

1993, both in north Kent on the Hoo peninsula (Clemons 1994) and at the Isle of Grain 14 June 1999, where large numbers were found in an area of land at a partially-worked sand and gravel quarry. Here one sweep of the net yielded 2-3 flies in some parts (Ismay 2000). The occurrence of the species in very large numbers at Anchor Field, a site close to the now mostly lost Chafford Hundred localities, suggests it may represent a core population centre, and an important site at which further research should be undertaken into the species' autecology. Unfortunately the Local Authority is currently considering the site as development land in the next Local Plan.

Other recent South Essex records of *D. graminum*, all collected by the first author and either determined or confirmed by the second author, are from Vange Heights (TQ7187) on 31 May 2000, when a single female was swept from tall open flower-rich grassland on a south facing clay slope; Blackshots Nature Area (TQ6280) on 24 May 2001, when one was caught by using a sweep net in a sparsely vegetated area within tall unmanaged grassland at the edge of and subsequently four more were swept from nearby flowers of a *Barbarea* species; Shoebury (TQ9384) on 29 June 2001, when a single *D. graminum* was beaten off a group of young pines *Pinus* species in an open grassland area but it escaped and could not be refound; the same location a week later, on 6 July 2001, when a single somewhat battered specimen was again beaten off pine, just possibly the same individual; Berwick 'Woods' (TQ537839) on 31 May 2002, when a single female was beaten off scrub edge by the side of a footpath on sands and gravels above Ingrebourne Marsh near Rainham, with old silt lagoons to the east containing areas of flower-rich grassland as well as scrub and developing woodland; Hornchurch Country Park (TQ5384) on 12 June 2002, when the species was swept in some numbers at several locations on the western side of the Ingrebourne Valley off *Heracleum sphondylium* flowers growing at the edge of flower-rich grassland by the side of a young pine plantation and in rough grassland. Three males and seven females were collected.

Evidence has been accumulating that an important metapopulation of the fly is present in the highly threatened East Thames Corridor region of southern England. Many of the sites and habitats where the fly has been recorded are either already destroyed by development, or under enormous threat from the development pressures of the 'Thames Gateway' and initiatives such as the Thames Chase Community Forest (Harvey 2000). *Dorycera* is threatened along with other nationally rare and scarce grassland invertebrate species occurring in the same region, including national Biodiversity Action Plan species such as the aculeate Hymenoptera *Bombus sylvarum* (Linnaeus), *B. humilis* Illiger and *Cerceris quinquefasciata* (Rossius).

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Thirty-nine species of Diptera new to Ireland, including a species of Psychodidae new to the British Isles

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Summary

Thirty-nine species of Diptera are newly recorded for Ireland in the families Sciaridae, Psychodidae, Scatopsidae, Empididae, Dolichopodidae, Phoridae, Carnidae, Canacidae and Sphaoceridae. One of these, *Sycorax feuerborni* Jung (Psychodidae) is new to the British Isles. A record is presented of *Dolichopus plumipes* var. *pectinitoris* (Stenhammar), not previously recorded from the British Isles but considered likely to be an intersex of *D. plumipes* (Scopoli). Records are also given for two species of Sciaridae, *Trichosia confusa* Menzel & Mohrig and *T. splendens* Winnertz, previously recorded from Ireland but not indicated as such by Chandler (1998).

When surveying the invertebrates of an area with a view to assessing the conservation interest, it is tempting to concentrate on the large and obvious components. This may be due to the belief that, at least where insects are concerned, small is equivalent to difficult, either difficult to catch or difficult to identify. However, if one selects families that are well covered by modern literature and one uses proven trapping methods, neither of these presumptions is necessarily correct.

The author has recently been involved in sorting and determining dipteran material from two large-scale surveys. The first, in Killaun Bog, County Offaly (N1106), employed 22 water-traps during September 2000, in various areas of a peat bog prior to commercial extraction. A Malaise trap was also operated over the same period in an area not scheduled for exploitation. The second survey involved Pollardstown Fen, County Kildare (N7715), where potential alterations to the water table from road construction have led to a need to assess the fauna of some fragile microhabitat features, notably tufa formations. Here, the trapping effort has been concentrated on emergence traps and Malaise traps.

