengersdorf, 1955 - *Neosciara*)
Bradysia ***hildae*** Heller, 2000
Bradysia ***holsatica*** Heller, 2004
Bradysia ***ismayi*** Menzel in Menzel, Smith & Chandler, 2006
Bradysia ***kassebeeri*** Heller, 1998
Bradysia ***lembkei*** Mohrig & Menzel, 1990
Bradysia ***lobata*** Hondru, 1968 +
Bradysia ***lobulifera*** Frey, 1948
Bradysia ***longistylia*** Mohrig & Krivosheina, 1982
Bradysia ***lucichaeta*** Mohrig & Krivosheina, 1989
Bradysia ***moesta*** Frey, 1948

Bradysia ***nigrispina*** Menzel in Menzel, Smith & Chandler, 2006
Bradysia ***peraffinis*** Tuomikoski, 1960 +
Bradysia ***postrufescens*** Mohrig & Menzel, 1990
Bradysia ***pseudocampestris*** Mohrig, 1978
Bradysia ***pseudodalmatina*** Mohrig & Röschmann, 1993
Bradysia ***rectinervis*** Frey, 1948 +
Bradysia ***reflexa*** Tuomikoski, 1960
Bradysia ***splendida*** Mohrig & Krivosheina, 1989
Bradysia ***subalpina*** Frey, 1948
Bradysia ***subrufescens*** Mohrig & Krivosheina, 1989
Bradysia ***tenuicauda*** Mohrig & Menzel, 1990
Bradysia ***trispinifera*** Mohrig & Krivosheina, 1979
Bradysia ***vernalis*** (Zetterstedt, 1851 - *Sciara*) +
Bradysia ***zonata*** Rudzinski, 1993
Camptochaeta ***camptochaeta*** (Tuomikoski, 1960 - *Corynoptera*)
Camptochaeta ***consimilis*** (Holmgren, 1869 - *Sciara*)
Camptochaeta ***vivax*** (Frey, 1948 - *Bradysia*)
Corynoptera ***bicuspidata*** (Lengersdorf, 1926- *Sciara*)
Corynoptera ***bistrispina*** (Bukowski & Lengersdorf, 1936 - *Neosciara*)
Corynoptera ***cavipes*** Mohrig, 1993
Corynoptera ***concinna*** (Winnertz, 1867 - *Sciara*)
Corynoptera ***cuniculata*** (Lengersdorf, 1942- *Neosciara*)
Corynoptera ***dentata*** (Bukowski & Lengersdorf, 1936 - *Neosciara*)
Corynoptera ***flavosignata*** Menzel & Heller in Menzel, Smith & Chandler, 2006
Corynoptera ***fritzi*** Mohrig & Rulik, 2001
Corynoptera ***furcifera*** Mohrig & Mamaev, 1987
Corynoptera ***hemiacantha*** Mohrig & Mamaev, 1992
Corynoptera ***inexspectata*** Tuomikoski, 1960 [previously included due to a misident.]
Corynoptera ***inundata*** Fritz, 1982 +
Corynoptera ***levis*** Tuomikoski, 1960
Corynoptera ***luteofusca*** (Bukowski & Lengersdorf, 1936 - *Neosciara*)
Corynoptera ***macricula*** Mohrig & Krivosheina, 1986
Corynoptera ***melanochaeta*** Mohrig & Menzel, 1992
Corynoptera ***obscuripila*** Tuomikoski, 1960
Corynoptera ***postforcipata*** Rudzinski, 1993
Corynoptera ***postglobiformis*** Mohrig, 1993
Corynoptera ***praeforcipata*** Mohrig & Mamaev, 1987
Corynoptera ***praeparvula*** Mohrig & Krivosheina, 1983
Corynoptera ***saccata*** Tuomikoski, 1960
Corynoptera ***semisaccata*** Mohrig & Mamaev, 1987
Corynoptera ***spinifera*** Tuomikoski, 1960
Corynoptera ***spoeckeri*** (Lengersdorf, 1930 - *Neosciara*)
Corynoptera ***subdentata*** Mohrig, 1985
Corynoptera ***subfurcifera*** Mohrig & Hövemeyer, 1992 +

Corynoptera ***subtilis*** (Lengersdorf, 1929 - *Sciara*) [previously included due to a misident.]
Corynoptera ***tetrachaeta*** Tuomikoski, 1960
Corynoptera ***uncata*** Menzel & Smith in Menzel, Smith & Chandler, 2006
Corynoptera ***verrucifera*** (Lengersdorf, 1952 - *Neosciara*)
Corynoptera ***winnertzi*** Mohrig, 1993
Cratyna (*Cratyna*) ***ambigua*** (Lengersdorf, 1934 - *Plastosciara*)
Cratyna (*Cratyna*) ***contracta*** Mohrig & Röschmann, 1996
Cratyna (*Diversicratyna*) ***perornata*** (Mohrig & Röschmann, 1993 - *Corynoptera*)
Cratyna (*Peyerimhoffia*) ***hybrida*** (Mohrig & Mamaev, 1974 - *Plastosciara*)
Cratyna (*Spathobdella*) ***falcata*** (Tuomikoski, 1960 - *Plastosciara*)
Cratyna (*Spathobdella*) ***perplexa*** (Winnertz, 1867 - *Sciara*)
Cratyna (*Spathobdella*) ***phili*** Menzel, 2002 ++
Cratyna (*Spathobdella*) ***tuberculata*** (Tuomikoski, 1960 - *Plastosciara*)
Epidapus (*Epidapus*) ***alnicola*** (Tuomikoski, 1957 - *Vimmeria*)
Epidapus (*Epidapus*) ***microthorax*** (Börner, 1903 - *Aptanogyna*)
Epidapus (*Epidapus*) ***subgracilis*** Menzel & Mohrig in Menzel, Smith & Chandler, 2006
Epidapus (*Pseudoaptanogyna*) ***absconditus*** (Vimmer, 1926 - *Aptanogyna*)
Epidapus (*Pseudoaptanogyna*) ***echinatum*** Mohrig & Kozánek, 1992
Leptosciarella (*Hirtipennia*) ***parcepilosa*** (Strobl, 1900 - *Trichosia*)
Leptosciarella (*Leptosciarella*) ***brevipalpa*** (Mohrig & Menzel, 1992 - *Trichosia*)
Leptosciarella (*Leptosciarella*) ***dimera*** (Tuomikoski, 1960 - *Trichosia*)
Leptosciarella (*Leptosciarella*) ***fuscipalpa*** (Mohrig & Mamaev, 1979 - *Trichosia*) +
Leptosciarella (*Leptosciarella*) ***subviatica*** Mohrig & Menzel, 1997
LYCORIELLA Frey, 1942 subgenus **COELOSTYLINA** Tuomikoski, 1960
Lycoriella (*Coelostylina*) ***freyi*** Tuomikoski, 1960
Lycoriella (*Lycoriella*) ***felix*** (Schmitz, 1919 - *Bradysia*)
Lycoriella (*Lycoriella*) ***inconspicua*** Tuomikoski, 1960
Lycoriella (*Lycoriella*) ***micria*** Mohrig & Menzel, 1990
Lycoriella (*Lycoriella*) ***parva*** (Holmgren, 1869 - *Sciara*)
Lycoriella (*Lycoriella*) ***subterranea*** (Märkel, 1844 - *Sciara*)
Phytosciara (*Dolichosciara*) ***ornata*** (Winnertz, 1867 - *Sciara*) ++
Phytosciara (*Dolichosciara*) ***saetosa*** (Lengersdorf, 1929 - *Sciara*)
Pseudolycoriella ***brunnea*** (Bukowski & Lengersdorf, 1936 - *Neosciara*) +
Pseudolycoriella ***koreensis*** (Mohrig & Menzel, 1992 - *Lycoriella*)
Scatopsciara (*Scatopsciara*) ***bucera*** Rudzinski, 1994
Scatopsciara (*Scatopsciara*) ***calamophila*** Frey, 1948 +
Scatopsciara (*Scatopsciara*) ***fluviatiliformis*** Mohrig & Mamaev, 1987
Scatopsciara (*Scatopsciara*) ***latiptera*** Rudzinski, 1995
Scatopsciara (*Scatopsciara*) ***subciliata*** Tuomikoski, 1960
Scatopsciara (*Xenopygina*) ***curvilinea*** (Lengersdorf, 1934 - *Neosciara*)
Scatopsciara (*Xenopygina*) ***dentifera*** (Frey, 1936 - *Sciara*)
Scatopsciara (*Xenopygina*) ***gabyae*** (Heller, 1998 - *Bradysia*)
Scatopsciara (*Xenopygina*) ***simillima*** (Tuomikoski, 1960 - *Corynoptera*)
TRICHODAPUS Mohrig & Menzel, 1997

Trichodapus rhenanus (Fritz, 1982 - *Lestremioides*)
Trichosia (*Trichosia*) ***acrotricha*** Tuomikoski, 1960
Trichosia (*Trichosia*) ***borealis*** (Frey, 1942- *Sciara*)
Trichosia (*Trichosia*) ***flavicoxa*** Tuomikoski, 1960 +
XYLOSCIARA Tuomikoski, 1957 subgenus **PROTOXYLOSCIARA** Tuomikoski, 1960
Xylosciara (*Protoxylosciara*) ***longiforceps*** (Bukowski & Lengersdorf, 1936- *Neosciara*)
Xylosciara (*Xylosciara*) ***betulae*** Tuomikoski, 1960
Xylosciara (*Xylosciara*) ***spectabilis*** Rudzinski, 1992

Cecidomyiidae
The following has been treated as a valid species (see Changes to Irish Diptera List below):
Rabdophaga ***clausilia*** (Bremi, 1847 - *Cecidomyia*) +

Psychodidae. The following changes result from the present issue:
Brunettia should be replaced by **ATRICHOBRUNETTIA** Satchell, 1953
Telmatoscopus ***valachicus*** Vaillant, 1963 is added

Ceratopogonidae. The following synonymies are proposed in *Dasyhelea* sensu stricto by R. SZADZIEWSKI and P. DOMINIAK (2006. New synonyms of European Ceratopogonidae (Diptera). *Annales Zoologici* **56,** 139-146). This would result in two deletions, but further clarification is necessary as *D. dufouri* of the British list is clearly a different species:
Dasyhelea (*D.*) *dufouri* and *D.* (*D.*) *versicolor* placed in synonymy under *D.* (*D.*) *flavifrons*

Hybotidae. The following species was added by M. CHVÁLA and S.M. HEWITT (2006. *Tachydromia calcarata* (Strobl) (Diptera: Hybotidae) new to Britain, with redescription of both sexes, and its correct classification within the *T. interrupta* group of species. *Entomologica Fennica* **17,** 8-12):
Tachydromia ***calcarata*** (Strobl, 1910 - *Tachysta*)

The following species is added in the present issue:
Tachydromia ***smithi*** Chvála, 1966

Dolichopodidae. The phylogenetic study by S.E. BROOKS (2005. Systematics and Phylogeny of Dolichopodinae (Diptera: Dolichopodidae) *Zootaxa* **8,** 57, 1-158) resulted in the following new combination (transfer from *Hercostomus*):
Poecilobothrus chrysozygos (Wiedemann, 1817 - *Dolichopus*)

The following species is added in the present issue:
Dolichopus ***excisus*** Loew, 1859

Phoridae. The following species was added by R.H.L. DISNEY (2006. A new species of *Megaselia* Rondani (Dipt., Phoridae) from Britain and a new synonym. *Entomologist's monthly Magazine* **142,** 31-39):
Megaselia ***shawi*** Disney, 2006

Pipunculidae. The following synonymy has been previously overlooked. According to K. VON DER DUNK and P. LAUTERER (1998. More details on the rare *Eudorylas furvulus* Collin and *Microcephalops opacus* (Fallén) Comb.n. (Diptera: Pipunculidae). *Acta Musei Moraviae, Scientiarum biologiae* **82,** 163-171) it should be known as:
Microcephalops ***opacus*** (Fallén, 1816 - *Cephalops*) = *vestitus* Becker, 1900 (*Pipunculus*)

Syrphidae. OPINION 2153 (Case 3259) (2006. *Eristalis* Latreille, 1804 (Insecta, Diptera): confirmation that the gender is feminine: *Musca nemorum* Linnaeus, 1758, *M. arbustorum* Linnaeus, 1758 and *M. horticola* De Geer, 1776 (currently *Eristalis nemorum*, *E. arbustorum* and *E. horticola*): usage of the specific names conserved by the designation of neotypes. *Bulletin of Zoological Nomenclature* **63**(2)**,** 146-147) results in the following changes:
Eristalis ***nemorum*** (Linnaeus, 1758 - *Musca*) replaces *E. interrupta.*
Eristalis horticola is confirmed as the valid name, rather than *E. lineata* which was used for this species in the European revision of the genus by Hippa *et al.* (2001).
Eristalis abusiva and *E. intricaria* are the only species that change the spelling of their names due to the recognition that *Eristalis* is of feminine gender.

Piophilidae. A.L. OZEROV (2004. On classification of the Family Piophilidae (Diptera). *Zoologicheskoe Zhyrnal* **83,** 1353-1360) has proposed the following changes: restoration of subfamily Neottiophilinae as a separate family **Neottiophilidae**, synonymy of the tribe Mycetaulini with Piophilini (this is the situation already in the checklist) and an overhaul of McAlpine's generic classification resulting in the following new generic synonymies:
Liopiophila a junior synonym of *Prochyliza*
Parapiophila (as well as the non-British *Arctopiophila* and *Boreopiophila*) a junior synonym of *Allopiophila*
The following species change their assignment:
Allopiophila flavipes (Zetterstedt, 1847 - *Piophila*)
Allopiophila vulgaris (Fallén, 1820 - *Piophila*)
Prochyliza varipes (Meigen, 1830 - *Piophila*)

Neottiophilidae. [see Piophilidae regarding proposed restoration of family status].

Agromyzidae. D. GIBBS and M. VON TSCHIRNHAUS (2006. *Agromyza viciae* Kaltenbach, 1872 new for the British Isles and Norway with the first description of the male and a literature review. *Studia dipterologica* **12** (2005)**,** 429-441) added the following:
Agromyza ***viciae*** Kaltenbach, 1872

The following species are added in the present issue:
Cerodontha (*Cerodontha*) ***affinis*** (Fallén, 1823 - *Chlorops*)
Cerodontha (*Cerodontha*) ***phragmitophila*** Hering, 1935 [*Cerodonta*]
Ophiomyia ***nasuta*** (Melander, 1913 - *Agromyza*)
Phytobia ***mallochi*** (Hendel, 1924 - *Dizygomyza*)
Phytomyza ***ranunculicola*** Hering, 1949

Heleomyzidae. A paper by A.J. WOŻNICA (2004. Redescription of *Scoliocentra* (*Leriola*) *brachypterna* (Loew, 1873) (Diptera: Heleomyzidae) with description of a new species from Europe. *Polskie Pismo Entomologiczne* **73,** 327-338) results in the deletion of *Scoliocentra* (*Leriola*) *brachypterna* from the British list and its replacement by the following species:
Scoliocentra (*Leriola*) ***collini*** Woźnica, 2004

Sphaeroceridae. The following species is added in the present issue:
Telomerina ***eburnea*** Roháček, 1983

Drosophilidae. The preoccupied synonym *leucostoma* in *Amiota* should be transferred from *alboguttata* to the synonymy of *albilabris* according to J. MÁCA (2003. Taxonomic notes on the genera previously classified in the genus *Amiota* Loew (Diptera: Drosophilidae, Steganinae). *Acta Universitatis Carolinae Biologica* **47**: 247-274).

Muscidae. The following species is added in the present issue:
Lispocephala ***fuscitibia*** Ringdahl, 1944

Tachinidae. The following species is added in the present issue:
Carcelia ***laxifrons*** Villeneuve, 1912

Changes to the Irish Diptera List (5) – 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 **3188** species.

Limoniidae
Idioptera pulchella (Meigen, 1830) (added by Ashe *et al.* 2005)

Sciaridae. The following species were added by Menzel *et al.* (2006), two of them *Cratyna phili* and *Phytosciara ornata* at present unrecorded from Britain:
Bradysia austera Menzel & Heller in Menzel, Smith & Chandler, 2006
Bradysia bulbostyla Mohrig & Menzel, 1990
Bradysia cinerascens (Grzegorzek, 1884)
Bradysia difformis Frey, 1948
Bradysia flavipila Tuomikoski, 1960
Bradysia hilariformis Tuomikoski, 1960
Bradysia inusitata Tuomikoski, 1960
Bradysia lobata Hondru, 1968
Bradysia normalis Frey, 1948
Bradysia peraffinis Tuomikoski, 1960
Bradysia rectinervis Frey, 1948

Bradysia scabricornis Tuomikoski, 1960
Bradysia strenua (Winnertz, 1867)
Bradysia trivittata (Staeger, 1840)
Bradysia vernalis (Zetterstedt, 1851)
Corynoptera inundata Fritz, 1982
Corynoptera perpusilla Winnertz, 1867
Corynoptera recurvispina Freeman, 1987
Corynoptera saetistyla Mohrig & Krivosheina, 1985
Corynoptera subfurcifera Mohrig & Hövemeyer, 1992
Cratyna (*Spathobdella*) *phili* Menzel, 2002 ++
Leptosciarella (*Leptosciarella*) *fuscipalpa* (Mohrig & Mamaev, 1979)
Leptosciarella (*Leptosciarella*) *scutellata* (Staeger, 1840)
Lycoriella (*Lycoriella*) *castanescens* (Lengersdorf, 1940)
Lycoriella (*Lycoriella*) *cellaris* (Lengersdorf, 1934)
Phytosciara (*Dolichosciara*) *ornata* (Winnertz, 1867) ++
Pseudolycoriella brunnea (Bukowski & Lengersdorf, 1936)
Pseudolycoriella subbruckii (Mohrig & Hövemeyer, 1992)
Scatopsciara (*Scatopsciara*) *calamophila* Frey, 1948
Scatopsciara (*Scatopsciara*) *neglecta* Menzel & Mohrig, 1998
Scatopsciara (*Xenopygina*) *weiperti* Menzel & Mohrig, 1991
Trichosia (*Trichosia*) *flavicoxa* Tuomikoski, 1960

Cecidomyiidae
Dasineura irregularis (Bremi, 1847) (added by O'Connor 2006)
Rabdophaga clausilia (Bremi, 1847 - *Cecidomyia*) (added by O'Connor 2006) (this was treated as a nomen dubium in the checklist but is accepted as a good species without further comment by M. REDFERN and P. SHIRLEY. *British Plant Galls* 2002. 531 pp. Field Studies Council)

Dolichopodidae
Achalcus britannicus Pollet, 1996 (added by Speight 2005)

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O'Connor, J.P. 2006. Records of Irish galls in 2005 including seven species new to Ireland. *Cecidology* **21,** 6-8.
Speight, M.C.D. 2005. *Achalcus britannicus* (Diptera, Dolichopodidae) new to Ireland. *Bulletin of the Irish Biogeographical Society* **29,** 278-279.

Records of hoverflies (Diptera, Syrphidae) from Ascension Island -

Ascension Island lies in the South Atlantic Ocean (7°57′S 14°22′W) and is a relatively young oceanic island with a rough volcanic terrain (Ashmole, P. and Ashmole, M. 2000. *St Helena and Ascension Island: a natural history.* Anthony Nelson, England). It is a British Overseas Territory with an area of 97 km² and its highest point, Green Mountain, is 859 m above sea level (Ashmole, N.P. and Ashmole, M.J. 1997. The land fauna of Ascension Island: new data from caves and lava flows, and a reconstruction of the prehistoric ecosystem. *Journal of Biogeography* **24,** 549-589). Due to its age and extreme isolation there was not a diverse flora and fauna before the arrival of humans in 1501. This is still largely the case, but introduction of plant species has resulted in ecological succession, allowing development of a tropical cloud forest on Green Mountain and a marked increase in vegetation across the island since Charles Darwin visited aboard the *Beagle* on 19 July 1836. Introduced rats and cats have destroyed once abundant seabird colonies.