Surveys such as these generate an enormous amount of invertebrate material, and it is wise to use this selectively. For example, at Pollardstown Fen, it was decided to concentrate identification effort on a small suite of invertebrate groups which could give useful information on possible change in status of the threatened microhabitats, containing so-called indicator species. Since the "small-fry" component is often overlooked or ignored, as a consequence it has been possible to add a surprising number of species to the Irish fauna; almost all are based on determination of males. The list of additional species of Sciaridae is also based on collecting trips made specifically to improve knowledge of the Irish fauna of this family.

Lavery *et al* (1993) have indicated that the Irish fauna of Empididae is likely to be significantly under-recorded, due to a number of factors, not least the inconsistency of entomological coverage this century. Speight and de Courcy Williams (1992) have similarly indicated that, for the Dolichopodidae, some species may also be under-recorded for the same reasons. This paper adds four species of Empidoidea to the Irish fauna.

All specimens cited are in the author's collection.

Sciaridae

Despite the difficulties of a scattered literature and the certainty that the fauna of the British Isles is seriously under-recorded, I have made some headway with this family, with assistance from notable experts. So little is known of the biology, habitat preferences or distribution that I can

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do no more than record the presence in Ireland of the following new species. All records are based on determination of males.

Bradysia dolosa Laurence
OFFALY: Killaun Bog.

Bradysia polonica (Lengersdorf)
CORK: Clonpriest (X0573), 13.vii.1994.

Bradysia pratincola Tuomikoski
OFFALY: Killaun Bog.

Corynoptera compressa (Walker)
OFFALY: Killaun Bog.

Corynoptera curvispinosa Freeman
KILDARE: Pollardstown Fen, 8-19.viii.1999. OFFALY: Killaun Bog.

Corynoptera globiformis (Frey)
OFFALY: Killaun Bog

Corynoptera irmgardis (Lengersdorf)
KERRY: Ross Island, Killamey (V9588), 11.vii.1990. OFFALY: Charleville Wood (N3223), 15.vi.1985: Killaun Bog.

Corynoptera membranigera (Kieffer)
CORK: Gearagh (W2969), 9.vii.1990.

Corynoptera parvula (Winnertz)
CORK: Castlerefreke Wood (W3335), 12.v.1989.

Corynoptera vagula Tuomikoski
KILDARE: Pollardstown Fen, 27.vi.2002. OFFALY: Killaun Bog.

Cratyna (C.) pernitida (Edwards)
OFFALY: Killaun Bog.

Cratyna (C.) uliginosa (Lengersdorf)
OFFALY: Killaun Bog.

Cratyna (Peyerimhoffia) vagabunda (Winnertz)
CORK: Gearagh (W2969), 9.vii.1990. WICKLOW: Murrough, Black Ditch Wood (O3103), 20.v-3.vi.1990.

Cratyna (Spathobdella) falcifera (Lengersdorf)
KILDARE: Pollardstown Fen, 8-19.viii.1999. WICKLOW: The Quill (O2419), 7.v.1989.

Epidapus gracilis (Walker)
OFFALY: Killaun Bog.

Scaptosciara nana (Winnertz)
KILDARE: Pollardstown Fen, 8-19.viii.1999. OFFALY: Killaun Bog.

Scaptosciara pusilla (Meigen)
This record was cited by Blackith *et al.* (1991) but a + was omitted against *pusilla* in the checklist because *pusilla* sensu Freeman (1983) was a misidentification of *S. neglecta* Menzel & Mohrig and a + was placed against *neglecta* instead (Chandler 1998). Consequently *S. neglecta* should be deleted from the Irish list.
WICKLOW: Murrough, Black Ditch Wood (O3103), 8.v.1989.

Sciara humeralis Zetterstedt
LONGFORD: Lough Derragh (N3979), 15.vii.1990. WESTMEATH: Scragh Bog (N4259), 15.vii.1990.

Trichosia confusa Menzel & Mohrig
This is *T. trochanterata* sensu Freeman, and was recorded as such by O'Connor and Ashe (1991). In consequence a + should have appeared against this name in the checklist.
WESTMEATH: Lough Ballynafid (N4161), 16.vi.1985. WICKLOW: Knocksink Wood (O2217), 17.vi.1985.

Trichosia splendens Winnertz
This record was published by Menzel and Mohrig in their revision of *Trichosia* (1997) but was overlooked in the compilation of the checklist. Again a + should have appeared against it.
WESTMEATH: Lough Ballynafid (N4161), 16.vi.1985.

Xylosciara heptacantha Tuomikoski
This record was cited as *X. lignicola* (Winnertz) by Blackith *et al.* (1991) and is the source of the + against *lignicola* in the checklist so that species should be deleted from the Irish list.
WICKLOW: Murrough, Black Ditch Wood (O3103), 8.v.1989.