The few previous records of syrphids from Ascension Island appear to have been overlooked by the Afrotropical catalogues (Crosskey, R.W. (Ed.) 1980. Catalogue of the Diptera of the Afrotropical Region. British Museum (Natural History), London. 1437pp.; Dirickx, H.G. 1998. Catalogue synonymique et géographique des Syrphidae (Diptera) de la Région Afrotropicale. *Instrumenta Biodiversitatis, II,* 187pp. Muséum d'histoire naturelle, Genève). These include: (1) a '*Xanthogramma* (*Syrphus* Bigot)' species (Dahl, F. 1892. Die Landfauna von Ascension (Anhang zu Kapitel VII.) *Ergebnisse der in dem Atlantischen Ocean von Mitte Juli bis Anfang November 1889 ausgeführten Plankton-Expedition der Humboldt-Stiftung, vol. 1.* (ed by V. Hansen), pp. 204-209. Verlag Lipsius & Tischer, Kiel & Leipzig). Ashmole and Ashmole (1997 *op. cit.*) stated that this was probably *Ischiodon aegyptius* (Wiedemann, 1830), which they collected in 1995 near Spoon Crater; (2) *Eristalinus aeneus* (Scopoli, 1763) (Dahl 1892 *op. cit.*); (3) *Eristalis tenax* (Linnaeus, 1758) (Duffey, E. 1964. The terrestrial ecology of Ascension Island. *Journal of Applied Ecology* **1,** 219-251); (4) *Eumerus obliquus* (Fabricius, 1805) (Duffey 1964 *op. cit.*). Ashmole and Ashmole (1997 *op. cit.)* suggested that comparison of Ascension material with specimens of *E. obliquus* from St. Helena and South Africa would be of interest.

During a brief visit to Ascension Island (10-18.i.2006) I made the following syrphid records: (1) *Ischiodon aegyptius* (Wiedemann, 1830). Scarce. Males and females appeared to be segregated by altitude: 1♀ flying rapidly close to vegetation in Breakneck Valley, Green Mountain, 12.i.2006, 670 m. 1♀ flying beside the path up to The Peak, Green Mountain, 12.i.2006, 730 m. 3♂♂ flying near Spoon Crater, NASA Road, 17.i.2006, 270 m (two were hovering close to the ground above Madagascar periwinkle *Catharanthus roseus*; the third was hovering near tree tobacco *Nicotiana glauca*); (2) *Eumerus obliquus* (Fabricius, 1805). Relatively abundant at mid-altitudes, but localised. ♂♂ and ♀♀ flying below *c.* 50cm from the ground amongst vegetation (especially goatweed *Ageratum conyzoides*) or resting on plant stalks and leaves along the edges of the Green Mountain Road, 12.i.2006, 370 – 610 m. ♂♂ and ♀♀ flying around prickly pear *Opuntia vulgaris*, Two Boats Village, 14.i.2006, 260 m. ♂♂ and ♀♀ nectaring at a number of plant species including white flowered guava *Psidium guajava* near the Devil's Riding School, 17.i.2006, 180 m.

Ischiodon aegyptius was determined by the elongate ovate third antennal segment (basoflagellomere) and incomplete yellow lateral stripe on thorax passing the transverse

suture, but not reaching scutellum, and in male specimens, the distinctive shape of the internal tarsal claw on the front legs and presence of a strong spine on the hind trochanters (Bezzi, M. 1915. *Syrphidae of the Ethiopian Region.* British Museum (Natural History), London, 146pp: 36-37). *Eumerus obliquus* was determined by the largely black, short and broad body, the grey haired scutellum, shining abdomen (last segment not pollinose) with three distinct pairs of oblique grey markings, and very hairy hind tibiae (Bezzi 1915 *op. cit.*, 108-116). A series of specimens of the latter taxon has been collected for detailed comparison with *E. obliquus* material from Africa, St Helena and elsewhere - **ANDREW WAKEHAM-DAWSON**, Mill Laine Farm, Offham, Lewes, East Sussex, BN7 3QB

Recent records of *Atylotus rusticus* (Linnaeus, 1761) (Diptera, Tabanidae) – Until recently, *Atylotus rusticus* (Linnaeus) has only ever been reliably identified in Britain from the Cambridgeshire fens and East Sussex. In the fenland it is presumed to have been an early victim of drainage, and during the last century (1900-2000) it has only been collected in Britain from Pevensey Levels (near Eastbourne) and the low-lying grazing marshes in the river Ouse valley near Lewes. According to A.E. Stubbs and C.M. Drake (2001. *British Soldierflies and their Allies.* BENHS) only four specimens have been collected during this time and it consequently has the conservation status of Red Data Book Category 1 (RDB1 – Endangered) (Drake, C.M. 2004. *Grazing marsh assemblages and site classification using invertebrates.* English Nature Research Reports Number 579). Since the turn of the century *A. rusticus* has been recorded on a small number of occasions, but always outside these two areas. It was collected by A.E. Stubbs (2004. *British Journal of Entomology and Natural History* **17,** 23) from garden flowers at Groombridge Place on the Kent/Sussex border on 4.viii.2003, and by J.A. Webb and M.N. Smith (2003. *Dipterists Digest* (*Second Series*) **10,** 67-68) at Long Herdon and Grange Meadows nature reserve in Buckinghamshire in June-July 2002 by sweeping vegetation. We would like to report two new localities from 2005-2006.

On 9.vii.2005 near the target mound at Otmoor Rifle Range in Oxfordshire (SP574131) a single male was collected (by MWS) in hot midday sunshine from flowers of wild carrot (*Daucus carota*) and a single female from a ripening infructescence of curled dock (*Rumex crispus*). Illustrations of these specimens can be viewed on *BioImages - Virtual Field-Guide (UK)* (http://www.bioimages.org.uk/HTML/T36356.HTM). Horse flies were also collected (by CKP) by hand in tubes whilst they landed on a solitary grazing pony (National Equine Database: 826069 000000955 piebald gelding Halbert) in Barn Field SNCI (an unimproved damp meadow) at TQ535047 in the Cuckmere valley, East Sussex on 9.vii.2005 in the middle of the day. Four female *A. rusticus* were collected along with one female *Hybomitra distinguenda* (Verrall) and one female *Tabanus autumnalis* Linnaeus (listed by English Nature, Drake *loc. cit.*, as 'local'). A fifth female of *A. rusticus* was collected in the same manner from the same site on 18.vi.2006 along with another female *H. distinguenda* and two female *Haematopota pluvialis* (Linnaeus). Specimens have been deposited at the Natural History Museum, London (BMNH).

Atylotus rusticus is evidently still surviving in East Sussex, but was previously unknown in the Cuckmere valley, which lies between the river Ouse and Pevensey Levels,

and also contains low-lying grazing pasture that occasionally floods in winter. However, the other recent records are away from the East Sussex refugium and probably represent a recent range expansion. The reasons for this expansion are obscure, but it is interesting to note that the Otmoor collection reported here was adjacent to Otmoor Nature Reserve, which was purchased in 1997 by the Royal Society for the Protection of Birds, who increased the wetness and managed it as lowland wet grassland and reedbeds. The habitats at Otmoor Rifle Range are rough ground at the base of the target mound, near deep ditches and a meadow with a late hay-cut and the aftermath cattle-grazed. It lies on clay in the flood-plain of the River Ray. The meadow has abundant purple moor grass *Molinia caerulea* and meadow thistle *Cirsium dissectum*, and has affinities with fen meadow (National Vegetation Classification M24), though some of it is very acid with flea sedge *Carex pulicaria*, and other parts wet with marsh pennywort *Hydrocotyle vulgaris* and greater pond sedge *Carex riparia*. Use of Ellenberg indicator values for the species indicates that it has very low nitrate levels (Ellenberg indicator values are scores for each species on each of five environmental variables, and indicate the conditions under which each species is usually found wild in the UK, Hill, M.O., Preston, C.D. and Roy, D.B. 2004. *PLANTATT – Attributes of British and Irish Plants: Status, Size, Life History, Geography and Habitats*. CEH Publications).

Long Herdon and Grange Meadows Nature Reserve is approximately 10km further up the river Ray from Otmoor and is owned by Plantlife International and Berks, Bucks & Oxon Wildlife Trust and managed as unimproved seasonally flooded hay meadow with decreased grazing and increasing wetness since the early 1990s. The Groombridge record is less easy to explain, being situated in the Upper Medway valley in the High Weald. However, Stubbs (*loc. cit.*) suggested "that hidden away there are some worthwhile parts of the upper River Medway flood plain and its tributaries". *Atylotus rusticus* appears to be an extreme southern species in Britain, and therefore it is tempting to hypothesise the involvement of climatic change in its recent expansion, but it should be noted that prior to 1850 (before the end of the Little Ice Age) *A. rusticus* was also found further north in Cambridgeshire (Stubbs and Drake *loc. cit.*) and whilst it currently occurs in southern Europe it is also found in Norway, Sweden, Finland and northwest Russia (Fauna Europaea, *http://www.faunaeur.org*). It is also possible that the recent records are examples of increasing local densities, resulting in greater chance of observation rather than actual expansion in range. It may be that a high winter water table is the common factor between the sites and could be important to the development of the larvae.

Since these observations were made the 2006 Dipterists Forum summer field meeting has taken place, when two of us (RP & CKP) introduced MWS and others to Halbert on 27 June and a female of *A. rusticus* was observed; on the following two days it was seen in numbers on the Pevensey Levels, which will be reported on later by some of the observers.

We are grateful to the Ministry of Defence Estates for permission to record at Otmoor Ranges, and Camilla Lambrick for the botanical interpretation of the Otmoor site. – **MALCOLM W. STOREY,** 43 Berry's Road, Upper Bucklebury, Reading RG7 6QL, **RORY POST, CHRISTINE KOWAL POST** and **JOHN CHAINEY,** Department of Entomology, The Natural History Museum, Cromwell Road, London SW7 5BD

Dipterists Digest 2006 **13,** 23-25

Synonymy notes in the Bibionidae (Diptera)

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Summary
Bibio lepidus Loew, 1871 is a junior synonym for *Bibio longipes* Loew, 1864. *Bibio hybridus* Haliday, 1833 is reinstated as a junior synonym for *Bibio lanigerus* Meigen, 1818. *Bibio edwardsi* Freeman & Lane, 1985 is a junior synonym for *Bibio varipes* Meigen, 1830.

The family Bibionidae is reasonably well-known in Europe (Skartveit 1997). However, there has been a tendency for new species to be described based on minor differences in coloration, particularly of the thoracic pile in the males (Fitzgerald and Skartveit 1997). Studying long series of specimens frequently reveals that this character varies within species, and, though pile colour may give useful clues when identifying bibionids, it is not in itself a reliable character. During study of bibionids in various museum collections, as well as material freshly collected in Britain, it became clear that several currently recognized species names are synonymous.

***Bibio longipes* Loew, 1864**
Bibio lepidus Loew, 1871, **syn. n.**

I have studied a syntype (male) of *Bibio longipes* from the Canadian National Collection, Ottawa. The specimen agrees in all respects with Scandinavian and British specimens assigned to *Bibio lepidus* Loew. *Bibio longipes* is widely distributed in North America as far west as Alberta (Hardy 1965). *Bibio lepidus* was described from Ireland, and Loew (1871) also stated it to be common in England. It has also been recorded from Norway (Skartveit 1995), Sweden (Karle 1994), Finland (Skartveit 1999) and north-western Russia (Nartshuk 1995). The relationship between *B. longipes* and *Bibio clavipes* Meigen, 1818 in continental Europe is uncertain as the two species seem to intergrade (Duda 1930). However, *B. clavipes* and *B. longipes* are clearly distinct in the western- and northernmost parts of Europe and should be treated as separate species.

***Bibio lanigerus* Meigen, 1818**
Bibio hybridus Haliday, 1833, **synonymy reinstated**

Duda (1930) and Krivosheina (1986) treated *B. hybridus* as a synonym of *B. lanigerus*. However, it was reinstated as a good species by Freeman and Lane (1985), based on the colour of the male thoracic pile. No other characters distinguishing *B. hybridus* from *B.*

lanigerus were given, and the females were explicitly stated to be indistinguishable (Freeman and Lane 1985). Thoracic pile coloration frequently varies within species in the genus *Bibio* (Fitzgerald and Skartveit 1997). Although the long, light reddish thoracic pile of a typical *B. lanigerus* male is striking, the colour of the pile actually varies considerably, with many males having dark hairs mixed with the light pile to various degrees.

***Bibio varipes* Meigen, 1830**
Bibio edwardsi Freeman & Lane, 1985, **syn. n.**

Freeman and Lane (1985) described *Bibio edwardsi* as a new species, providing a replacement name for *B. hybridus* of Edwards (1925), which was a misidentification of *Bibio hybridus* Haliday, 1833. *Bibio edwardsi* differs from *B. varipes* in having white rather than black mesonotal pile. I have studied the holotype in the Natural History Museum, London, and it differs from a typical *B. varipes* in no respect other than the colour of the thoracic pile. The females of the two species were explicitly stated to be indistinguishable (Freeman and Lane 1985). I have collected a long series of *B. varipes* from Ayrshire, south-west Scotland, which shows typical specimens of *B. edwardsi* and *B. varipes* as well as specimens intermediate between them. The two morphs are found swarming together and females found copulating with either morph are indeed indistiguishable. It seems that the morph with white pile has not yet been found to occur outside Great Britain, as I have not encountered it during examination of long series of *B. varipes* from other countries.

Acknowledgements
Thanks are due to the curators, Dr. J. M. Cummings, Canadian National Collection of Insects, Ottawa and Mr. N. P. Wyatt, Natural History Museum, London for allowing me to study specimens under their care.

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***Microphor strobli* Chvála, 1986 (Diptera, Empidoidea: Microphoridae) in Yorkshire** – After reading the paper introducing this species to the British List (Plant, A.R. and Cole, J.H. 2005. *Dipterists Digest (Second Series)* **12,** 141-142), I checked the specimens of *Microphor* in my collection. Amongst them I discovered a single male *M. strobli* Chvála in a small series of *M. holosericeus* (Meigen).

It was conspicuous on account of its small size, and when I originally named it '*holosericeus*' I had placed a small label '?dwarf specimen' on the pin. It had been collected on 29 June 1984 on the bank of the River Wharfe at East Keswick Fitts (V.C. 64), at grid reference SE3546.

Since locating my specimen I have been informed that Andrew Godfrey discovered the species during 2005 at further sites in Yorkshire, namely Pot Ridings Wood (V.C. 63, SE5200) (male and female) 24 June, (det. David Gibbs), and Ripon Loop Yorkshire Wildlife Trust Reserve (V.C.64, SE318736) (one male), 3 July (det. A. Godfrey).

I am obliged to Adrian Plant for confirming my determination, and to Andy Godfrey and David Gibbs for permission to publish the subsequent records – **ROY CROSSLEY**, 1 The Cloisters, Wilberfoss, York YO41 5RF

Dipterists Digest 2006 **13,** 26

Some records of rare or little known species of Pipunculidae (Diptera) in Britain and Ireland

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Summary
New records are presented of four species of Pipunculidae from the British Isles.

In preparation for a projected checklist of French pipunculids, the author had occasion to reassess all the material in his collection (including British material from 15 years of collecting) using a number of recent revisions. Once the redetermination of practically all this material was completed, I referred to the recently published review of scarce and threatened flies (Falk and Chandler 2005) to see if any of the British Isles data would be worth recording. The following few seem appropriate in this context.

Cephalops (*Beckerias*) *pannonicus* (Aczél) – ENGLAND: Cambridgeshire, Wicken Fen, 5 males, 8.vii.1989, swept from poplar *Populus* foliage. Already recorded as a site for this rarely but increasingly encountered species.

Dasydorylas horridus (Becker) – ENGLAND: Essex, Leigh-on-Sea, Two Tree Island, salt marsh, 1 male, 2.viii.2001. This coastal record is generally consistent with many other records for this species.

Dorylomorpha (*D.*) *extricata* (Collin) – IRELAND: County Wicklow, Glen of the Downs, *Quercus* woodland, 1 female, 6.v.1989. The second Irish record, previously recorded from Wexford by Chandler *et al.* (2002).

Dorylomorpha (*Dorylomyza*) *albitarsis* (Zetterstedt) – SCOTLAND: Inverness-shire, Upper Tullochgrue, *Betula wood*, 1 female, 13.vi.1979; Perthshire, Black Wood of Rannoch, beside stream, 1 male, 25.vi.1979. These records confirm the widespread status of this species in Scotland.

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Dipterists Digest 2006 **13**, 27-29

Tachydromia smithi Chvála, 1966 (Diptera, Hybotidae) new to Britain discovered in Nottinghamshire

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Summary
The discovery of *Tachydromia smithi* Chvála, 1966 (Diptera, Hybotidae) at Center Parcs, Sherwood Forest, Nottinghamshire, is reported. Its identification is discussed and its male genitalia are illustrated.

Introduction

While carrying out survey work on behalf of Center Parcs at their Sherwood Forest resort near Edwinstowe, Nottinghamshire, I pooted a single example of *Tachydromia* from the trunk of a small aspen tree *Populus tremula*. When I came to identify this male specimen it soon became clear that it was not one of the species keyed either by Collin (1961) or Chvála (1975). Using the key by Chvála (1969) the specimen ran easily to *Tachydromia smithi* Chvála, 1966 and this was confirmed by examination of the macerated genitalia.

Identification

Using Collin's (1961) key this species runs to couplet 13 where it agrees with *T. umbrarum* Haliday, 1833 (as *annulimanus*) in the spinose bristles on scutellum and mesonotum, but is closer to *T. woodi* (Collin, 1926) on mid-tarsus length. Using Chvála's (1975) key it runs to couplet 10 where it does not fit the description of either *umbrarum* or *woodi*.

Tachydromia smithi is readily distinguished from *T. woodi* by the cluster of spinose yellow-brown bristles on the meso- and meta-sternum between the posterior four coxae. Also the posterior part of the mesonotum in *T. woodi* lacks strong black bristles and the scutellum bears two very short, fine setae, shorter than the scutellar length, these being strong and longer than the scutellum in *T. smithi*. The male of *T. smithi* has a large shovel-like projection to the tip of the middle tibia; but in *T. woodi* this is small and pointed.

Tachydromia umbrarum shares with *T. smithi* the presence of yellow setae between the four posterior coxae but in *T. umbrarum* these are significantly finer and paler. In *T. umbrarum* there are four scutellar setae (two in *T. smithi*) and 2 to 3 spinose dorsocentrals, at least two pairs conspicuously strong (only two pairs in *T. smithi*, the anterior relatively weak). Perhaps the most obvious character of *T. umbrarum* is the fringe of yellow anteroventral hairs, some longer than half the femur depth, on the four anterior femora, these lacking in *T. smithi* except at the extreme base. The tarsi of the middle legs are very long in *T. umbrarum*, the two basal tarsomeres exceeding the length of the tibia, while in *T. smithi* these two segments together are shorter than the tibia.

In the key provided by Collin (1961) couplet 13(14) can be replaced with the following:

13. No yellow setae on meso- and meta-sternum between posterior four coxae. No strong, spinose bristles on hind part of mesonotum, and scutellum with short fine setae shorter than the length of the scutellum. Mid tibia with small pointed ventro-apical projection ..... ***woodi*** (Collin, 1926)

- Fine or spinose pale to dark yellow setae on meso- and meta-sternum between posterior four coxae. Strong, spinose bristles on hind part of mesonotum, and scutellum with strong setae longer than the length of the scutellum. Mid tibia with large shovel-like ventro-apical projection 14

14. Scutellum with four strong bristles; hind part of mesonotum with two pairs of strong dorsocentrals and usually a shorter pair anterior to these. Four anterior femora with a row of yellow anteroventral hairs, basal ones longer than half the thickness of the femur. Mid tarsus with basal two segments longer than tibia ..... ***umbrarum*** Haliday, 1833

- Scutellum with two strong bristles; hind part of mesonotum with one pair of strong dorsocentrals and usually a shorter pair anterior to these. Four anterior femora without a row of anteroventral hairs, although there might be one or two basal setae about half as long as the femur is thick. Mid tarsus with basal two segments shorter than tibia ..... ***smithi*** Chvála, 1966

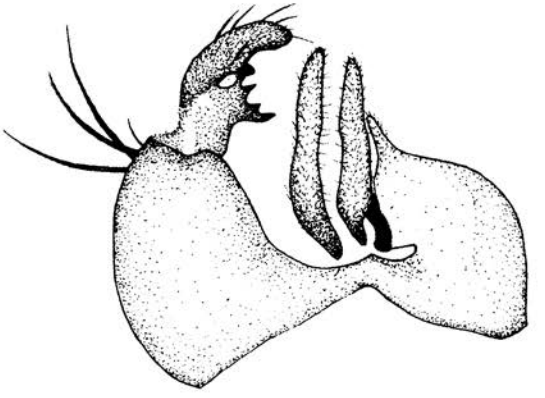

Fig. 1. ***Tachydromia smithi*** **Chvála, male periandrium and cerci (morphological nomenclature follows Chvála 1975).**

Several other central European species could be found in Britain so if there is any doubt examination of the genitalia is advisable. Perhaps *T. annulimana* Meigen, 1822, which has large, globular male genitalia so should be readily recognisable, is the most likely candidate.

Biology

The biology of the genus *Tachydromia* seems to be poorly known. Many species are associated with river shingle and others with trees, where they can be seen hunting for tiny insects on vertical trunks. *Tachydromia smithi* is one of the tree-associated species with adults taken on various broad-leaved species, including poplar *Populus* and ash *Fraxinus*. Its larval requirements are unknown but they are likely to be predators in leaf-litter or along lake or river margins. On the continent adults have been recorded from April to August (Chvála 1969). The single male taken at Center Parcs, Sherwood Forest, was pooted from the vertical trunk of an aspen *Populus tremula* growing along the margin of a large artificial lake constructed in 1987 (B. Collins *pers. comm.*). The aspen was of no great age and part of a row of trees fringing the lake, which were probably planted as saplings in the late 1980s.

Distribution

Tachydromia smithi is currently known from Central and Western Europe with records from Austria, Belgium, Corsica and mainland France, Czech Republic, Germany, Italy, Slovakia, Spain and The Netherlands (*www.faunaeur.org*). Given this distribution it is perhaps not surprising that it should also occur in Britain. Its discovery in the middle of England suggests that it is either a very rare species that has been overlooked, an introduction or a recent colonist from the continent. The possibility of an introduction with imported trees or soil cannot be ruled out and it is worth noting that in the 1980s, Center Parcs was Dutch owned and it is very likely that, for such a large planting scheme, trees would have been imported from Dutch nurseries (B. Collins *pers. comm.*).

Material examined

BRITAIN, Nottinghamshire, Edwinstowe, Center Parcs (Sherwood Forest) V.C.56, SK6263, 2 July 2005, 1♂ (leg. D.J. Gibbs).

Acknowledgements

I am very grateful to Adrian Plant, National Museums & Galleries of Wales, for his help in identifying this specimen. I would also like to thank Barry Collins and Center Parcs for commissioning the work at Sherwood Forest.

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Dipterists Digest 2006 **13,** 30-32

Three agromyzid flies, *Ophiomyia nasuta* (Melander, 1913), *Phytomyza ranunculicola* Hering, 1949 and *Phytobia mallochi* (Hendel, 1924) (Diptera, Agromyzidae) new to Britain

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Summary
Two leaf-mining flies, *Ophiomyia nasuta* (Melander, 1913) and *Phytomyza ranunculicola* Hering, 1949 are reported as new to Britain from Somerset and the cambium-mining fly *Phytobia mallochi* (Hendel, 1924) is new to Britain from South Wales and new to Spain from León.

Ophiomyia nasuta (Melander, 1913)

While engaged on an invertebrate survey of Radstock Sidings in North Somerset in 2005 I obtained a number of specimens of *Ophiomyia*. The genus appeared to be particularly diverse at this site with *O. collini* Spencer, *O. cunctata* (Hendel), *O. curvipalpis* (Zetterstedt) and *O. pulicaria* (Meigen) all recorded. Amongst them were two specimens that did not fit any of the species keyed by Spencer (1972). Using the later key of Spencer (1976) these specimens readily keyed to *O. nasuta* (Melander), an identification confirmed by dissection of the genitalia.

Identification

Ophiomyia nasuta has a distinct bulbous keel between the antennae, lacks a vibrissal fasciculus and its orbital setulae are proclinate, so it will run to *O. pinguis* (Fallén) in the key of Spencer (1972). *Ophiomyia nasuta* differs from *O. pinguis* in having three rather than two dorsocentral setae and having cross-vein r-m at the distal third of the discal cell rather than approximately at the midpoint. The male aedeagus is also very distinct from *O. pinguis* (see Spencer 1976).

Discussion

Ophiomyia nasuta is widespread in Europe through Russia to Japan and North America so its appearance in Britain is not surprising. The larvae mine the leaves of dandelions *Taraxacum* species, pupating internally at the base of the leaf, so they could quite easily be introduced amongst hay, but natural colonisation is thought to be equally likely (Spencer 1990). Radstock Sidings is an old, abandoned railway yard and trackbed, now flower-rich xerophytic grassland with a plentiful supply of dandelions.

Material examined

BRITAIN, Somerset, Radstock Sidings, V.C. 6, ST6954 15 May 2005 1♂; 18 June 2005 1♂ (both leg. D.J. Gibbs)

Phytomyza ranunculicola Hering, 1949

While engaged on an invertebrate survey of Radstock Sidings in North Somerset in 2005 I swept a single male of this species.

Identification

Using the key to *Phytomyza* Fallén (which includes species now assigned to *Chromatomyia* Hardy) by Spencer (1972) this small, entirely black, leaf-mining fly will run to couplet 73 where the upper orbital setae character may give trouble. In my specimen the upper ors is only slightly shorter than the lower ors. Taking the first option it will run to couplet 82 where the included species, *Chromatomyia milii* (Kaltenbach) and *Phytomyza sedicola* Hering are readily eliminated by the structure of the aedeagus. Taking the second option, both ors equal, it then runs to couplet 101 where it fits the description of *P. calthophila* Hendel.

Phytomyza ranunculicola is closely related to *P. calthophila* and reliably distinguished from it only by examination of the aedeagus. Using the key by Spencer (1976) the same confusion over the ors might be encountered. If the upper ors is distinctly shorter than the lower then it should run to couplet 127, *P. calthophila* and *P. ranunculicola*, which are then separated by examination of the aedeagus. If the ors are equal then it should key to *P. calthophila* but many of the characters are difficult to interpret and identification should always be confirmed by examination of the aedeagus, which is abundantly distinct (see Spencer 1976).

Discussion

In Europe *P. ranunculicola* is known from Austria, Belarus, Denmark, France, Germany, Poland and Slovakia (*www.faunaeur.org*) but would appear to be rather scarce across the continent. It is a miner of the leaves of meadow buttercup *Ranunculus acris*, feeding first in a linear mine then forming a secondary blotch at the leaf tip. Pupation takes place inside the mine and adults are recorded in June and July (Spencer 1976). Radstock Sidings is an old, abandoned railway yard and trackbed, now flower-rich xerophytic grassland but buttercups are not a particularly obvious component of the flora.

Material Examined

BRITAIN, Somerset, Radstock Sidings, V.C. 6, ST6954 17 July 2005 1♂ (leg. D.J. Gibbs)

Phytobia mallochi (Hendel, 1924)

As part of a survey of a mainly grassland site at Pantlassau Farm near Swansea, Glamorgan in South Wales I sampled a small area of woodland and old field boundaries. This habitat produced some interesting species associated with old trees, notably *Achalcus melanotrichus* Mik (Dolichopodidae), *Periscelis annulata* (Fallén) (Periscelididae) and *Lasiambia brevibucca* (Duda) (Chloropidae). I was also pleased to find a single male of *Phytobia*, a genus I do not encounter very often. This specimen was clearly not any of the species keyed

by Spencer (1972) but using the keys of Spencer (1976) it was readily identifiable as *P. mallochi*. Coincidentally, a specimen from northern Spain passed to me by Peter Dyte also proved to be this species. There do not appear to be any previously published records of this species from Spain.

Identification

Using the key provided by Spencer (1972) *P. mallochi* will run to *P. cerasiferae* (Kangas, 1955) but the latter has cross-vein r-m at the distal third of the discal cell whereas it is placed at the midpoint or just beyond in *P. mallochi*. However, this character is rather variable, even in the two specimens available for study. Using the key by Spencer (1976) *P. mallochi* is readily identified although it must be remembered that *P. cerasiferae* is not included in this work. Reliable identification should always be based on an examination of the aedeagus, which is very distinct (see Spencer 1976).

Discussion

Phytobia mallochi is a scarce and little known species in Europe with records from Austria, Czech Republic, Finland, France, Germany, Hungary, Sweden, Switzerland and The Netherlands (*www.faunaeur.org*). Members of this genus mine the cambium layer of trees and thus are associated with woodland. The host plant of this species is unknown but oak *Quercus* is thought to be the most likely candidate (Spencer 1976). The British specimen was taken by sweeping the trunks of oak trees along an old field boundary. Many of these trees, while not large, appeared to be old with numerous hollows and occasional sap-runs.

Material examined

BRITAIN, Wales, Glamorgan, Pantlassau Farm, V.C. 41, SS6599, 27 June 2005 1♂ (leg. D.J. Gibbs)

SPAIN, León, near Castroquilame, Rio Cabrea, 42°25.6'N 6°43.8'W, 16 June 2005, 800m 1♂ (leg. C.E. Dyte)

Acknowledgements

I would like to thank Philip Quinn for commissioning the work at Pantlassau Farm and Peter Dyte for the Spanish specimen.

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Dipterists Digest 2006 **13**, 33-37

Illustrations of previously unfigured male genitalia of British species of *Platypalpus* Macquart (Diptera: Empidoidea, Hybotidae)

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Summary
Illustrations are provided of the previously unfigured male genitalia of adult *Platypalpus albifacies* (Collin, 1926), *P. aristatus* (Collin, 1926), *P. divisus* (Walker, 1851), *P. fasciatus* (Meigen, 1822), *P. ingenuus* (Collin, 1926), *P. leucocephalus* (von Roser, 1840), *P. leucothrix* (Strobl, 1910), *P. parvicauda* (Collin, 1926), *P. subtilis* (Collin, 1926), *P. tonsus* (Collin, 1926) and *P. unicus* (Collin, 1961) [Diptera: Hybotidae].

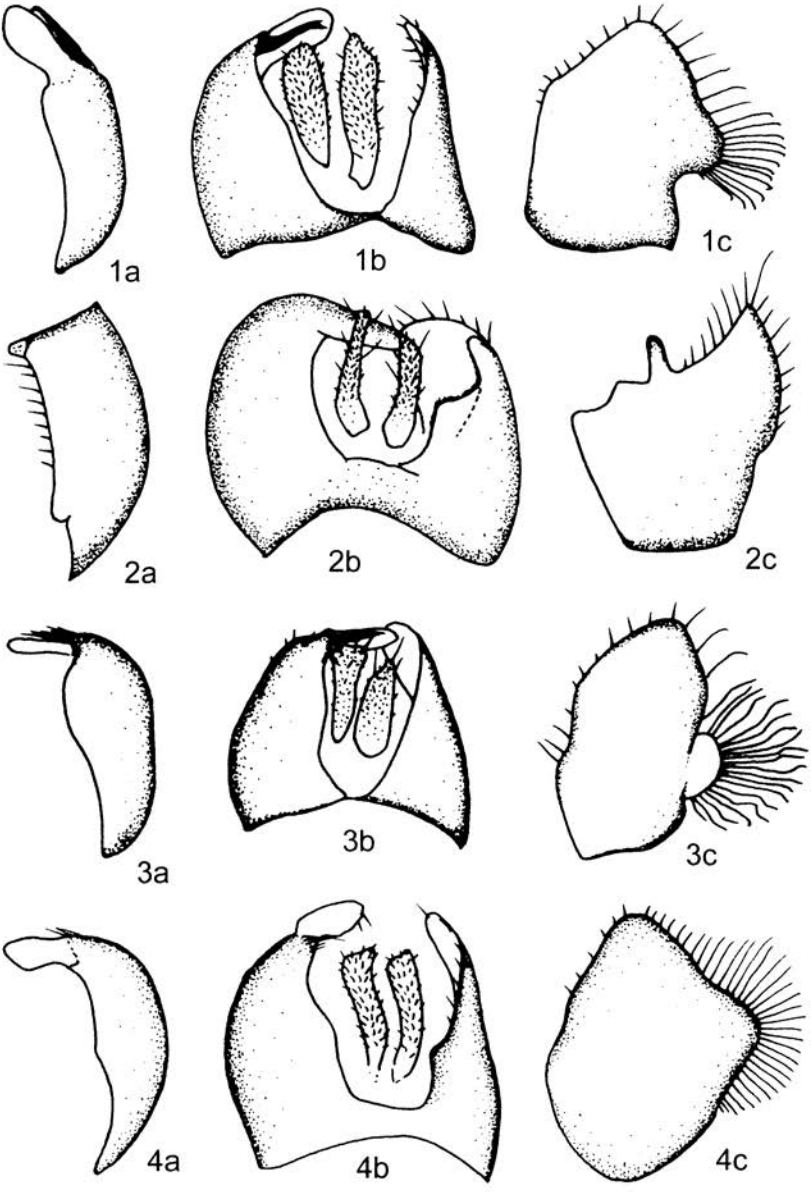
Introduction

The male genitalia of most of the species of *Platypalpus* Macquart occurring in Great Britain are illustrated in key works of Collin (1961), Chvála (1975a, 1989) and Grootaert and Chvála (1992). Further original and additional illustrations are available in Chvála (1973, 1975b), Cole (1985), Chvála and Kovalev (1974), Grootaert (1983, 1986, 1987, 1995), Kovalev (1978), Merz and Chvála (1998), Smith (1969) and Weber (1972). These works provide diagnostic figures of the genitalia of all but 14 of the British species. The present work illustrates the male genitalia of 11 of these using British material supplemented by European specimens when local material was unavailable. *Platypalpus carteri* (Collin, 1926) and *P. politus* (Collin, 1926) were not figured as suitable males were not available. Males of *P. major* (Zetterstedt, 1842) are as yet undescribed and the species has been assumed to be parthenogenetic. However, two males have recently been found in Eastern Europe and will be figured separately (Chvála and Plant in preparation).

The figures

In the figures the following parts of the genitalia are illustrated: a: right periandrial lamella, b: periandrium with cerci, c: left periandrial lamella (terminology following Chvála 1975).

Fig. 1. *Platypalpus albifacies* (Collin, 1926), Wales [V.C. 41] (National Museum of Wales).
Fig. 2. *Platypalpus aristatus* (Collin, 1926), England [V.C. 9] (author's coll.).
Fig. 3. *Platypalpus divisus* (Walker, 1851), Czech Republic (M. Chvála coll.).
Fig 4. *Platypalpus fasciatus* (Meigen, 1822), England [V.C. 16] (L. Clemons coll.).
Fig. 5. *Platypalpus ingenuus* (Collin, 1926), Moravia (M. Chvála coll.).
Fig. 6. *Platypalpus leucocephalus* (von Roser, 1840), England [V.C. 9] (author's coll.).
Fig. 7. *Platypalpus leucothrix* (Strobl, 1910), England [V.C. 15] (L. Clemons coll.).
Fig. 8. *Platypalpus parvicauda* (Collin, 1926), England [V.C. 5], (National Museum of Wales).
Fig. 9. *Platypalpus subtilis* (Collin, 1926), Wales [V.C. 35] (National Museum of Wales).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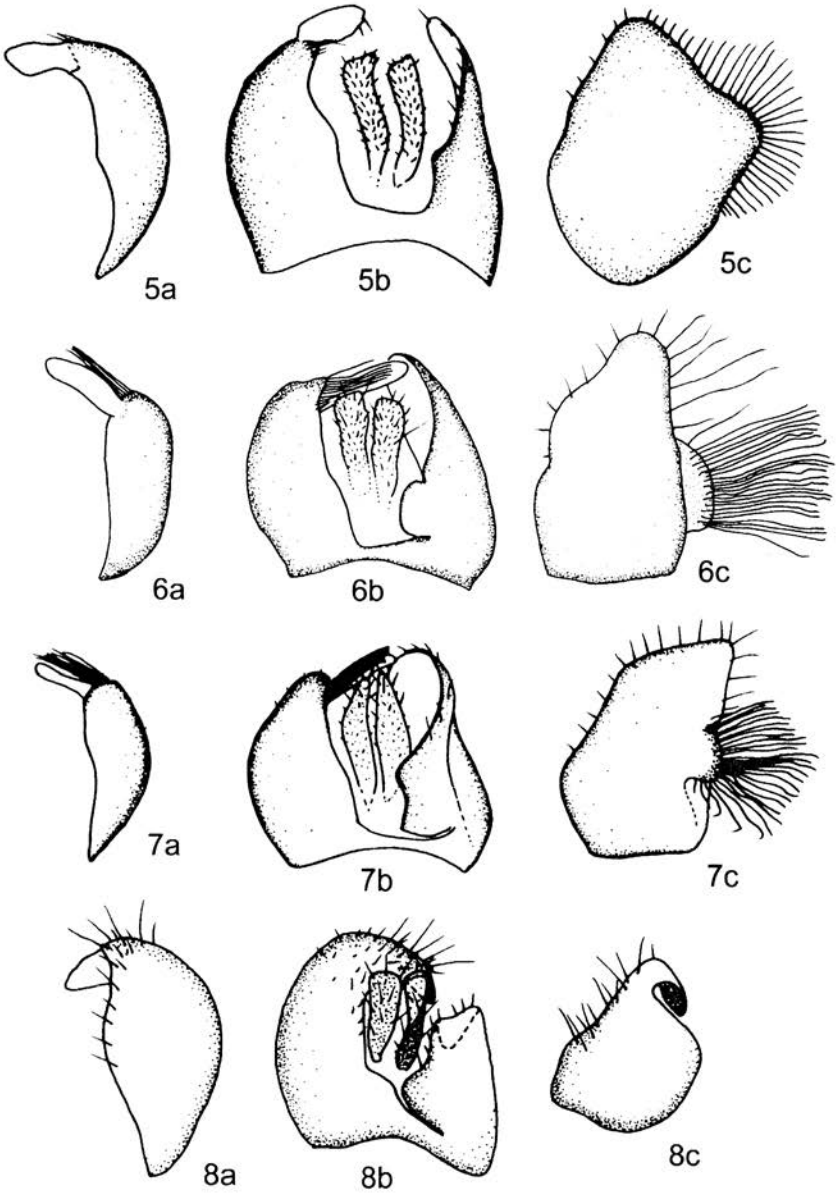
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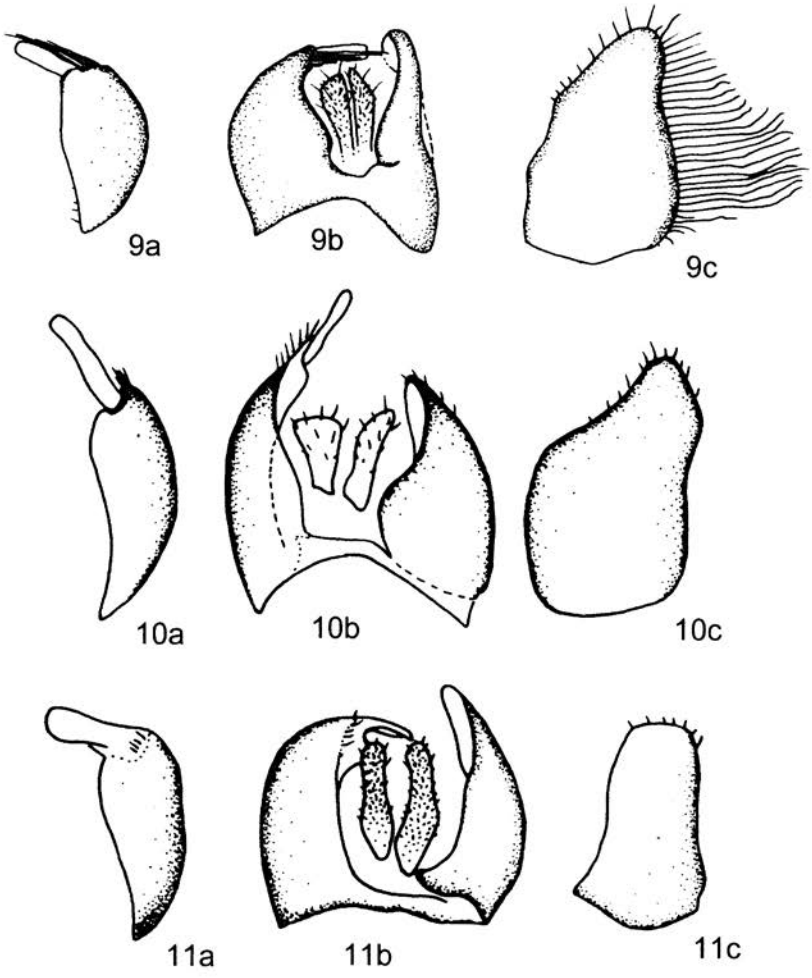

Fig. 10. *Platypalpus tonsus* (Collin, 1926), Wales [V.C. 41] (author's coll.).
Fig. 11. *Platypalpus unicus* (Collin, 1961), England [V.C. 8] (author's coll.).