Psychodidae
The Irish Psychodidae were comprehensively documented by Withers and O'Connor (1992). It was predicted that further species would be added to the Irish list, but the following are each nevertheless surprising.

Tinearia lativentris Berdén
1 ♀. Pollardstown Fen. Malaise trap in *Schoenus/Juncus* tufa flush, 14-30.vii.1999: 1 ♀. Pollardstown Fen, emergence trap in *Schoenus/Juncus* tufa flush, 25.vii.2001. This species is a close relative of *T. alternata* Say, only definitely recorded as an Irish species by Blackith and Blackith (1989), although there is a female labelled Ireland and a male and female labelled "Malahoide" (sic) in Haliday's collection. The female is easily identified, which is fortunate, as no males have yet been found in the British Isles: the species may be partly parthenogenetic. In any event, *T. lativentris* is a very rare species with only a handful of scattered records.

Psychoda crassipennis Tonnoir
This species is a close relative of the widespread *P. phalaenoides* (Linnaeus), but much rarer, only a handful of specimens have ever been seen by the author. Oddly, it was numerous in a sample from an emergence trap in Pollardstown Fen, mixed in with *phalaenoides*, but vastly outnumbering it on 27.vi.2002.

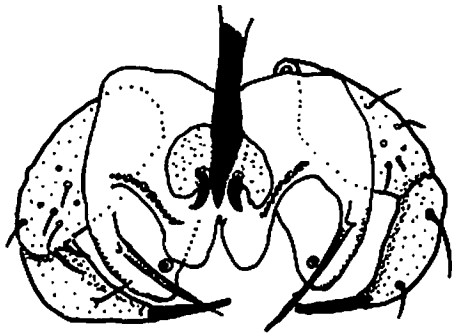


Fig. 1. *Sycorax feuerborni* Jung, male genitalia.

Sycorax feuerborni Jung

1 ♂, Pollardstown Fen, emergence trap, 23.vi.2001. Some *Sycorax* larvae obtained several years ago from this site were frustratingly hard to identify. Using the available key (Jung 1958) they appeared to run to a pair of species, neither known from the British Isles at all! Thankfully the dilemma is now resolved, with capture of a male of this species, hitherto unrecorded anywhere in the British Isles. The male terminalia are depicted in Fig. 1. It is worth noting that where *Sycorax* is concerned, patience is recommended: of the 300 or so specimens sorted from Pollardstown Fen, less than 10 were males.

Tonnoiriella anchoriformis (Salamanna)

2 ♂, Pollardstown Fen, Malaise trap, 2.vii.2001; 1 ♂, Pollardstown Fen, emergence trap, 25.vii.2001; 2 ♂, Killaun Bog (one in water trap, one in Malaise trap). This species was described from Britain as *T. disneyi* Withers in 1997. It has since become clear that this is a synonym of *anchoriformis*, as proposed (but only on the basis of a comparison of the respective figures) by Ježek (1999). The precise ecological requirements of this species are difficult to guess: although *T. pulchra* (Eaton) is seemingly a prominent associate of tufa at Pollardstown, where dozens of specimens have been seen in emergence traps, *anchoriformis* is much less numerous and not present in the same areas.

Scatopsidae

Thripomorpha cooki Hutson

1 ♂, Pollardstown Fen, emergence trap, 12.vii.2002.

Empididae

Hemerodromia adulatoria Collin

KERRY: Urragh Wood, Kenmare (V8363), 1 ♂, 1 ♀, 8.vii.1990, *Quercus* woodland. *Hemerodromia* are small pale empids, often overlooked in the net. Collin (1961) recorded this species from Scotland.

Rhamphomyia (R.) tibialis Meigen

WICKLOW: River Dargle (O2316), 1 ♂, 7.v.89, damp woodland.

This species is readily identifiable from Collin (1961) who recorded this species from Inverness-shire and Lanarkshire in Scotland, and 4 counties in England.

Dolichopodidae

Dolichopus plumipes (Scopoli) var. *pectinitarsis* (Stenhammar)

LONGFORD: Lough Derragh (N3979), 1 ♂, 15.vii.1990.