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Dipterists Digest 2006 **13**, 38

Telomerina eburnea Roháček, 1983 (Diptera, Sphaeroceridae) new to Britain

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Summary

Telomerina eburnea Roháček, 1983 is added to the British list on the basis of a single female collected in South Essex in 1999.

A single female of *Telomerina eburnea* Roháček, 1983 was collected in a pan trap set at Canvey Island in Essex (TQ7683) between 9 and 28 September 1999. The habitats at the site have developed on a sand substrate and comprise a mosaic of tall flower-rich grassland, sparsely vegetated areas, seasonally wet areas, ditches, hard standing and scrub. The trap had been set in an open area near to scrub.

Using Pitkin's (1988) key the species runs readily to couplet 52a and 52b where it is identified by differences in the spermatheca, figured by Pitkin and Roháček (1983). An obvious external difference is in the milkiness of the wings. Of the *Telomerina* species recorded from Britain, one, *T. pseudoleucoptera* (Duda, 1924) has somewhat milky wings, but *T. eburnea* has strikingly milky wings, so much so that in spite of their small size attention is immediately drawn to them in the collecting fluid.

Following the studies of Matthias Buck (1997) in Germany we now know that this species is associated with carrion and large numbers have been obtained by rearing from meat-bait buried in soil within a container. It may well prove to be more common in Britain than this single record suggests.

Acknowledgements.

We are grateful to Dr. Jindrich Roháček, who was kind enough to confirm the identification, as well as bringing to our attention the paper by Matthias Buck.

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Dipterists Digest 2006 **13**, 39-41

Lispocephala fuscitibia Ringdahl, 1944 (Diptera, Muscidae) new to Britain from the New Forest

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Summary
Lispocephala fuscitibia Ringdahl, 1944, a poorly known European species, is reported as new to Britain from several valley mires of the New Forest and details of its apparent habitat requirements are provided.

Introduction

The mires and bogs of the New Forest remain a rich and exciting habitat for Diptera recording, supporting some exceptionally rare species and occasionally producing species entirely new to the British list, e.g. the chloropid *Diplotoxa dalmatina* Strobl, 1900 (Ismay and Perry 2002) and earlier in the 20th century dolichopodids such as *Dolichopus mediicornis* Verrall, 1875, *D. melanopus* Meigen, 1824 and *Nematoproctus distendens* (Meigen, 1824). One of us (SJF) surveyed Diptera in the Hatchet Pond area (SU3601) on 26.viii.2002 and 13.vi.2004, obtaining single males of a small *Lispocephala* Pokorny on each date. The specimens looked superficially like the widespread *L. erythrocera* (Robineau-Desvoidy, 1830) or localised *L. verna* (Fabricius, 1794), but had blackish hind tibiae unlike any other British *Lispocephala*. The material was sent to ACP who identified it as *L. fuscitibia*, a poorly known European species. On 26.viii.2005, SJF obtained a series of both sexes from Hincheslea Bog (SU271004) and a further female from nearby Crab Tree Bog (SU270027) later that same day.

Recognition

Lispocephala fuscitibia belongs to a group of three British species with a grey-dusted scutellum that lacks any dark markings and darkish tergites that lack any conspicuous reddish-yellow ground colour. The other two species are *L. verna*, which *L. fuscitibia* most closely resembles, and *L. erythrocera*, to which it will run in the key by d'Assis-Fonseca (1968). *Lispocephala verna* is easily distinguished by the presence of a strong anterodorsal bristle on the mid tibia (unique within the British *Lispocephala*) and a strong costal spine that is about 1.5 times the length of cross-vein r-m. This spine is barely the length of r-m in the other two species.

The male of *L. fuscitibia* differs from that of *L. erythrocera* in a number of features. It is a larger, darker, browner species with brownish-infuscated wing membrane and calypters, and blackish wing veins. The hind tibia is blackish except at the extreme base and all tarsi are infuscated. The male of *L. erythrocera*, by contrast, is typically clear grey dusted

with the wing membrane faintly milky white, wing veins yellowish-brown, and all tibiae and tarsi clear yellowish. The male genitalia of *L. fuscitibia* are entirely black, including the aedeagus and lobes of sternite 5. *Lispocephala erythrocera* has the aedeagus and lobes of sternite 5 pale, and often also parts of the genital capsule and surstyli. There are also differences in the shape and chaetotaxy of sternite 5 figured by Gregor *et. al.* (2002).

Females of *L. fuscitibia* are less distinct from *L. eythrocera* than are the males. The hind tibia is infuscated brown or brownish-yellow in most specimens, though occasionally they approach the clear yellowish state of *L. erythrocera*. However, the hind tarsus usually remains infuscated. The body is dusted slightly darker (note that females of *L. erythrocera* are dusted brownish-grey, not clear grey like the males) and the dark spots on tergites 3 and 4 are blackish and well defined. In female *L. erythrocera* they are brownish and poorly defined.

Lispocephala fuscitibia can be incorporated into the key to British *Lispocephala* by d'Assis-Fonseca (1968: 67-69) as follows:

7 (8) Scutellum unicolorous whitish-grey dusted. Arista long-pubescent towards base, where the longest combined hairing is more than half width of antennal flagellomere. Cross-veins without trace of infuscation and not darker pigmented than the other veins. Abdomen entirely black in ground-colour.

7a (7b) Hind tibia and hind tarsus yellow. Fore tibia with a posteroventral apical seta but no ventral apical. Wings clear ..... *erythrocera* (Robineau-Desvoidy)

7b (7a) Hind tibia blackish (male) or brownish (most females); hind tarsi brown to dark brown. Fore tibia with a ventral apical seta in addition to the posteroventral apical. Wings distinctly smoky ..... *fuscitibia* Ringdahl

Characteristics of the capture sites

All known *L. fuscitibia* sites support transition valley mire associated with small streams, or, in the case of Hatchet Pond, the margins of an artificial lake created by damming up a stream. Most, if not all of the specimens obtained have been associated with areas supporting plants such as *Sphagnum* mosses, marsh St. John's wort *Hypericum elodes*, water mint *Mentha aquatica*, cross-leaved heath *Erica tetralix*, marsh lousewort *Pedicularis palustris* and scattered bog myrtle *Myrica gale*. This was certainly the case for the colony observed at Hincheslea Bog. Such areas equate with NVC categories M29 (*Hypericum elodes – Potamogeton polygonifolius* soakway) and possibly M21 (*Narthecium ossifragum – Sphagnum papillosum* valley mire) (Rodwell 1991). The fly has not been found at Holmsley Bog, Crockford Bottom, Ditchend Bottom or the mire of Millyford Green, all of which have also been subject to several hours of sweeping within the apparent flight period. Holmsley Bog is very similar to Hincheslea Bog, though recording of the mire here was rather limited compared with the flowering ericaceous areas nearby. Crockford Bottom has a rather different character to the known sites, with some localised acidic flushes but little mire. Ditchend Bottom is a relatively dry valley bottom with relatively little mire and a seasonal

stream only. Millyford Green has small areas of mire within woodland clearings. The evidence gathered so far suggests a preference for the better and larger areas of mire. A number of other New Forest mires could be suitable including Cranesmoor and Denny Bog (Ratcliffe 1977), but have yet to be surveyed. *Lispocephala verna* was present in smaller numbers than *L. fuscitibia* at Hincheslea Bog, and has rather similar habitat requirements, being characteristic of boggy flushes and poor fen, often in upland districts (e.g. the Lake District). *Lispocephala erythrocera* is also present in some New Forest wetlands but is more typically a species of mesotrophic swamp and fen, especially inundation marsh with rushes and sedges.

In Southern Sweden, Ringdahl (1944, 1950, 1956) only found the species once, in a *Carex* swamp in the province of Småland.

Overseas distribution of *Lispocephala fuscitibia*

This appears to be a very scarce species, with records otherwise confined to the Czech Republic, Germany, Poland and Sweden (Pont 2005), and it has not been recorded outside Central and Northern Europe. Given this apparent international rarity and the strong association with transition mires, which are now regarded as having international significance (Sanderson 2006), *L. fuscitibia* may be a species worthy of IUCN conservation grading and biodiversity action planning.

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Further records of *Sciapus basilicus* Meuffels & Grootaert, 1990 (Diptera, Dolichopodidae) from the River Usk in Wales – *Sciapus basilicus* Meuffels & Grootaert was added to the British list by J.H. Cole (1998. *Dipterists Digest* (*Second Series*) **5,** 79) from a single male swept from partially vegetated riverine shingle by the River Usk at Llanwenarth, Gwent (SO273146) on 8 June 1997.

During invertebrate surveys of exposed sediments alongside the River Usk during 2005 I found *S. basilicus* at Pant-y-Goitre (SO354091, 11 June; SO349089 4 June,); Clytha Park (SO358094, 28 June); Llanvihangel Gobion (SO 343089, 4 and 11 June; SO343094, 11 June). All specimens were swept from partially vegetated shingle bars but during hot weather, a few were found in the shade of small (1-3m) sand cliffs bordering the shingle. The large shingle system at Llanvihangel Gobion clearly supports a considerable population, as more than 20 individuals were found during a half hour's sweeping. However, the distribution of individuals was distinctly aggregated about particular vegetation structures and shingle size/consolidation features, suggesting a specialist habitat requirement on the shingle beds.

Sciapus basilicus is clearly well established on the middle reaches of the River Usk between Llanwenarth and Clytha Park, but possibly not further downstream as most apparently suitable shingle beds downstream as far as the tidal limit at Newbridge on Usk were searched without success. Upstream of Brecon, there are few if any suitable exposed sediments but the area between Brecon and Llanwenarth has extensive shingles and was inadequately searched during 2005 so may support populations of *S. basilicus* - **ADRIAN R. PLANT,** Department of Biodiversity and Systematic Biology, National Museum of Wales, Cardiff, CF10 3NP

NOTICE: Colouring the skin of live larvae - I would be most grateful for any information on suitable dyes for dipteran larvae that do not harm them or significantly change their behaviour. I would like to dye the larvae of *Sciara militaris* to study their day-to-day behaviour in the wild, especially the integrity of their moving columns (see *Dipterists Digest* (*Second Series*) 2005 **12,** 21-27) - **CLIVE CRAIK,** Grendon, Barcaldine, Oban, Argyll PA37 1SG. Tel: 01631 720327. E-mail: clive.craik@sams.ac.uk

Dipterists Digest 2006 **13**, 43-46

Zaphne proxima (Malloch) (Diptera, Anthomyiidae) confirmed as a British species

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Summary

Zaphne proxima (Malloch) (Diptera, Anthomyiidae) is confirmed as a British species. Information on the ecology, habitat, immature stages and identification of the adults is given.

Introduction

Zaphne proxima (Malloch) was included by Chandler (1998) on the strength of two females collected in pitfall-traps by PS beside Angle Drain on Thorne Moors, South Yorkshire on 15 July 1995 (Skidmore 1995, Skidmore and Marsh 2001). Using Ringdahl's key (d'Assis-Fonseca 1952) and that provided by Huckett (1965), PS found that these specimens ran to *Z. separata* Ringdahl and *Z. proxima* Malloch respectively. On realising that these taxa were synonyms, and thus lending credibility to the tentative identification, PS sent the flies to DMA for confirmation. DMA agreed that they certainly appeared to be *Z. proxima* but preferred to withhold final judgement until a male was forthcoming. During an ongoing survey on part of Hatfield Moors during 2004, PS found two females on 31 July, and two males and two more females on 7 August, in a markedly different habitat from that of the 1995 site beside Angle Drain on Thorne Moor, some 10 kilometres to the north. DMA was therefore able to confirm that the species was indeed *Zaphne proxima*. The presence of this fly on Thorne and Hatfield Moors, forms an interesting parallel to another essentially subarctic species known only on these two sites in Britain, namely *Eutaenionotum guttipenne olivaceum* Oldenberg (Ephydridae) (Skidmore 1996). Skidmore (*op. cit.*) suggested that *olivaceum* may be a race of the subarctic *E. guttipenne* which remained on peat-bogs in the Baltic region as the parent species withdrew northwards in response to early post-glacial climatic amelioration.

Habitat

Angle Drain on Thorne Moor, where the first *Z. proxima* specimens were taken, is a deep land-drain on peat bounded by large beds of *Juncus effusus*. The location of the *Z. proxima* colony on Hatfield Moor is on sands and gravels and consists of a 5 metre long, rather mossy, very narrow stretch of the shore of a deep lagoon, between the water's edge and a bed of *Juncus effusus* at the foot of a sandy slope. The lake margins, occupying a circumference of upwards of a mile, were examined and swept but this was the only part supporting a bed of *Juncus*, and the fly was found nowhere else. On the other hand several other adjacent but shallow lagoons are wholly bordered with huge beds of this plant. Other

plants where the *Z. proxima* colony was found included a few small *Betula*, *Salix aurita* and *S. caprea* saplings, *Alisma plantago-aquatica*, *Cirsium arvense*, *Conyza canadensis*, *Epilobium parviflorum*, *Juncus bufonius*, *Lycopsis europaeus*, *Myosotis scorpioides*, *Polygonum amphibium*, *Rumex acetosella*, *R. conglomerates*, *Senecio jacobaea*, *Tripleurospermum maritimum*, *Tussilago farfara*, *Veronica anagallis-aquatica*, etc. As stated, the site is not on peat as this had been removed to quarry the underlying sand and gravel, but an unbroken though degraded peat-surface lies within a hundred yards to the north-east. The only vascular plant common to the Hatfield Moor and Angle Drain sites is the Soft Rush (*Juncus effusus*). At the Hatfield Moor site *Z. proxima* is very obviously a pioneer species as this habitat was only created during the past five years. The flora, as indicated above, comprises ubiquitous pioneer species. However, being evidently a subarctic relict, the fly must have been resident in the close vicinity for millennia; indeed, part of Hatfield Moor close by is believed never to have been cut for peat. It is possible that populations of this fly are presently elevated by the availability of abundant fresh habitat resulting from cessation of peat-milling and extensive re-wetting over most of these moors as part of English Nature's management strategy. A full list is not yet available, but amongst other hygrophilous species present in the *Zaphne proxima* site at Hatfield Moor during 2004 were the following - **Odonata:** *Enallagma cyathigerum* (Charpentier), *Ischnura elegans* (van der Linden); **Ephemeroptera:** *Chloeon simile* Eaton; **Hemiptera:** *Zicrona coerulea* (Linnaeus), *Cymus glandicolor* Hahn, *C. melanocephalus* Fieber, *Monanthia humuli* (Fabricius), *Cyrtorrhinus caricis* (Fallén), *Dicyphus epilobii* Reuter, *Aphrophora alni* (Fallén), *Cicadella viridis* (Linnaeus); *Cicadula aurantipes* (Edwards), *Conomelus anceps* (Germar); **Trichoptera:** *Leptocerus aterrimus* Stephens, *Mystacides azurea* (Linnaeus), *M. longicornis* (Linnaeus); **Coleoptera:** *Cantharis lateralis* Linnaeus, *Anisosticta 19-punctata* (Linnaeus), *Altica ?palustris* Weise, *Ceuthorrhynchus assimilis* (Paykull); **Diptera:** *Tipula lateralis* Meigen, *Dicranomya fusca* (Meigen), *Hoplolabis vicina* (Tonnoir), *Chrysops relictus* Meigen, *Clinocera stagnalis* (Haliday), *Dolichopus longicornis* Stannius, *Gymnopternus aerosus* (Fallén), *Hydrophorus bipunctatus* (Lehmann), *Scellus notatus* (Fabricius), *Tachytrechus consobrinus* (Haliday), *T. notatus* (Stannius), *Platycheirus clypeatus* (Meigen), *Eristalis arbustorum* (Linnaeus), *Syritta pipiens* (Linnaeus), *Pherbellia nana* (Fallén), *Tetanocera ferruginea* Fallén, *Anthomyza gracilis* Fallén, *Cryptonevra flavitarsis* (Meigen), *Diastata adusta* Meigen, *Hydrellia maura* Meigen, *Trichopalpus fraternus* (Meigen), *Spaziphora hydromyzina* (Fallén), *Myopina myopina* (Fallén), *Zaphne ambigua* (Fallén), *Limnophora scrupulosa* (Zetterstedt), *L. triangula* (Fallén), *Lispe tentaculata* (De Geer) and *Schoenomyza litorella* (Fallén). Also present were many ubiquitous eurytopic pioneering species of ruderal habitats.

On 2 August 2005 another male *Z. proxima* was swept in the same location, despite a considerable desiccation of the microhabitat as a result of a drop in the water-level of the lake of about half a metre. A second male was also swept some 400 yards west of this site, from a very rich flush on sand. Here again *Juncus effusus* was a co-dominant over moss and algal mats.

Immature stages

Zaphne species develop in muddy or wet silty situations, typically under algal mats. PS has collected larvae and puparia of *Z. ambigua* (Fallén) and *Z. divisa* (Meigen) in such situations and has reared out adults. Subfossil puparia have also been extracted from archaeological excavations in various places in Britain, Iceland and West Greenland. The puparia are rather distinctive amongst anthomyiids (see below) and in an incomplete example tentatively referred to this genus, which was found amongst organic debris extracted from silt in shallow water at Loch Druidibeg (South Uist), the male terminalia of *Z. divisa,* including the sternal tufts of long bristles, were dissected in almost perfect condition. The empty *Zaphne* puparia extracted from Norse middens in the Sandnes area of the Western Settlement in West Greenland (Skidmore 1995) were assumed at that time to belong to *Z. frontata* (Zetterstedt), the commonest *Zaphne* species recorded from the island (Henriksen 1939). However, as Griffiths (1998) has revised the genus in the Nearctic Region, and recorded other species of *Zaphne* from Greenland, this cannot be certain.

The main distinguishing features of *Zaphne* puparia relate to the perispiracular region of the end-segment. The perispiracular papilla, which are very conspicuous in many anthomyiids are absent or ill-defined in *Zaphne,* the slightly sunken perispiracular field being surrounded by a usually strongly swollen rim marked by strong concentric ridges and/or a cobbled surface sculpture. Puparia of *Fucellia* are often very similar but the surface sculpture of this region is usually strongly spiculate. In *Zaphne* the posterior spiracular respiratory slits are weakly convergent (the median and lower slit sub-parallel, the upper inclined about 40 degrees towards them at its inner end) and the ecdysial scar is slightly supramedian (Skidmore 1995). The overall impression is highly reminiscent of the non-British Holarctic species *Hydrotaea* (sg. *Hydrotaeoides*) *anxia* (Zetterstedt) (Muscidae) except that the cephalopharyngeal skeleton in anthomyiids lacks oral bars (Skidmore 1985) and the papilla of the anal region are much less developed. All *Zaphne* puparia examined by PS agree with this general morphological description.

Identification of adults

The recognition of adults of both sexes of *Zaphne proxima* should pose no problems. In both sexes the mid tibia has an anteroventral seta, the arista is long plumose (the longest hairs about 1.5 times width of first flagellomere), and the hind tibia has only two long posterodorsal setae; notopleural depression without hairs around the bases of the two strong setae. The male has no tufts of longer setae on the abdominal sternites, the genitalia are characteristic: cercal plate undivided, surstyli with very long curling dorsal hairs, pregonite with two apical setulae, and the distal section of the aedeagus has the paired tips of the dorsal sclerotization spirally coiled. The female has conspicuous small setulae between the upper frontals and the inner eye margins, and the orbits are increasingly golden brown posteriorly, not silvery. Griffiths (1998: 1924) referred this species to a section of its own within *Zaphne,* due to the combination of plesiomorphous and apomorphous characters. The combination of two strong setulae on the pregonite and the spiral coiling of the tips of the dorsal sclerotization of the aedeagus are unique apomorphies within *Zaphne* (Griffiths 1998: 1926, Figs 2093–2097)

Distribution

In addition to Britain, *Zaphne proxima* has been recorded from Norway, Sweden, Finland, Slovakia, Czech Republic, North Russia, the Eastern Palaearctic and the Nearctic Region. The original pair of females from Angle Drain has been placed in the collections of the National Museum of Wales and a male from Hatfield Moor is now in the D.M.Ackland collection. The remainder are currently in the collection of PS.

Acknowledgements

Both of the sites from which this species has now been collected in Britain are owned, managed and administered by English Nature, to whom thanks are offered for the opportunity of carrying out surveys on their land.

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Dipterists Digest 2006 **13**, 47-48

The identity of the British species of *Atrichobrunettia* Satchell (Diptera, Psychodidae)

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Summary
The identity of British material of the genus *Atrichobrunettia* Satchell has recently been cast into doubt. The author has attempted to resolve the issue and this has led to the conclusion that *Atrichobrunettia graeca* Ježek & Goutner, 1993 and *A. angustipennis* (Tonnoir, 1920) are synonymous.

The genus *Atrichobrunettia* Satchell, 1953 is little known in Europe, with a mere five species recorded in the Fauna Europaea database. Of these four are only known from Greece or nearby islands. The fifth species, *Atrichobrunettia* (subgenus *Mirousiella*) *angustipennis* (Tonnoir, 1920) (placed in *Brunettia* Annandale, 1910 in the British checklist when the genus was thought to have been misidentified), has been found in Great Britain, Ireland and Belgium. In part the paucity of records may be due to the small size of the adult flies and the (in my experience) very short flight season. The only larva known in the genus, that of *A. angustipennis*, seems closely associated with tufa formations, themselves not widespread or easy to recognize as a discrete habitat component.

One of the four non-British species is *A. graeca* Ježek & Goutner, 1993. When describing this species, the authors stated that it was closely related to *A. angustipennis*, a comparison having apparently been made with the lectotype of the latter species. My immediate reaction on viewing the figures in this publication was that *A. graeca* was identical to *A. angustipennis*, a species represented in my collection by over 20 specimens from various localities in Britain and Ireland, and it should be noted that of the described *Atrichobrunettia* species, only these two have structurally similar genitalia. A difference cited between the holotype of *A. graeca* and the lectotype of *A. angustipennis* was that *A. graeca* had 13 retinacula (although only 10 are apparent in the figure). In most material of *A. angustipennis* that I have seen, 7-9 is more usual, although in my paper of 1987 I indicated 9-13 as a range in specimens I had then seen. I consider that other slight differences described in the male terminalia are the result of misinterpretation due to disorientation of the holotype (see below).

Recently, Ježek (2004) gave the distribution of *A. graeca* as the Czech Republic, Great Britain, Greece and Ireland, and newly recorded it from Albania. He commented that the inclusion of Great Britain and Ireland was on the basis of literature, stating that records of *A. angustipennis* auct. from Great Britain and Ireland represented *A. graeca* on the basis of figures. The papers of Withers (1987, 1989) and Withers and O'Connor (1992) were cited by him in this context, although the latter is a faunistic review and contains no species descriptions or figures.

Ježek (2004) also stated that only a single specimen (the male lectotype) of *Atrichobrunettia angustipennis* (Tonnoir, 1920) from Belgium was known, citing the "revision" by Ježek and Goutner (1993). There is indeed a single male specimen, the holotype of *A. angustipennis*, in the collection of the Institut Royal des Sciences Naturelles in Brussels, which now comprises only the male genitalia on a slide. As detailed in my paper of 1987, I designated this as the lectotype. I also then stated that the mount was very transparent and quite distorted, but all the features corresponded (even if sometimes laterodorsally twisted) to those in British material. This led to the conclusion that all British material is referable to this taxon, i.e. indisputably *A. angustipennis*.

To resolve the matter I requested a loan of material of *A. graeca* and Dr. Ježek sent me two slides, the holotype ♂ and an allotype ♀ (allotypes have no taxonomic status). The latter shows no features different from the female material of *A. angustipennis* I possess. The ♂ has been extensively dissected with the elements spread around under a large (2.2 cm square) coverslip. As is common in such cases, the extremely tiny fragments (including the genitalia) have migrated, rolled and twisted. It is impossible to correlate most of the reported differences from *A. graeca* and in particular it is no longer feasible to view the genitalia in the way they were depicted in the 1993 publication. It was possible, however, to count the retinacula and to confirm that there are only 10, as in the figure.

It appears that Ježek's assumption that *A. graeca* represented a different species from the holotype of *A. angustipennis*, and the resulting conclusion that all British and Irish material must therefore be *A. graeca*, is incorrect The most parsimonious solution should always prevail, especially when dealing with single specimens. In this case it leads to the establishment of *A. graeca* Ježek & Goutner, 1993 as a junior synonym of *A. angustipennis* (Tonnoir, 1920).

Acknowledgements

I am grateful to Dr J. Ježek for enabling me examine the type material of *A. graeca*.

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Dipterists Digest 2006 **13**, 49-56

Carcelia laxifrons Villeneuve (Diptera, Tachinidae) new to Britain and a revised key to the British *Carcelia* species

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Summary

Carcelia laxifrons Villeneuve, 1912 is added to the British list based on reared material and a revised key for the British *Carcelia* species is presented.

Introduction

Wyatt and Sterling (1988) introduced *Townsendiellomyia nidicola* (Townsend) (Tachinidae) and *Parasarcophaga uliginosa* (Kramer) (Sarcophagidae) to the British list, based on material reared from the brown-tail moth *Euproctis chrysorrhoea* (Linnaeus) (Lepidoptera, Lymantriidae) collected from various sites in southern England. Other tachinid parasitoids reared included *Compsilura concinnata* (Meigen), *Pales pavida* (Meigen) and a series of ten specimens from Dungeness in Kent identified by them as *Carcelia lucorum* (Meigen) using the key by van Emden (1954).

Carcelia lucorum will parasitise a wide variety of lepidopterous hosts (Ford and Shaw 1991), but appears to have a preference for hosts in the family Arctiidae. During discussions regarding the identity of various British tachinids, Peter Tschorsnig (*pers. comm.*) commented that the record of *C. lucorum* from *E. chrysorrhoea* was unusual. It was suggested that it would be more typical of *Carcelia laxifrons* Villeneuve, for which *E. chrysorrhoea* is a well-known host.

In light of these comments, the *Carcelia* specimens of Wyatt and Sterling (1988) were re-examined. Using the external characters given by Belshaw (1993), specimens keyed with some difficulty to *C. lucorum*. However, a dissection of a male specimen revealed genitalia obviously different from those of *C. lucorum* illustrated in the key. Using the Central European key (Tschorsnig and Herting 1994), the specimens keyed to *C. laxifrons* without difficulty. Comparison with limited European material (5 specimens) held at the Natural History Museum in London confirmed their identity as *C. laxifrons*. Examination of just over 200 British specimens under *C. lucorum* in the collection of the BMNH revealed no further examples of *C. laxifrons*.

Identification

In the key provided by Belshaw (1993), an initial split between the various species of *Carcelia* is made on the basis of the colour of the basicosta, with this being described as

either yellow or dark brown. In *C. laxifrons* this feature is unreliable, with the basicosta being variable in colour. In the specimens seen, the colour ranges from almost all yellow to almost completely brown.

With a yellow basicosta, specimens will run to the couplet separating *C. rasa* (Macquart) and *C. puberula* Mesnil. Here the key is further complicated by the recent addition to the British list of *Carcelia bombylans* Robineau-Desvoidy (Collins *et al.* 2002). *Carcelia laxifrons* can be distinguished from these three species on the basis of the wide frons and the presence of 2 or 3 anterodorsal bristles on the tibia of the middle leg, all of the other species having only 1 anterodorsal bristle. With a brown basicosta, without additional characters, specimens run to *C. lucorum*.

With the addition of both *C. laxifrons* and *C. bombylans* to the British list, it became clear that a simple amendment of the key in Belshaw (1993) could not be constructed satisfactorily. When revising the key, it became apparent that additional valuable diagnostic features could be seen when examining the male genitalia. We therefore present a new key to the British species of *Carcelia*, based in part on that by Tschorsnig and Herting (1994), illustrating the male genitalia of all eight British species of this genus.

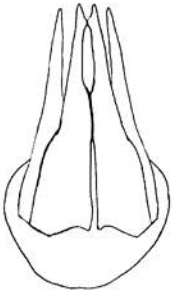
Key to the British species of *Carcelia*

1. Basicosta entirely yellow AND middle tibia with 1 anterodorsal bristle 2
- Basicosta dark-brown OR if paler, middle tibia with 2 - 3 anterodorsal bristles 4

2. Frons 0.53 - 0.61 x as wide as an eye in males, 0.63 - 0.71 x in females. Dusting yellowish-gray to golden yellow. Postpronotum (postpronotal lobe of Belshaw 1993) completely or predominantly yellow (view from the side, under the dusting). In lateral view, male terminalia with common tooth on ventral surface of cerci (Fig. 2) ..... ***Carcelia bombylans*** Robineau-Desvoidy
- Frons in males and females either narrower or wider than the measurements given. Dusting gray to yellowish-gray. Postpronotum usually black. In lateral view, male terminalia without tooth on ventral surface of cerci (Figs 4 and 6) 3

3. Frons 0.42 - 0.50 x as wide as an eye in males, 0.47 - 0.58 x in females. Hairs of tergites 3 and 4 1/3 - 2/5 as long as the corresponding segment. In lateral view, male terminalia with tip of surstylus rounded (Fig. 4). In dorsal view, cercus broad, approximately 2.25 x as long as width at widest part (Fig. 3) .... ***Carcelia rasa*** (Macquart)

Figs. 1-6. Male terminalia: *Carcelia bombylans*: 1, caudal view; 2, lateral view. *Carcelia rasa*: 3, caudal view; 4, lateral view. *Carcelia puberula*: 5, caudal view; 6, lateral view.



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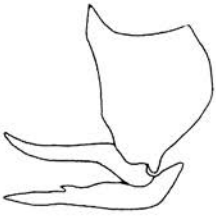

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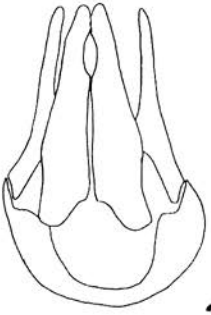

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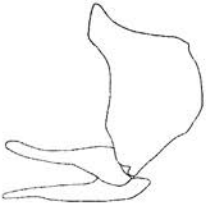

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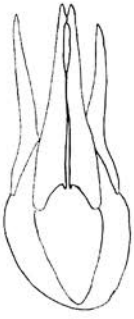

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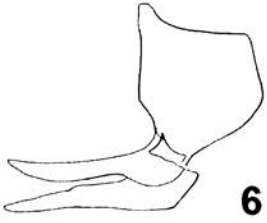

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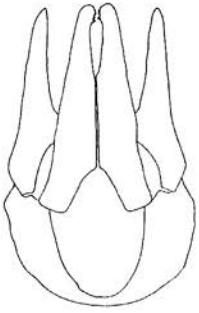

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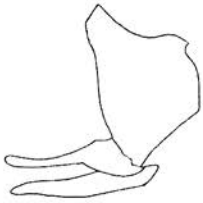

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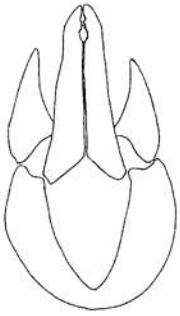

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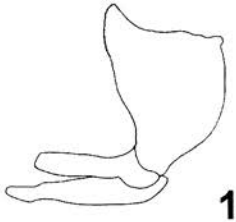

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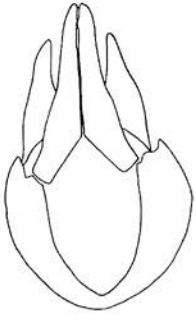

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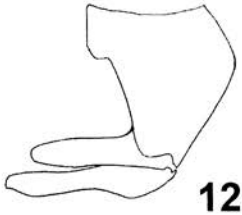

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- Frons 0.64 - 0.72 x as wide as an eye in males, 0.72 - 0.87 x in females. Hairs of tergites 3 and 4 3/5 - 2/3 as long as the corresponding segment, sometimes with irregular discal bristles. In lateral view, male terminalia with tip of surstylus pointed (Fig. 6). In dorsal view, cercus narrow, >3 x as long as width at widest part (Fig. 5). ..... ***Carcelia puberula*** Mesnil

4. Tergite 4 without discal bristles 5
- Tergite 4 with discal bristles..... 6

5. Frons 0.60 - 0.72 x as wide as an eye in males, 0.70 - 0.75 x in females. Middle tibia with one anterodorsal bristle. Arista starts to taper one-third of the way its length. Male terminalia Figs 7 and 8. In lateral view surstylus rounded at tip and approximately equal in length to the cercus ..... ***Carcelia atricosta*** Herting
- Frons 0.55 - 0.65 x as wide as an eye in males, 0.65 - 0.77 x in females. Middle tibia with 2-3 (in rare cases only 1) anterodorsal bristles. Arista starts to taper between two-fifths and half-way along its length. Male terminalia Figs 9 and 10. In lateral view surstylus squared off at tip and approximately 0.75 x the length of the cercus ..... ***Carcelia gnava*** (Meigen)

6. Apical scutellar bristles much shorter and weaker than the lateral bristles, at most as long as the scutellum. The space between the subapical bristles 1.1 - 1.5 x as great as the distance to the basals. Frons 0.6 - 0.7 x as wide as an eye in males, 0.6 - 0.8 x in females. Middle tibia in males with only 1 anterodorsal bristle, in females often with a second, weaker bristle above. In females, last fore tarsal segment widened, 2 - 3 x as long as the penultimate segment. Male terminalia Figs 11 and 12 ..... ***Carcelia tibialis*** (Robineau-Desvoidy)
- Apical scutellar bristles as long and as strong as the lateral bristles, longer than the scutellum. The space between the subapical bristles 1.6 - 1.9 x as great as the distance to the basals. Middle tibia with 2-3 anterodorsal bristles. Females: last fore tarsal segment not widened, 1 - 1.5 x as long as the penultimate segment 7

7. Middle and hind tibiae completely yellow. Frons 0.8 - 0.9 x as wide as an eye in males, 0.86 - 1.0 x in females. Space between the posterior ocelli almost as great as the distance between the anterior acrostichals. Facial ridges with thin fine bristles reaching 1/2 the distance from the vibrissae to the base of antennae. Basicosta variable in colour, can be dark brown but may become paler at distal end. Male terminalia Figs 13 and 14, in lateral view cerci without a projecting tooth on the ventral surface; surstyli about as long as cerci ..... ***Carcelia laxifrons*** Villeneuve

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Figs 7-12. Male terminalia: *Carcelia atricosta*: 7, caudal view; 8, lateral view. *Carcelia gnava*: 9, caudal view; 10, lateral view. *Carcelia tibialis*: 11, caudal view; 12, lateral view.

- Ventral surface of middle tibia (and usually hind tibia) darkened at the base. Frons 0.50 - 0.65 x as wide as an eye in males, 0.63 - 0.79 x in females. Distance between the posterior ocelli much less than the distance between the anterior acrostichals. Facial ridges with bristles in only the lower 1/4. Basicosta black brown. Male terminalia Figs 15 and 16, in lateral view cerci with a projecting common tooth on the ventral surface, this tooth is also visible in dorsal view; surstyli distinctly shorter than cerci ..... ***Carcelia lucorum*** (Meigen)

Material examined

England: 5 males, 5 females, Dungeness, Kent. Ex pupae of *Euproctis chrysorrhoea*, coll. 2.vii.1983, emerged iv.1984.

Discussion

With the recognition of *Carcelia laxifrons*, a total of eight species of *Carcelia* have now been recorded from Britain. To date, these specimens from Dungeness would appear to be the only known British examples of this species. Although widespread across southern England, the host larvae possess urticating hairs and the species is very rarely reared by enthusiasts, possibly leading to the under-recording of this species.

Acknowledgements

We are grateful to Phil Sterling for providing us with the specimens and giving us permission to publish his records. We would also like to thank Hans-Peter Tschorsnig for advice and his original suggestion regarding the identity of the specimens, and Nigel Wyatt for assistance with the examination of specimens at the Natural History Museum, London (BMNH) collections.

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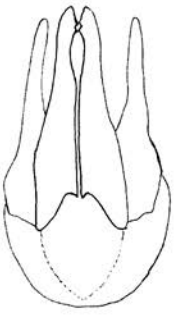

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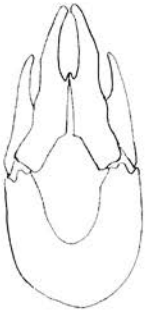

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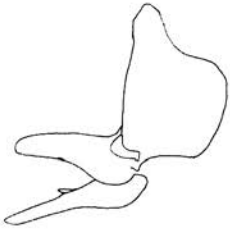

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Figs 13-16. Male terminalia: *Carcelia laxifrons*: 13, caudal view; 14, lateral view. *Carcelia lucorum*: 15, caudal view; 16, lateral view.

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***Ptychoptera minuta* Tonnoir, 1919 (Diptera, Ptychopteridae), a new species and family for the Northern Isles** - The highlight of a short pitfall trapping exercise over the nights of 19-20 August 2004 in a garden at Virkie (HU392124) in the south of Shetland proved to be a cranefly of the family Ptychopteridae. The specimen, a female, was sent to Brian R Laurence who recognised it as a ptychopterid and advised us that it represented the first record of that family for the Northern Isles. He recommended that we send it to Alan Stubbs for verification of the species involved. Alan determined it as *Ptychoptera minuta* Tonnoir, 1919. He pointed out that the only species sharing its characters of black abdomen and very weak wing markings is *P. scutellata* Meigen, which needs base-rich water (A.E. Stubbs *in litt.*). *Ptychoptera minuta* breeds at the edge of ponds and lakes or in boggy ground. The garden in which it was taken has been designed for wildlife and includes a small pond (extending to some 2 square metres) dug around ten years ago. The pitfalls were sited nearby, at the edge of short, rough grassland and low bushes, comprising a mixture of planted trees and shrubs. The surrounding area is well-drained, comprising wind-blown sand, and the nearest standing freshwater is several hundred metres distant.

Ptychoptera minuta is widespread on mainland Scotland. Alan informed us that hardly any cranefly recording has been done in Orkney. Even so, Brian Laurence (*in litt.*) stated that he would not have expected a *Ptychoptera* from the Northern Isles.

The specimen has been deposited into the safe care of Geoffrey Hancock at the Hunterian Museum (Zoology) in Glasgow.

We thank Alan Stubbs and Brian Laurence for providing determinations and much of the additional information included in this note - **NICK J. RIDDIFORD,** Schoolton, Fair Isle, Shetland ZE2 9JU and **PAUL V. HARVEY,** Shetland Biological Records Centre, Garthspool, Lerwick, Shetland ZE1 0NY

Dipterists Digest 2006 **13**, 57-58

Chrysops sepulcralis (Fabricius) new to South Devon with a further record from Kirkcudbrightshire and *Hybomitra lurida* (Fallén) new to Kirkcudbrightshire (Diptera, Tabanidae)

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Summary
Two significant records of *Chrysops sepulcralis* (Fabricius) are described: one new to South Devon in 2000 and a third Scottish and second Kirkcudbrightshire record in 2005. Previous Scottish records are clarified. Also recorded at Wood of Cree RSPB reserve with *C. sepulcralis* were two flies new to Kirkcudbrightshire: *Hybomitra lurida* (Fallén) and *Brachypalpoides lentus* (Meigen).

Results

A single specimen of *Chrysops sepulcralis* (Fabricius, 1794) was collected by MGT during a tour of sites in South Devon (V.C. 3) on 4 and 5 August 2000 and represents the first record for Devon. Another single specimen of *C. sepulcralis* was collected by RML in company with MGT, in sunny, still, warm conditions on 25 June 2005 at the northern of the two Dow Lochs (NX374719, V.C. 73) on the Wood of Cree RSPB reserve, a few miles north of Newton Stewart. This is the third confirmed record for Scotland and the second for Kirkcudbrightshire. *Chrysops sepulcralis* was accorded Vulnerable (RDB2) status by Shirt (1987), revised to Endangered (RDB1) by Falk (1991).