Lough Derragh appears to be an exceptional site, at least as judged by the number of unusual or scarce insects captured in one brief visit. A small *Dolichopus* taken by sweeping had for some time been tentatively identified as *mediicornis*, although a number of features suggested otherwise. By using Parent (1938) the species readily fell out at *pectinitarsis*, which is recorded from France, Sweden and Prussia. However, Ringdahl (1949) indicated that a number of supposedly rare dolichopodids were "gynandromorphic forms". The teratology of these formations is unclear, but they are more likely to be intersexes, as they show intermediate features. Both *D. pectinitarsis* and *D. parvicaudatus* Zetterstedt are stated by Ringdahl to be intersexes of the more common *D. plumipes* (Scopoli). The Palaearctic Catalogue did not take these synonymies into account and Grichanov (2002) preferred to retain *pectinitarsis* as a separate species until a revision of the genus is carried out, but he also suggested that *Dolichopus polleti* Meuffels & Grootaert (1989) might be the same species. Pending resolution of the status of *pectinitarsis*, it is here referred to as a variety of *D. plumipes*].

Sympycnus aeneicoxa (Meigen)

WICKLOW: Black Ditch Wood, Murrough (O3003), 1 ♀, 8.v.1989, swept in flooded woodland. Although Assis-Fonseca (1978) recorded this species as widespread, it is apparently hitherto unrecorded from Ireland.

Thrypticus nigricauda Wood

LONGFORD: Lough Derragh (N.3979), 1 ♂, 15.vii.1990.

These very small flies are scarce in general collecting, perhaps requiring a different strategy from sweeping. Assis-Fonseca (1978) recorded this species from only two localities in England, the most recent being in 1912.

Phoridae

All the species detailed below belong in the giant genus *Megaselia*, a difficult group to work on. When in doubt (as I frequently was) I was fortunate to be able to persuade the world expert to look at the more troublesome specimens, all of which were captured in Killaun Bog.

Megaselia angusta (Wood)

11 ♂, water traps in various locations. A recent revision of *Megaselia* species related to *pulicaria* (Fallén) (Disney 1999) led to the reinstatement of *angusta* as a valid species, with the comment "the majority of published records of *M. pulicaria* refer to this species". Thus it is the name, rather than the species, which is new to Ireland. A species very prone to capture by emergence traps, it has been recorded (among other things) as a parasite of spider egg sacs.

M. bifida Disney

2 ♂, water trap.

M. oviaraneae Disney

1 ♂, water trap. Another species which parasitises spider egg sacs.

M. tonvirwini Disney

1 ♂, water trap.

Carnidae

Meoneura flavifacies Collin

OFFALY: Killaun Bog, ix.2000.

Canacidae

Xanthocanace ranula (Loew)

CORK: Clonpriest (X0573), 13.vii.1994.

Sphaeroceridae

Minilimosina (Allolimosina) albinervis (Duda)

1 ♂, Killaun Bog, Malaise trap. A very rare species for which only three specimens were known to Pitkin (1988).

Minilimosina gemella Roháček

2 ♂, Pollardstown Fen, emergence trap 27.vi.2002. Roháček's supposition that this species had an exclusively upland distribution has already been challenged by my finding of it in pitfall traps in Norfolk (Withers 1989). Clearly rare, this represents another lowland locality.

Phthitia (Kimosina) plumosula (Rondani)

1 ♂, Pollardstown Fen, emergence trap, tufa spring, 19.vi.2001. The identity of this specimen was checked by reference to Roháček (1985) as the illustrations in Pitkin (1988) are incomplete. Roháček stated that this is an uncommon species of damp areas, but which may be found throughout the year.

Telomerina pseudoleucoptera (Duda)

1 ♂, Pollardstown fen, emergence trap, 12.vii.2002; 1 ♂, Killaun Bog, water trap.

Terrilimosina schmitzi (Duda)

1 ♂, Pollardstown Fen, Malaise trap, 8-19.viii.1998.

Acknowledgements

The Praeger Committee of the Royal Irish Academy kindly grant-aided a field trip to several localities with the eventual intent of producing an Irish checklist to the sciarids. I would also like to thank the many friends in Ireland who have variously accompanied, assisted or hindered me in my search for small Diptera, leading to this note. In particular I would like to mention the sterling efforts of Grace O'Donovan in sorting catches from traps at Killaun Bog, and Jervis and Fidelma Good for similar efforts at Pollardstown Fen. The hospitality of the latter during my various trips to Ireland is becoming legendary. Without Henry Disney, many phorids would still be *Megaselia* sp., and a similar helping hand was extended by Frank Menzel for the sciarids. Peter Dyte provided the important information on the status of *Dolichopus pectinataris*.

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