Also captured at Dow Lochs on the same visit by MGT was a single male *Hybomitra lurida* (Fallén, 1817). This is the first record for Kirkcudbrightshire of this Rare (RDB3) fly, otherwise known from Loch Lomond and more northern Scottish localities, as well as from the Cheshire Plain well to the south (Falk 1991; Drake 1991). The saproxylic hoverfly *Brachypalpoides lentus* (Meigen, 1822) was also recorded at Dow Lochs by RML. This fly has been recorded from a thin scattering of sites in southern Scotland but there are no Kirkcudbrightshire records mapped by Ball and Morris (2000), nor any included in the Hoverfly Recording Scheme database by 19 February 2006 (www.hoverfly.org.uk).

The northern Dow Loch lies in a fine flood-plain mire, exhibiting a succession of vegetation from open water, through species-rich fen and willow *Salix* carr to alder *Alnus* woodland. The area is regularly flooded by the River Cree.

Chrysops sepulcralis is best known from wet heathland and bogs in Dorset but has also been recorded from the New Forest, Hampshire, and from western and Northern Ireland (Drake 1991; Stubbs and Drake 2001). Uncertainty surrounds early Scottish records of *C. sepulcralis* from Aberfoyle, Perthshire in 1905 and records made prior to 1837 in Sutherland and south Scotland. However, the presence of *C. sepulcralis* in Scotland was confirmed by Alan Stubbs who captured a single male at Kirkchrist Mire, Kirkcudbrightshire (NX668522, V.C. 73) on 18 July 1979 (Stubbs 1993). This latter record was subsequently reported rather

inaccurately as being near Newton Stewart (Drake 1991; Stubbs and Drake 2001; Drake 2005) though it is about 25 miles east of Newton Stewart, and just west of the town of Kirkcudbright. A second confirmed Scottish record and the first for Dumfriesshire (V.C. 72) was reported by Drake (2005) from captures made on 11 July 2003. A previously unreported record for *C. sepulcralis* on 24 June 1974 from the Wood of Cree RSPB reserve is listed in the reserve management plan (Collin 2000). This record derives from a visit, organised by the then Nature Conservancy Council, by a group of entomologists of whom J.M. (Mike) Nelson was the dipterist (Paul Harding *pers. comm.*).

The South Devon specimen of August 2000 was encountered and tubed incidentally while pursuing quite different natural history interests. Uncharacteristically, and rather embarrassingly, MGT failed to make a note of the place of capture and so it is no longer possible to be certain which of the following four sites yielded the fly: Bake Farm Fishing Lakes near Trerulefoot (SX3258), Andrew's Wood north of Loddiswell (SX7051), Small Hangers (disused clay pits on the edge of Dartmoor) (SX5759), or Whitchurch Common (SX5374), all in South Devon (V.C. 3). Small Hangers provides the most suitable habitat.

Acknowledgements

Thanks are due to Peter Chandler for confirming the determinations of *H. lurida* and the Devon *C. sepulcralis*, and to Ken Watt for confirming the determination of *B. lentus*.

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Dipterists Digest 2006 **13**, 59-64

The British species of *Cerodontha* Rondani, 1861 subgenus *Cerodontha* (Diptera, Agromyzidae), including two species new to the British list

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Summary
The discovery in Derbyshire of *Cerodontha affinis* (Fallén, 1823) is reported while a previous, and overlooked, record of this species from Hampshire is reassigned to *C. phragmitophila* Hering, 1935, both new to the British list. A key is provided for the five species of *Cerodontha* subgenus *Cerodontha* now known from Britain.

Introduction

On 6 July 2004 Andy Godfrey swept a female *Cerodontha* in Woo Dale, Derbyshire which he tentatively identified as *Cerodontha affinis* (Fallén, 1823) using the key provided by Spencer (1976). A second female was swept at the same locality on 12 July 2005 by Derek Whiteley.

On finding that the illustration of the antennae in Spencer (1976) did not fit well with the first specimen, both specimens were passed to me. I found the same problem with Spencer (1976), but using the work of Nowakowski (1973) they keyed readily to *C. affinis* and it became apparent that the two keys did not agree. David Henshaw pointed out that there is an error in the numbering of the illustrations on page 176 of Spencer (1976). The captions should read Figs 314, 315. *Cerodontha* (*C.*) *affinis* (Fall.). - 314: third antennal segment; 315: aedeagus. Figs 316, 317. *Cerodontha* (*C.*) *hennigi* Now. 316: third antennal segment; 317: aedeagus. However, although the illustrations of the aedeagi are clearly transposed, this is not so obvious for the antennae. Neither Fig. 314 nor Fig. 316 accord well with any of the specimens of *C. affinis* or *C. hennigi* that I have examined but Fig.314 looks to be closest to *C. hennigi* and Fig. 316 closest to *C. affinis*. As only female *C. affinis* were available, and quite a number of species in this subgenus have been described since Nowakowski's (1973) monograph, I sent one of the specimens to Michael von Tschirnhaus, who confirmed its identity.

While researching *C. affinis* I noticed that Nowakowski (1973) listed a British record published in 1961 and yet it was not keyed by Spencer (1972), nor was it listed by Spencer (1976), Kloet and Hincks (1976) or Chandler (1998). It seems that these works overlooked this record, which was based on a specimen in the Museum of the Entomological Department of Cambridge University (Griffiths 1961). In the hope of finding a male *C. affinis* I borrowed the Cambridge specimen. Unfortunately, it was also a female and further quite different from the two *C. affinis* females. Using the key by Nowakowski (1973), this specimen readily keyed to *C. phragmitophila* Hering, 1935, a species hitherto unrecorded in

Britain. I sent photographs of this specimen to Michael von Tschirnhaus who agreed with my diagnosis.

Key to the British species of *Cerodontha* (subgenus *Cerodontha*)

This key should work for both sexes but there is a degree of variation in the extent of yellow coloration and in the shape of the first flagellomere and its apical spine. Male specimens which do not fit the key well can be identified by reference to the illustrations of the male genitalia given by Spencer (1976) (but note correction discussed above) and by Nowakowski (1973).

1. Acrostichal setae entirely absent. First flagellomere black with a conspicuous fine spine at upper apical corner (Fig. 5). Colour of thorax variable; mesonotum matt black or yellow behind, anepisternum black or yellow, scutellum black or yellow centrally ..... ***denticornis*** (Panzer)

— Acrostichal setae present in two to five rows 2

2. Scutellum entirely black 3

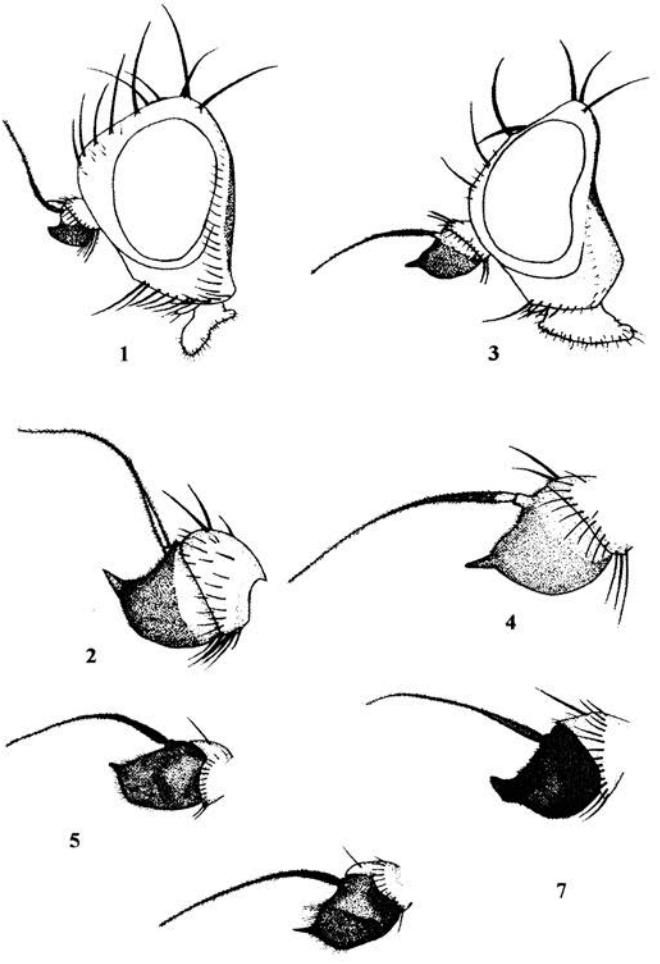
— Scutellum yellow or at least yellow centrally 4

3. Acrostichal setae in two rows. First flagellomere with a fine, sharp spine at upper apical corner (Fig. 6). Mesonotum and scutellum shining black. Anepisternum black. Smaller species, wing 1.7-2.6mm ..... ***fulvipes*** (Meigen)

— Acrostichal setae in four or more rows. First flagellomere with a blunt angle at upper apical corner (Fig. 7). Mesonotum and scutellum matt-black, anepisternum black with a yellow dorsal margin. Larger species, wing 2.75-4mm ..... ***hennigi*** Nowakowski

4. Four to five orbital bristles (Fig. 1). Disc of mesonotum entirely black, at most a small yellow area immediately in front of the scutellum. Coxae and tibiae mostly or entirely black. First flagellomere evenly concave dorsally and tapering into a blunt or sharp pointed, thick-based spine at upper apical corner (Figs 1 and 2) ..... ***affinis*** (Fallén)

— Three orbital bristles (Fig. 3). Disc of mesonotum black with a yellow central stripe, running from the base of the scutellum to the level of the middle postsutural dorsocentral bristle. Legs entirely yellow except for blackish tarsi and hind tibia somewhat brownish. First flagellomere dorsally straight or slightly convex in part the spine at the upper apical corner slender, more like that seen in *C. denticornis* (Figs 3 and 4) ..... ***phragmitophila*** Hering



Figs 1-7. Head and antennae of *Cerodontha* subgenus *Cerodontha*. Figs 1 and 2, *Cerodontha affinis* (Fallén): 1, head with blunt spine on first flagellomere; 2; antenna with sharp spine on first flagellomere. Figs 3 and 4, *Cerodontha phragmitophila* Hering: 3, head; 4, antenna. Fig. 5. *Cerodontha denticornis* (Panzer) antenna. Fig. 6. *Cerodontha fulvipes* (Meigen) antenna. Fig 7. *Cerodontha hennigi* Nowakowski antenna.

Cerodontha affinis (Fallén)

Description

Compared to the very common *C. denticornis*, the two British specimens of this species are significantly larger and more robust. Head yellow with ocellar tubercle and occiput black, jowls up to one third the height of the head. First flagellomere black with paler yellowish base, rather more conspicuous on inner face. In the dry specimens there is no sign of a sensory pit on the outer side of the first flagellomere (this pit readily seen in *C. denticornis* and *C. fulvipes*) but this character can be difficult to discern in pinned specimens. The shape of the first flagellomere shows some variation even in the two specimens. One specimen has a single blunt spine on the left antenna and two sharp spines on the right antenna. Thorax black except posterior rim of postpronotal lobe, notopleuron and dorsal and posterior margin of anepisternum yellow. Scutellum yellow except for black lateral corners. Legs yellow except following parts dark: front coxae basally, mid and hind coxae entirely, mid and hind femora up to basal fifth, front tibia on apical half or more, mid and hind tibiae on apical four fifths and all of tarsi. Squamae and squamal fringe pale, halteres yellow. Abdomen black with yellow margins from tergite 2-6 becoming progressively narrower.

Chaetotaxy variable: 2-3 lower orbitals, 2 upper orbitals, with about 8 slightly reclinate orbital setulae, 2 pairs of ocellars with a few setulae between them, 2 pairs of vertical bristles but one specimen with an extra pair behind and inward of the inner vertical, one pair of post verticals. One specimen also with two inclined setae on the right side of the frons which, from their asymmetry, is presumably an aberration. Dorsocentrals 3 + 1, acrostichals rather bristly and irregular in at least 4 rows; 1 + 1 intra-alars; 1 postpronotal; 1 posterior notopleural (also an anterior notopleural present on right side of one specimen), 1 supra-alar, 1 postalar, 1 pair of scutellar setae. Wing length 2.7-2.9mm.

Biology

The host plant of *C. affinis* is not known but, where known, all species of this subgenus mine the leaves of grasses (Poaceae). The two British specimens were swept from grassland in a dry valley on Carboniferous limestone.

Distribution

In Europe *C. affinis* is widespread, especially in the northern half, recorded from Austria, Czech Republic, Denmark, Estonia, Finland, France, Germany, the Netherlands, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Sweden, Switzerland, Ukraine and Yugoslavia (www.faunaeur.org). In Britain so far only recognised from Woo Dale, Derbyshire.

Material examined

BRITAIN, Derbyshire, V.C. 57, Woo Dale (SK097726), 1♀ 6 July 2004 (leg. A. Godfrey), 1♀ 12 July 2005 (leg. D. Whiteley)

Cerodontha phragmitophila Hering

Description

The single British specimen seen is smaller and more gracile than British *C. affinis*, much more like *C. denticornis* in general appearance. Head yellow except black ocellar tubercle and occiput black, jowls one third depth of the head. First flagellomere black, rather brownish basally, with sharp spine at upper apical corner. Thorax black except area along the line of acrostichals from the scutellum to the middle postsutural dorsocentral, postpronotal lobes, notopleuron and lateral parts of mesonotum nearly up to level of intra-alar and supra-alar setae, which are yellow. Pleura dark with margins of sclerites yellow, especially the upper margin of the katepisternum. Scutellum yellow except for black lateral corners. Legs yellow but tibiae and tarsi slightly browner. Wing veins yellow, venation as *C. denticornis*, halteres yellow. Abdomen dark, tergites with yellow posterior margins, which broaden laterally.

Chaetotaxy: 1 lower incurved orbital, 2 upper reclinate orbitals, several upright orbital setulae, one pair of ocellars, two pairs of verticals, one pair of postverticals. Dorsocentrals 3+1, acrostichals biserial, somewhat irregular in front; 1 postpronotal, 2 notopleural and 2 scutellar setae. Wing length 2.4mm.

Biology

Cerodontha phragmitophila mines the leaves of *Arundo* (non-British) and *Phragmites* and is probably confined to these genera (Spencer 1990). There is evidence that it is a good coloniser, having been found at a broken water pipe line in the central Sahara some 400 km from the Nile valley, where only a small patch of *Phragmites* was growing (M. von Tschirnhaus *pers. comm.*).

Distribution

In Europe *C. phragmitophila* is rather more southerly in distribution than *C. affinis* with no records from Scandinavia. So far it has been recorded from Belgium, Bulgaria, Corsica and mainland France, Czech Republic, Hungary, Italy, Poland, Spain, Yugoslavia and extending into North Africa (*www.faunaeur.org*). In Britain it is only known from the single female from the New Forest, Hampshire. Given its powers of colonisation and the lack of any records for nearly 100 years it is possible that this specimen represents a short-lived colony, no longer extant.

Material examined

BRITAIN, Hampshire, V.C. 11, New Forest, 1♀, August 1908 (leg. C.G. Lamb, in collection of Cambridge University Museum of Zoology).

The specimen is pinned through the dorsum of the thorax and mounted on card with the following data labels.

Indecipherable (in pencil)/New Forest/C.G. Lamb/8. 1908.
C. affinis Fall./det. G.C.D. Griffiths

Acknowledgements
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Telmatoscopus (*Jungiella*) *valachicus* Vaillant, 1963 (Diptera, Psychodidae) new to Britain

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Summary
Telmatoscopus (*Jungiella*) *valachicus* Vaillant, 1963 is recorded as new to the British fauna.

Introduction

Three male specimens of an unfamiliar psychodid forwarded to me by Peter Chandler proved to be examples of *Telmatoscopus* (*Jungiella*) *valachicus* Vaillant, a species hitherto undetected in Britain. All specimens were from Spye Park, Wiltshire (ST9567), in a swampy site adjacent to a woodland stream, above and below a lake. The first specimens were captured on 31 May 2004 during the Dipterists Forum summer field meeting based at the nearby Lackham College. Further examples were found in the same area during a return visit on 7 June 2005.

Identification

Telmatoscopus valachicus runs in my key (Withers 1987) to couplet 3 of *Telmatoscopus* (sensu lato), with corniculi and an elongate ovoid pedicel, coupled with an aedeagal spatula nearly as long as the aedeagal arms. It is distinct from *T. soleatus* (Walker) by virtue of the bulbous apices to the aedeagus (Fig. 1).

Telmatoscopus valachicus is very closely related to *T. danicus* Nielsen, 1964, originally described as a variety of *T. valachicus* but raised to specific rank by Vaillant (1972), who placed both species in *Jungiella* as *J. valachica* and *J. danica*. He proposed this as a new genus to include many of the species previously placed in *Telmatoscopus*. Apart from slight proportional differences in the aedeagal structure (not normally sufficient in this family to warrant specific status) the only apparent distinction is in retinacular number: 7 in *T. danicus*, as opposed to 9 in *T. valachicus* (the latter confirmed in the limited material under review). Retinacular number is not a constant in many species of psychodid, so it is likely that these two "species" are merely variations on a single theme.

In the Fauna Europaea database (Wagner 2004) *T. valachicus* (as *Jungiella valachia* (sic)) is listed only from Romania and Yugoslavia, while *J. danica* is listed only from Denmark and Germany.

Acknowledgements

I would like to thank Peter Chandler for providing me with the specimens when he found that they represented a species new to the British list.

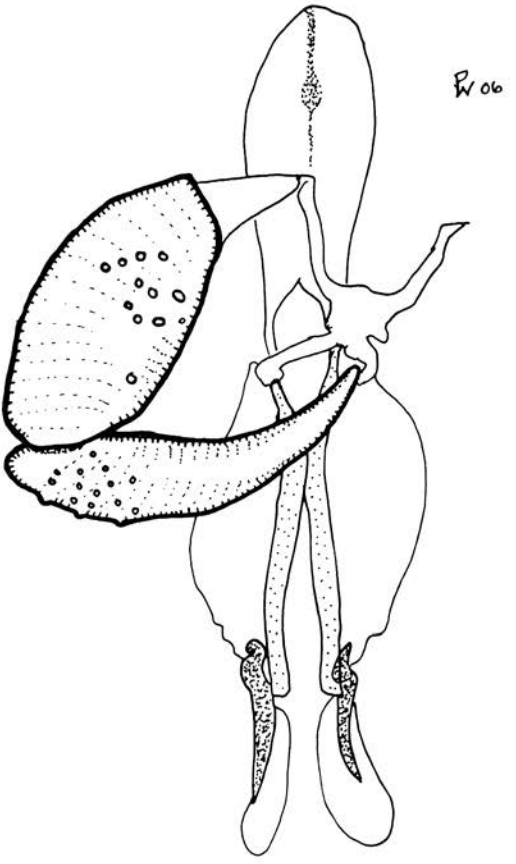

Fig. 1. ***Telmatoscopus* (*Jungiella*) *valachicus*** **Vaillant, male genitalia showing aedeagus, gonocoxite and gonostylus.**

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The ecology of *Ellipteroides alboscutellatus* (von Roser, 1840) (Diptera, Limoniidae) in England

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Summary
This paper describes the 14 currently known sites for *Ellipteroides alboscutellatus* (von Roser) in England and gives details of habitat, ecology and field observations. The microhabitat is flushed *Palustriella* (= *Cratoneuron*) moss beds on perched springline tufa flushes, most of which are now found in woodland.

Introduction

This paper is the result of about six summer's observations. These were originally fairly casual and without particular structure other than recording the fauna, and were based on the proximity of Pentaloe Glen to my home at Ledbury, Herefordshire. Over time a project gradually emerged, requiring more detail to be recorded and considered. As a consequence, the data set is patchy in places and requires re-visits to some of the earlier sites to bring them up to the same recording level as those visited in 2004. It is clear that, although fundamentally rare, the scarce microhabitat that supports *Ellipteroides alboscutellatus* (von Roser) is more widespread than expected and suggests that new sites will be added over the coming summers. This paper is the first summary of the information gathered to date and describes the tufa flushes in some detail.

Taxonomy and status

This species is placed in the subgenus *Protogonomyia* Alexander, 1934 of *Ellipteroides* following a revision by Savchenko *et al.* (1992), having formerly been part of *Gonomyia* Meigen.

It was omitted from the British Red Data Book (Shirt 1987), though it was included by Falk (1991), as *Gonomyia alboscutellata* (von Roser) and was accorded Endangered (RDB1) status, though the work is a review, not a red data book.

The recorded history of *Ellipteroides alboscutellatus* in England

The first record in England was made in 1898 by Dr John Wood, at one of his favourite hunting grounds of Haugh Wood near Tarrington in Herefordshire. The Natural History Museum, London (BMNH) has eight specimens, of which six were collected on 14.vii.1898, one on 23.vii.1898 and one on 14.viii.1898 (D. Notton *pers. comm.*). Alan Stubbs visited the Haugh Wood site in 1981 and found the species to still be present (Steele 1985).

The species was next recorded in Britain by Alan Brindle at Whitewell, Lancashire, in 1958 in what, at the time, was Yorkshire. Whitewell village lies in the extreme west of V.C. 64, tucked deep in the Bowland Hills. There are four specimens (2♂, 2♀) in the Manchester University Museum collection and 11 specimens at BMNH from 'Whitwell, Yorks, 23.vii.1958, A. Brindle' (D. Notton *pers. comm.*).

In 1987 Colin Plant recorded this species at the Wyre Forest in north Worcestershire and at a field meeting of the British Entomological & Natural History Society on 7 August 1988 Peter Chandler took 1♂ from seepages by the stream in Shelf Held Coppice, part of this extensive forest (Plant 1988). Further northern records came from Roy Crossley in 1995 and 1997 when he took the species at Forge Valley Woods NNR near Scarborough and John Coldwell recorded it at Ashberry Pastures in 1997, immediately to the west (Crossley 1998).

Further sites added by the author include Hoarstone Rough, Herefordshire in 1999; the Great Bog, in another part of Wyre Forest in 2000; Lower Sapey Brook, Herefordshire in 2002, and Park Wood by the River Wye in Herefordshire in 2003. Hurdlestone Wood and Withial Coombe, both in Somerset, were added in 2004 while Roy Crossley added Hackfall Wood in Yorkshire in the same year, though there was not time to integrate the full detail of that site into this paper. Fig. 1 plots the known sites in England.

Methods

Actual or potential sites were identified by a variety of means. Some were already recorded in the entomological literature, whilst others were recorded in non-entomological (usually geo-morphological) papers and reports. Personal observation and recommendation by others added some additional sites, with the rest being discovered by recourse to geological maps. Latterly, *Palustriella* moss records were used to suggest locations, these being available through the NBN Gateway (*www.nbn.org.uk*).

Descriptions of each site and its principal vegetation were made in the field at the time of the insect's flight period and are given here in Appendix 1. Vegetation height was measured with a 30cm ruler. Site descriptions were augmented by information obtained from the 1:250,000 Soil Maps of England and Wales, Soil Survey of England & Wales, Sheets 1, 3 and 5 and the associated Legends for the 1:250,000 Soil Map of England & Wales. The relevant solid geology maps, at a variety of scales and dates of publication were used to describe the underlying geology.

The size of the seepages was estimated, either by eye or paced, as many of them are too fragile or difficult to measure on the ground but their extent was not always clearly defined. Similarly the abundance score for vegetation cover uses the standard DAFOR coding but was visually assessed and not derived from the more usual quadrat method. Plant species cover is described in the format of e.g. "dominant" or "rare" hart's tongue fern. Beyond those sites where water flow was precisely measured, it is qualitatively described.

Some simple water flow measurements were taken at Hoarstone Rough and Pentaloe Glen in late August 2003. Measurements of water volume per unit time were taken using a 1m plastic pipe laid as close to the local surface flow gradient as possible, so that the flow was unimpeded. The time taken to fill a graduated 1 litre plastic measuring container was recorded, using an Uwin 100 series stopwatch, three times at each site and the average calculated. Spot measurements of water temperature were taken with a domestic freezer thermometer within the flush systems, the spring-heads where easily accessible, and of the nearby air shade temperature 1.5–2m above ground level.

Bryophytes were field collected at a number of sites and air-dried and passed on for identification. Craneflies (Tipuloidea) were collected by sweep netting and dried, stored in

envelopes and dispatched for identification. Nomenclature of Tipuloidea follows Chandler (1998).

The geological background

Geologically, the tufa flushes on which *Ellipteroides alboscutellatus* depends derive from a range of limestones of various ages. The Lower Sapey site, for example, is an exposure of the Downton series in the centre of the Clifton-Sapey syncline, which has cut through the overlying Ditton series. The Ditton series are greenish grey shales, sandstones and conglomerastic cornstones with much carbonaceous material, whilst the Downton series are thick red marls and sandstones (Mitchell *et al.* 1961). Critically, the base of the Ditton series is taken at the base of the "Psammostetus" Limestone, which forms a 100m high escarpment in this area. The faulting and displacement of limestone beds has probably resulted in the spring lines, Mitchell *et al.* (1961) noting that the exposures "are frequently obscured by tufa deposited by springs issuing from this and higher limestone beds".

Pentaloe Glen similarly lies on faulted ground, with the Pentaloe Fault running in part parallel with the Brook and dislocating the Woolhope Limestone beds, leaving Upper Llandovery series greenish earthy calcareous sandstones meeting them around the area of the flush (Pocock 1929). Whilst big faults may be the cause of some of the seepages, limestone bands can also transfer water out of the aquifer when set upon other rocks. The Hoarstone Rough site has a thin band of Bishop's Frome Limestone (Devonian-Silurian era), which runs around the hillside, set in a broader zone of St Maughan's formation – a red-brown blocky mudstone, with beds of sandstone, conglomerates and immature calcites. Underlying this are silty shales, siltstones, sandstones, and limestones of various geological ages.

A feature of the sites is the occurrence of relatively few soil types, a consequence of the similarity of the underlying geology. Table 1 details the site locations, principal soil types, and geology. The Rivington and Bromyard soil series occur over the geographical range, with other sites lying on similar soil types. There is a preponderance of loamy or silty soils, either free draining or seasonally waterlogged, with a number on steep slopes.

The nature and types of tufa formation

As Viles and Pentecost (1999) noted "tufa deposition occurs where the equilibrium of waters containing dissolved calcium carbonate shifts, thus favouring the deposition of calcium carbonate". They further noted the role that organisms and organic remains have in acting as nucleation sites for tufa deposition or in altering the CO_2 concentrations. Most work done on these systems has focussed on the tufa in stream systems and on the formation of "travertine dams", rather than the sites that *Ellipteroides alboscutellatus* favours.

Pentecost (1993) proposed a modified tufa classification based on that developed by Pedley *et al.* (2003), recognising seven types of deposit based on deposit slope and degree of activity. Table 2 places the sites named within this paper in this classification.

In many cases it was not easy to place sites as more than one type of tufa seems to be present, though the choice was always between two of the formation types. In this classification, it is notable that 46% of *Ellipteroides* sites were paludal, while the other 54% fitted a more cascade-type classification. This is in contrast to the national tufa distribution frequency, with only 7.5% of all active tufa sites being paludal (n=66), with 39% of active

sites being cascades (Pentecost 1993). An alternative view comes from Pedley *et al* (2003) who better describe two of the "end member models" encompassing the tufa continuum. From this it is clear that *Ellipteroides* sites are, in fact, better considered as perched springline tufas. Pedley (*pers. comm.*) relates how the "cascade" types of Pentecost (1993) seem to entirely encompass the perched springline tufa category, and are often but part of the sequence, though they can form through simple sharp gradient changes without developing a mossy tufa sequence. With a tighter description of "paludal" systems, the remaining 46% of sites may now be seen to belong to a different aspect of the perched springline tufa category.

Whilst tufa deposition is often considered to have declined in the Holocene, Baker and Simms (1998) added many tufa-depositing sites to those listed by Pentecost (1993), on the basis of maps and fieldwork. Their key point was that, although there may have been a decline in large sites, many of the smaller ones might have been ignored or overlooked, suggesting that the rate of decline in tufa formation is, perhaps, questionable. Whilst this is of background significance, the important point is that of the 26 tufa sites visited and characterised by them, only two supported *Palustriella* moss communities. One now needs to consider if the co-occurrence of *Palustriella* beds on active perched springline formations points to a genuine rarity of this habitat type, and hence this cranefly.

The vegetation of the flushes

There is generally little reference to the National Vegetation Classification (NVC) in site descriptions, as it is difficult to relate them to any of the recognised types. Whilst the flushes are mostly set in woodland or scrub, their very wetness places them outside the majority of woodland types, whilst their woody nature challenges linkages to fen or marshy vegetation stands. Only in one site (Hoarstone Rough) does a reasonable fit (with S23 *Phragmites australis-Eupatorium cannabinum* fen) occur in part of the site, whilst the dominant NVC typing of another does not really touch the precise areas in which this fly is found. Biron (2001) reached similar conclusions, being able to place Withial Coombe woodlands as W8 ash-field maple (*Fraxinus excelsior-Acer campestre*) or W7 ash-alder (*Fraxinus excelsior-Alnus glutinosa*) woodland, though noting that all the communities sampled were "very poor" fits to any existing NVC classification. Clearly botanical classifications are not designed to serve invertebrate conservation.

Those plant species that do occur on a fairly regular basis are hemp agrimony *Eupatorium cannabinum*, wavy hair-grass *Deschampsia flexuosa*, valerian *Valeriana officinalis* and horsetails *Equisetum* species. One cannot really assign significance to the other species, such as dog's mercury *Mercuralis perennis*, many of which are derived more from the surrounding woodland communities, and take advantage of the hydrological gradients around the flushes. A key functional element, aside from flushing from base-rich waters, seems to be shading of the moss from other vegetation, though sites that are too shady suppress moss growth. The dominant vegetation is often fairly similar between sites.

A common feature of all sites is the, often extensive, presence of the classic "tufa-forming" moss *Palustriella commutata* var. *commutata* (= *Cratoneuron commutata* var. *commutata*), which is the most frequently encountered bryophyte, with *Bryum pseudotriquetrum* and *Eucladium verticillatum* the next most abundant (Pentecost and Zhaohui 2002). These authors noted that *Palustriella* forms "extensive, low-growing mats

around travertine-depositing springs and seepages" and "carpets kept moist by capillarity", rarely, if ever, exposed to fast-flowing water, and in waterfall sites occupying the "spray fringe" at the sides and bases of falls". *Palustriella* should be viewed as a very strong habitat indicator for *Ellipteroides alboscutellatus*, although the fly is not exclusively found in areas in which it grows.

The physical characteristics of the flushes

The small size of sites is most obvious. Apart from the fine seepage complex at Upper Scarwell Springs, sites are usually less than 20m wide and often not much longer. Details are given in Table 3. Even then the actual area of usable breeding habitat is likely to be much smaller as tufa formation is a self-defeating process, the accretion altering the water flow pattern, and hence the life force, of the system. Whilst *Palustriella* moss is able to colonise older tufa areas it is debatable whether, without the constant flushing of water to keep the areas both wet and cool, they have such high potential as a habitat for Diptera.

Water flow and temperature characteristics of some sites

A common feature of the sites is the presence of a discernible water flow, either relatively "strong" or "very strong", though the *Palustriella* beds tend not to be in the direct flow. Water flow was measured at two sites. The Hoarstone Rough flush and Pentaloe Glen had a flow rate of 0.014 l/sec. In contrast, the "waterfall" above the flush at Hoarstone had a flow of 0.10 l/sec. These results demonstrate the flow rate that this invertebrate community tolerates and the degree of flushing that the *Palustriella* beds experience, but more extensive measurement in different sections of the tufa complex are needed to give the full picture.

The spring water temperature was observed to be relatively constant. Table 4 gives springhead and main flush water temperatures of the sites. It is clear that there is a thermal buffering effect from the cool spring water when compared with high summer temperatures, with the summer flush water temperature range being from 10-14^{0}C. Summer temperatures at the springhead issuing from the rock were 10^{0}C at the Hoarstone Rough springhead and 11.5^{0}C at Withial Coombe springhead. To illustrate that these sites may be typical, similar results were obtained at the Yorkshire Wildlife Trust Reserve site of Chafer Wood, and the springhead at Caswell Wood in the Wye Valley, Gloucestershire (neither sites for *E. alboscutellatus*), with 9^{0}C and 9.5^{0}C respectively in August. There is too little data to ascribe any significance to the slightly lower temperatures of springhead water at these sites. Water temperature usually rises slightly by the time it reaches the main *Palustriella* beds, and the summer water to air shade temperature differential which organisms in these flushes experience can be as great as 14^{0}C, though the average is 7.3^{0}C.

Importantly, this buffering effect extends into winter, with the Hoarstone Rough springhead temperature being only 1^{0}C lower than in August, as set against at least a 9^{0}C air temperature difference. Winter water temperature measurements from Millway Grove (not an *E. alboscutellatus* site but with comparable habitat) and Park Wood springheads gave a range of 1-4^{0}C above ambient air shade temperatures. Although derived from a very small sample, it seems that such thermal buffering probably has a role in protecting the "aquatic" life stages of egg and larva from the effects of both freezing or overheating.

Table 1. Location and characteristics of *Ellipteroides alboscutellatus* sites in Britain.

Site Name	County	Grid Ref	Soil type	Soil description	Geology Influencing Soil Characteristics
Hoarstone Rough	Herefordshire	SO517514	Bromyard, 571b	Well-drained reddish fine silty soils over shale and siltstone.	Devonian reddish silty shale, siltstone, sandstone. St Maughan's formation – red-brown blocky mudstone with beds of sandstone, conglomerates and immature calcites.
Pentaloe	Herefordshire	SO585377	Stanway, 711a	Slowly permeable seasonally waterlogged often stoneless fine silty or fine silty over clayey soils on rock.	Palaezoic siltstone, shale and mudstone;
Great Bog, Wyre	Worcestershire	SO745762	Rivington 2, 541g	Well-drained coarse loamy soils over rock. Some fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging.	Palaeozoic sandstones & shale. Eutria marl, with red, purple and grey marls, with sandstones and conglomerates, complexly interbedded with sandstones.
Shelf Held Coppice, Wyre	Worcestershire	SO7575	Rivington 2, 541g	Well-drained coarse loamy soils over rock. Some fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging.	Palaeozoic sandstones & shale. Eutria marl, with red, purple and grey marls, with sandstones and conglomerates, complexly interbedded with sandstones.
Sapey Brook	Worcestershire	SO697620	Bromyard, 571b	Well-drained reddish fine silty soils over shale and siltstone.	Devonian reddish silty shale, siltstone, sandstone.
Forge Valley Woods (Upper Scarwell Springs)	Yorkshire	SE983873	Rivington 1, 541f	Well-drained coarse loamy soils over sandstone.	Carboniferous and Jurassic sandstone.

Ashberry Pastures	Yorkshire	SE565850	Elmton 2, 343b	Shallow, well-drained brashy calcareous fine loamy soils over limestone. Some deeper fine loamy or fine loamy over clayey soils	Jurassic limestone and sandy limestone
Whitewell A	Lancashire	SD654463	Brickfield 3, 713g	Slowly permeable seasonally waterlogged fine loamy, fine loamy over clayey and clayey soils.	Drift from Palaeozoic sandstone and shale
Whitewell B	Lancashire	SD654465	Wetton 1, 311c	Very shallow loamy upland soils over limestone, mostly humose, sometimes calcareous.	Carboniferous limestone
Park Wood	Herefordshire	SO588177	Crwbin 313c	Shallow, well drained loamy soils over limestone	Trenchard Group, Carboniferous limestones
Hurdlestone Wood	Somerset	ST678481	Nordrach 581a	Well drained fine silty over clayey soils- soil associates with Crwbin series	Aeolian silty drift over Carboniferous limestones
Withial Coombe	Somerset	ST570375	South Petherton 541m	Deep well-drained silty soils over soft rock	Jurassic & Cretaceous siltstones and sandstones

Data derived from 1:250,000 Soil Maps of England and Wales, Soil Survey of England & Wales, Sheets 1, 3 and 5, and associated Legends for the 1:250,000 Soil Map of England & Wales.

Site Name	Tufa Classification Category					
	Paludal	Cascades	Barrages	Stream/spring crusts	Lake crusts	Cemented rudites
Lower Sapey brook		✓				
Hoarstone Rough		✓				
Pentaloe Glen	✓					
Great Bog, Wyre	✓					
Whitewell A		✓				
Whitewell B		✓				
Ashberry Pastures	✓					
Forge Valley Woods (Upper Scarwell Springs)		✓				
Forge Valley Woods (Lower Scarwell Springs)		✓				
Park Wood	✓					
Hurdlestone Wood	✓					
Withial Coombe	✓					
Hackfall Wood*		✓				

Table 2. *Ellipteroides alboscutellatus* sites with tufa classified after Pentecost (1993).

* though not personally visited, the site ascription follows the logic of it being like the Scarwell Springs complex.

Site Name	Approx Area m^2	Approx Slope	Altitude (m)
Lower Sapey Brook	12	15^0	100
Hoarstone Rough	250	40^0	70
Pentaloe Glen	250	20^0	70
Great Bog, Wyre	75	20^0	90
Whitewell A	105	30^0	110
Whitewell B	250	45^0	100
Ashberry Pastures	45?	10^0	90
Upper Scarwell Springs	4000	45^0	n/a
Forge Valley Woods (Lower Scarwell Springs)	400	40^0	n/a
Park Wood	600	20^0	30
Hurdlestone Wood	600	15^0	n/a
Withial Coombe	na	15^0	n/a

Table 3. Site measurement details.

Observations on *Ellipteroides alboscutellatus* in its habitat

During the principal flight period on favourable sites adults of *E. alboscutellatus* are the commonest flies found by sweeping. They tend to avoid open areas of flush systems, preferring vegetated zones, especially where these either cast their own shade or are shaded by taller vegetation. Being fairly slow fliers it is probably safer for them to stay in the vegetated areas rather than risk the open, though small numbers may be swept from un-vegetated, seeping tufa gravels. They generally occupy a zone from ground level up to 1m, with males predominant in the upper zones and often found in the vegetated canopy (e.g. hemp agrimony). Random net sweeps at Pentaloe Glen in less vegetated areas (vegetation heights from 0-30cm from the tufa floor) produced slightly more males than females (17:10).

It is considered that the eggs may be laid in the flushed moss, the eggs and larvae being thermally buffered by spring water. Certainly at the Great Bog, many adults were walking over the moss surface under a canopy of taller vegetation, whilst at Pentaloe small runnels (perhaps no more than 20cm deep or wide) were often found to hold flies, again near moss beds. More observations are needed to clarify the exact breeding site.

Site	Shade temp ^{0}C (1.5-2m above ground level)	Water temp ^{0}C	Temperature differential	Date of reading
Forge Valley Woods (Lower Scarwell Springs)	21	12.5	8.5	07/08/03
Forge Valley Woods (Upper Scarwell Springs)	19	10	9	07/08/03
Ashberry Pastures – main site	21.	11.5	9.5	08/08/03
Ashberry Pastures – open	20	13 in stream	7	08/08/03
Ashberry second site – exposed ditch	24	10	14	08/08/03
Whitewell A – main flush	21	14 (in excavated tufa silt pool)	7	05/08/03
Whitewell B – main flush	22.	12	10	05/08/03
Pentaloe Glen – main flush	14.5	12	2.5	31/08/03
Pentaloe Glen – main flush	18	14	4	04/07/04
Hoarstone Rough- main flush	15.5	12	3.5	31/08/03
Hoarstone Rough Springhead (Summer)	15.5	10	5.5	31/08/03

Site	Shade temp ^{0}C (1.5-2m above ground level)	Water temp ^{0}C	Temperature differential	Date of reading
Hoarstone Rough Springhead (Winter)	6	9	3	28/01/04
Park Wood Springhead (Winter)	6	10	4	22/02/04
Millway Grove Springhead (Winter)	5	6	1	22/02/04
Withial Coombe Springhead	19	11.5	7.5	30/07/04
Withial Coombe tufa cascade	19	13	6	30/07/04
Hurdlestone Wood	19.5	11	8.5	28/07/04

Table 4. Springhead and main flush water temperatures of *Ellipteroides alboscutellatus* sites.

Attempted copulation was observed at Pentaloe with the female hanging down from a grass stem on the edge of a 30cm high vegetated "island" by the side of an open flush area.

The main flight period is July and August, with the bulk of records in the last three weeks of July and the first two weeks of August. The latest record is 28 August and the earliest 10 June, though the specimens taken then looked particularly teneral (R. Crossley *pers. comm.*).

Other cranefly species occupying these tufa flushes were recorded opportunistically. The next most commonly encountered species was *Paradelphomyia dalei* (Edwards), followed by the ubiquitous *Limonia nubeculosa* Meigen and the scarce *Molophilus corniger* de Meijere. Hoarstone Rough has the latter as well as *Pseudolimnophila sepium* (Verrall), *Helius flavus* (Walker), *Pedicia straminea* (Meigen), *P. littoralis* (Meigen), *Paradelphomyia dalei, Neolimnomyia batava* (Edwards) and *Dicranomyia lucida* de Meijere. Lower Scarwell Springs held *Dicranota subtilis* Loew and *Molophilus undulatus* Tonnoir, whilst Whitewell B had *Dolichopeza albipes* (Ström), *Cylindrotoma distinctissima* (Meigen), *Molophilus corniger, Paradelphomyia dalei, Pedicia straminea, Neolimnomyia nemoralis* agg., *Dicranota subtilis* and *Lipsothrix errans* (Walker). The seepages at Ashberry Pastures held *Eloeophila maculata* (Meigen), *Paradelphomyia dalei* and *Dicranomyia nigristigma* Nielsen.

Site conservation

Given the small size of these flush features it is perhaps surprising that we are able to trace one site's history back to Tudor times. The Hoarstone Rough site should better be called "Monk's Grove". Records cited in the Herefordshire County Record Office (HRO) mention Philip and Mary granting the manor of Bodenham to Sir Humphrey Coningsby in 1572 (sic), the Monks Grove being part of this estate. A clearer reference comes in 1702 when a Lord Coningsby leased the estate to William Matthews of Kingsland with reference to "a coppice wood there called Muncks Grove on the north, 2 parcels of pasture called ye marshes on the south". Geographical confirmation comes from the 1813 enclosure map which names the Marshes pasture and places it near the existing tufa spring. William Matthews of Kingsland was also able to "dig limestone out of ye sd quarry or rock and to make kilns for burning ye said limestone and to sell and dispose of the same there and also to turne ye spring of water running there...." (HRO). This may well point to a long history of stability, given that this site holds a significant nematoceran fauna, also evidenced by the amount of deposited tufa.

It is, however, clear from the discussion above that the sites supporting this rare cranefly are generally small and potentially vulnerable. Depending as they do on a constant flushing from base-rich waters, any interruption of this flow by either natural or man made causes would compromise any site. This is evidenced by the number of "inactive" sites listed in such works as Pentecost (1993). At one site, Whitewell A, moss seems to have been collected from part of the tufa buttress, presumably for hanging baskets.

Probably the best assessment of site loss and damage comes from Biron (2001), who described some Somerset sites. Of 51 sites described from survey work done principally between 1996-1997 and up to 2000, 10 were later found to be damaged, 11 destroyed, 8 reduced to pond or fountain features, with 6 with status unknown, leaving only 16 systems known to be intact, or 31% of the total. Importantly, 9 of these 16 intact systems were in

woodland, with only 1 woodland site being recorded as damaged. In contrast, 25 of the open ground sites were damaged or destroyed, pointing to a general trend of loss of open ground sites. Casual observations of sites in Herefordshire with tufa streams exiting woods and entering pasture areas, which are clearly drained or sumped, supports the view of open site vulnerability. Such losses have probably reduced *E. alboscutellatus* to being a woodland flush insect.

The extreme fragility of its habitat should be borne in mind if visiting any of these sites. Whilst effectively a rock formation, the subtle positioning of tufa dams and microcliffs is, like stalactites and stalagmites, both worthy of our admiration and yet so easily damaged by it. Careless trampling also easily displaces the thin carpeting of *Palustriella* moss.

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Fig. 1. Distribution map of known sites for *Ellipteroides alboscutellatus* in Britain.

APPENDIX 1: Catalogue of site descriptions

The sites are described in the order of discovery at them of *Ellipteroides alboscutellatus*.

Pentaloe Glen, Haugh Wood, Herefordshire (SO585377)

This is almost certainly the original site from which Dr John Wood collected the first British specimens in 1898 and Heaver (2000) demonstrated that this area was well known to Wood. Currently these are no other known perched springline tufa sites in this small area. The only major landscape change in the area has been afforestation. Set in a small bowl between a forestry track and the Pentaloe Brook, the Glen was under a nature reserve agreement between the Herefordshire Nature Trust and the Forestry Commission for many years. It is botanically rich, with good stands of marsh helleborine *Epipactis palustris* and autumn crocus *Colchicum autumnale*.

A Nature Conservancy Council survey in 1982 identified the principal components of the stand as comprising carnation sedge *Carex panicea*, glaucous sedge *C. flacca*, hard rush *Juncus inflexus*, jointed rush *J. articulatus*, water mint *Mentha aquatica*, marsh horsetail *Equisetum palustre*, hemp agrimony *Eupatorium cannabinum*, meadowsweet *Filipendula ulmaria*, columbine *Aquilegia vulgaris*, marsh thistle *Cirsium palustre* and valerian *Valeriana officinalis* on the edges. This is much as it is today, though the Forestry Commission have cleared all the surrounding conifers as part of a conservation effort, and the stand around the flush is currently dominated by young birch (*Betula)* scrub. Though the large Forestry commission track above the site clearly had an impact when it was constructed, the water flow does seem to arise from below it. The large-scale conifer clearance revealed other small tufa streams arising on the hill slope above but though searched, they did not reveal this fly.

Fans of tufaceous gravels occupy part of the site, with rivulets flowing through the *Palustriella* beds between *Carex* and taller vegetation stands. Small waterfalls take over as the gradient falls at the bottom of the site by the brook, the last 7+m being shaded under alders and tall vegetation before the water tumbles into the Pentaloe Brook.

Great Bog, Wyre Forest, Worcestershire (SO745762)

This site slopes down to a disused railway line where it is, to some extent, impounded. The area with most craneflies has good, but slow, base-rich water flow through moss under dappled shade. Hemp agrimony is abundant, with sub-abundant species and dominant *Juncus* stands. Alder trees are frequent, the rest of the understorey comprising occasional water horsetail *Equisetum fluviatile*, frequent purple moor grass *Molinia caerulea* and rare valerian, meadowsweet and betony *Stachys officinalis*. There are also small pools of water but with no obvious flow. *Ellipteroides alboscutellatus* is found around the mossy bed. There are other similar areas to this within tens of metres but the fly was only swept from this one area. It was my impression that there was a slow water flow, flushing the moss.

The nearby site in Shelf Held Coppice shares the same soil type as the Great Bog and probably the same underlying geology.

Hoarstone Rough, Herefordshire (SO517514)

A road lies at the head of this site and the stream that feeds the marsh passes under the road in a culvert. It lies on a steep slope in scrubby ash, alder, elder *Sambucus nigra* and willow *Salix* species woodland (60-80% canopy cover), though parts of the wetter marsh are more open (15% canopy cover). The site is dominated by hemp agrimony with common reed *Phragmites australis* being frequent. Hart's-tongue fern *Phyllitis scolopendrium* is dominant as an understorey, with occasional to rare stands of water figwort *Scrophularia aquatica*, coltsfoot *Tussilago farfara*, water mint

Mentha aquatica, nettle *Urtica dioica*, fleabane *Pulicaria dysenterica*, bittersweet *Solanum dulcamara* and bramble *Rubus fruticosus* agg. The courses of old tufa flows lie on the sides of the current flush, with barely damp *Palustriella* covering low tufa buttresses under the trees.

Water flow from the feeder stream issues out of the woodland over a smaller 1.5m buttress by the roadside, the water being piped under the road and discharged down the slope. There it forms a complex meandering pattern under the dominant hemp agrimony, before opening out into thin common reed stands under alder on the lower slope before discharging into a drain. This drain runs parallel with the River Lugg before joining it further up. Another potential site for this fly lies near this point and around the railway bridge over the River Lugg, where strong water flows are impounded by the bridge footings, leading to marshy ground.

Sapey Brook, Worcestershire (SO697620)

The site at Sapey Brook is atypical in that the ground flora is very sparse under the shade of the over topping tree canopy in the small, steep sided valley. Lying to the side of the Sapey Brook, the site is a small running tufaceous streamlet, flowing over a large tufa boss as it enters the Brook. So atypical was its appearance from the model that I had formed about where the fly lived that the find of *E. alboscutellatus* was a surprise. The sparse ground vegetation comprises rare hart's-tongue fern and dog's mercury, with open tufaceous gravels, all densely shaded by hazel *Corylus avellana*, holly *Ilex aquifolium*, hawthorn *Crataegus* species, sycamore and ash which form a tunnel over the Brook. The large tufa boss (paced at 6m wide by the stream edge) was covered in *Palustriella* moss beds, with strong water seepage. *Ellipteroides alboscutellatus* was swept from the sparse marginal vegetation.

Park Wood, Goodrich, Herefordshire (SO588177)

There was good water flow in the tufa system, though it was dry in places at the time of the visit. Overall the site was part shaded, part open. Water flow was strong in the main channels, with slighter seepages off of these areas. The ground flora was dominated by hart's-tongue fern and water mint, with valerian ranging from frequent to dominant. Stinking iris *Iris foetidissima* and red currant *Ribes rubrum* were occasional. The tree canopy is composed of sycamore, ash, elder, and dogwood *Cornus sanguinea*. Across the tufa streams there is an abundance of fallen timber, petrifying in the rich waters. There were many small waterfalls and tufa ledges, giving a varied topography. The flies were swept from marginal vegetation.

Forge Valley Woods NNR, Yorkshire

Lower Scarwell Springs (SE983873)

The lower of the main flush systems lies by the river and over the footbridge from the car park, and comprises a complex of steep c.35^0 slopes, with extensive tufa gravels. The woodland gives a canopy cover of 40%, being chiefly composed of an ash - sycamore canopy with alder and hazel. Water flow in the spring is good and very strong. Marsh horsetail is dominant but only covers c.30% of the site, with occasional to frequent pendulous sedge *Carex pendula*, wavy hair grass and wood millet *Milium effusum*, with rare to occasional enchanter's nightshade *Circaea lutetiana*, water figwort, creeping jenny *Lysimachia nummularia*, and rare dog's mercury. Vegetation stands are dense where they occur, though the central parts of the flush seem to suffer from small landslips and are very bare, leaving only two main channels though others are obvious. There is much dead wood in the system. Two adults of *E. alboscutellatus* were found here.

Upper Scarwell Springs (SE983873)

Higher up the slope and along the valley, these upper springs form an extensive tufa fan system in steep (c. 45^0 slope) woodland, and run at least 100m in length and 40m width, in two main flows. The woodland locally is sycamore-ash canopy with some hazel, forming an 80% canopy cover. The flush is a very grassy system with much wavy hair grass and wood millet, giving 75% cover with *Palustriella* moss between. Occasional *Dryopteris* ferns and herb robert *Geranium robertianum* occur. Hemp agrimony forms a large stand on the lower parts in an open glade and is reminiscent of Hoarstone Rough. Although being dominant here it is otherwise rare in the area. Hart's-tongue fern, nettle, pendulous sedge, and meadowsweet are also rare in this lower stand. Around 16 adults of *E. alboscutellatus* were netted and released.

The second main flow is dominated to 90% cover with *Palustriella* moss, with rare-occasional hart's-tongue fern, *Dryopteris* ferns, wavy hair grass and wood millet. The system is well terraced with pools, falls and seepages. Sycamore forms an 85% canopy, with the edges of the system being dominated by hart's-tongue fern and wavy hair grass stands.

The upper and more level parts of this system have dominant pendulous sedge, with hemp agrimony and mostly open tufa gravels, this all being under a sparser 60% cover canopy. Many other seepages probably exist within this wood but have not been visited or characterised.

Ashberry Pastures, Yorkshire (SE565850)

This is a spring flushed meadow system with several *E. alboscutellatus* sub-sites along its length, the seepages all working their way into the central stream flowing along the length of the small valley. The main site is under a birch, oak, ash, willow, hawthorn and hazel stand, showing an obvious base-rich/acidic soil mix and giving 50% canopy cover. The ground flora is dominated by great fen sedge *Cladium mariscus*, with occasional hemp agrimony. Bramble and bilberry *Vaccinium myrtillus* grow on the drier and more acidic humps. Through one part, frequent water mint and meadowsweet are found, with occasional marsh horsetail in small tufa channels only 2m wide, with *Palustriella* moss beds at 70% cover under *Cladium*. Water flow was slow but sure although lacking any depth, and open tufaceous gravels were absent, with only silty calcareous muds in the stream. Further along the meadow, smaller channels drain into the stream and these were found to hold small numbers of *E. alboscutellatus*.

The first sub-site was a *Mentha - Juncus* stand with *Palustriella* beds on a small 3x4m seepage by the stream, though the moss only covered 20% of the area here. The lower flatter sections by the stream have tufaceous gravels. Apart from the shade from one alder tree the site was otherwise completely open. The average vegetation height was only 30cm, with slight water flow and a shallow 20^0 slope.

The second sub-site was in a small channel about 1m wide by some 20m long, entering the stream by an ash tree. Water flow in the channel was good, with *Mentha - Juncus* dominating the in-channel vegetation. The black bog rush *Schoenus nigricans* grew in the upper levels of the channel. Brooklime *Veronica beccabunga*, hairy willow herb *Epilobium hirsutum* and coltsfoot were frequent, with *Palustriella* beds covering 85% of the channel here. The channel gradient was estimated at only 15^0, with tufa gravels exposed in only the last two metres.

Whitewell, Lancashire: two sites were present here and are coded as Whitewell A and B.

Whitewell A (SD654463)

It is surmised that this is the site originally discovered by Brindle in 1958, lying as it does by the road with a lay-by adjacent. It is a scooped hollow with higher banks on either side, c.15m back from the road, with a 7m road "frontage". Water from this system and one adjacent to it gathers on

the road edge and flows towards the lay-by. Tufa bosses, though present, are not well developed. Water flow is fairly poor though constant, and is now confined to two main channels. The site is covered in small ash saplings, with hazel, alder and willow, giving an 80% tree canopy, though to judge from the size of these trees the site must have been more open in Brindle's time.

The ground flora is dominated by *Dryopteris* ferns, with frequent nettle and occasional enchanter's nightshade, herb robert and marsh horsetail, though marsh horsetail is dominant in the band by the road edge. Dog's mercury, liverworts, opposite-leaved golden saxifrage *Chrysosplenium oppositifolium* and water figwort are all rare. Simon Hayhow took two males of *E. alboscutellatus* here.

Whitewell B (SD654465)

This is an extensive, impressive and very beautiful tufa boss complex by the banks of the River Hodder. Extensive tufa columns, buttresses and mossy seepages up to 5m+ high project from the steep wooded cliff. The front face of the main tufa block has parted from the block behind, leaving a traversable gully with curtains of dripping moss and tufa. The overall site has an ash-hazel canopy with sycamore, giving a 75% canopy cover.

The site is really in several parts, one with a complex of bare tufa gravels and moss, with fallen timber. This is fed by a tufa stream system on the top of the buttress complex, this lying under sycamore shade. *Palustriella* moss and liverworts cover c.70% of the stream channel. The channel edges themselves are dominated by wavy hair grass, with occasional herb robert, opposite-leaved golden saxifrage and nettle. Where this stream spills over the tufa cliff there is a fan of sub-habitats and tufa gravels, with 80% *Palustriella* moss cover on one side. Here herb robert is frequent, wavy hair grass dominating the stand in the lower sections with occasional marsh horsetail and dog's mercury on the drier stand edges. Mossy seepages occur near the river edge with marsh horsetail, dog's mercury, bramble and hedge woundwort *Stachys sylvatica* on the drier ground. Much fallen timber from the wooded slopes above covers the site. Canopy shade is around 80%. Six adults of *E. alboscutellatus* and *Oxycera pardalina* Meigen (Stratiomyidae) were found here. The estimated width of the site by the river is 25m, but it extends up the hillside as a tufaceous stream and there is clearly merit in further exploration.

Hurdlestone Wood SSSI, Somerset (ST678481)

There is a fine and extensive tufa seepage on the edge of this woodland, in an area of former industrial activity, with base-rich water tumbling over the site wall with large mats of *Palustriella*. Estimated at some 40m long by some 15m wide, this flush system lies under an 80% canopy of ash, with a sub-storey of alder in a small valley with 6m high sides. The ground flora is dominated by distinct zones, of wood rush *Luzula* species and then wavy hair grass with *Palustriella*, both being abundant to dominant. Red currant is frequent, with occasional hart's-tongue and rare hemp agrimony, though this increases to frequent toward the road and the flush end. The impression is of a deltaic system, with drier areas set amongst the actively flowing seepage. Herb robert, nettle and coltsfoot occupy these drier baulks, with a scattering of dead wood throughout. An area of drier tufa 7m wide was set between these areas. The low gradient (estimated at 15%) gives only small tufa terracing, though all is thickly moss covered with good water flow. Adults of *E. alboscutellatus* were found in high numbers throughout this part of the system.

To the side of the main flow, but connected with it, is an area of tufaceous gravels and *Palustriella* some 35m long by 6m wide, under denser (95%) shade, with only a few ash saplings and small raspberry *Rubus idaeus* bushes growing. Adults of *E. alboscutellatus* and *Oxycera pardalina* were found here.

Withial Coombe, West Bradley, Somerset (ST570375)

This is a steep-sided valley with wet, friable sides, tree covered and set between agricultural pasture. The stream itself has some tufa influence but it only when it nears and passes the Devil's Washing Stone, a large 3m high tufa waterfall, that there is a stronger tufa presence. The principal area in this system is a small tributary of the main stream, the confluence being marked by a seven-terrace cascade with strong water flows. The strength of water flow is such that there is little moss growth here, with only bare tufa steps. The seepage areas are fenced off from the main sheep pasture, and so form a small amphitheatre. The ash-hazel canopy gives 60% cover over a mixture of dominant pendulous sedge and abundant great horsetail *Equisetum telmateia,* with flood zones of tufaceous gravels bearing remarkably little moss growth. Water flow through most of the system is slight but strong in the springhead zones, where one part appears to have an iron influence or supports growth of iron-feeding bacteria. The drier areas have a typical woodland flora of dog's mercury, enchanter's nightshade, nettle and hart's-tongue fern.

The seepage channels are numerous out of this small hillside, separated by drier woodland baulks. The seepages are about 1m wide and flow into the central stream. The southern side, where the seepages are wider, is shaded by tall alders. Adults of *E. alboscutellatus* were frequent on both sides of this small valley. Interestingly, the first *E. alboscutellatus* found here was some 25m downstream towards the Devil's Washing Stone in shaded bank vegetation, and perhaps indicates how far out of habitat they may go. The seepages along the rest of Withial Coombe, though showing a base-rich influence do not have a strong tufa-forming component and the tributary is evidently the main source of tufa at Withial Coombe.

Hackfall Wood, Ure Gorge, Yorkshire

This site was found by Roy Crossley in early June 2004 and there has not been time to visit or place it in the context of other sites. It appears that the flushes are calcareous and the area is similar to Forge Valley (R. Crossley *pers. comm.*). In this respect it has been tentatively classified as being a springline system like the Scarwell spring systems at Forge Valley.

Sites visited which have not yielded *E. alboscutellatus*

To dismiss the notion that every site visited for *E. alboscutellatus* yields it, the following sites were surveyed but it was not found.

Death's Dingle, Teme Valley, Worcestershire (SO670675) – tufa stream, no active flushes.
Coney Wood, Batcombe, Somerset (ST692389) – small flush but not mossy.
Stowey Farm, Exmoor, Somerset (SS947390) – open, mossy, appears to be a suitable site.
Caswell Wood flush, Tintern, Gloucestershire (ST540994) – lightly wooded, mossy.
Millway Grove, English Bicknor, Gloucestershire (SO587165) – possibly too shaded.

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