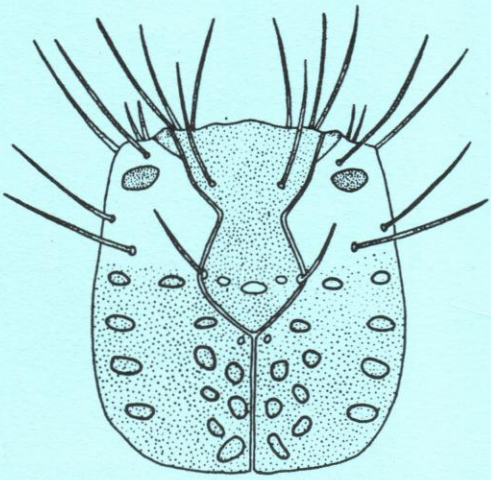
# A Checklist of Irish Aquatic Insects

by

P. Ashe, J. P. O'Connor & D. A. Murray



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Front cover: Larval head of *Tinodes maculicornis* (Pictet) (Trichoptera: Psychomyiidae), illustration by Dr. J. P. O'Connor.

DEDICATED TO J. R. ("DICK") HARRIS, IN RECOGNITION OF HIS LOVE FOR IRISH FRESHWATER INSECTS WHICH RESULTED IN THE PUBLICATION OF HIS CLASSIC WORK " AN ANGLER'S ENTOMOLOGY".

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## Preface

To celebrate the holding of the XXVII Congress of the International Association of Limnology in University College, Dublin, in August 1998, the authors decided to compile a checklist of Irish aquatic insects. It will be of particular importance to anyone interested in biogeography, biodiversity, limnology or entomology. The publication has been funded by the authors.

There are two previous publications in this occasional series *viz*: *Proceedings of the Postglacial Colonization Conference* and *Biogeography of Ireland. Past, present and future*.

J. P. O'Connor
General Editor
Irish Biogeographical Society
10 May 1998

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# A Checklist of Irish Aquatic Insects

by

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## Introduction

Since Ireland is an island off the coast of Europe, its insect fauna is attenuated compared with that of mainland Europe and Great Britain. Nevertheless, it is a surprisingly rich one (*circa* 16,000 species) containing many rare and interesting species. The island is very well endowed with freshwater habitats. As a result, many freshwater groups are better represented here than terrestrial ones. McCarthy (1986) compared and contrasted the British and Irish faunas for some very well known groups. In general, the freshwater insects represented about 73% of the equivalent section of Britain's fauna. By contrast, in the terrestrial insect groups studied, representation was lower (55%). Ants were only 40% while hoverflies were 68%.

Although Irish aquatic insects have been studied for over 150 years, the information is scattered throughout numerous publications (Ryan *et al.*, 1984). In many groups, no checklists have yet been prepared. Drawing upon published and unpublished data, the authors have compiled the first checklist of the entire Irish aquatic insect fauna. Exactly 1499 species are included in this comprehensive work (Table 1). Where relevant, brief notes are included noting *inter alia* rare species and key works. It is possible therefore to refer to the most modern works on any particular group.

It would not have been possible to compile this checklist without the help of many experts. In particular, we wish to thank Peter J. Chandler who kindly made available an unpublished checklist which includes the Irish Diptera (Chandler, in press). In addition, we are extremely grateful to Tom Bolger, Mary Kelly Quinn, Brian Nelson and Alan Stubbs for their advice.

**TABLE 1**. Summary of the Irish aquatic insects fauna compared with Britain.

| | Ireland | Britain | British Isles | Irish only |
|---|---|---|---|---|
| COLLEMBOLA | 17 | 20 | 21 | 1 |
| EPHEMEROPTERA | 33 | 48 | 48 | |
| ODONATA | 27 | 45 | 46 | 1 |
| PLECOPTERA | 20 | 34 | 34 | |
| HEMIPTERA | 50 | 61 | 63 | 2 |
| COLEOPTERA | 248 | 364 | 364 | |
| NEUROPTERA | 4 | 4 | 4 | |
| MEGALOPTERA | 2 | 3 | 3 | |
| HYMENOPTERA | 17 | 38 | 40 | 2 |
| TRICHOPTERA | 147 | 195 | 198 | 3 |
| LEPIDOPTERA | 5 | 5 | 5 | |
| DIPTERA | 929 | 1525 | 1542 | 17 |
| Total | 1499 | 2342 | 2368 | 26 |

## References

Chandler, P. J. (ed.) (in press) A checklist of insects of the British Isles (new series). Part 1: Diptera (incorporating a list of Irish Diptera). *Handbk Ident. Br. Insects* **12** (2).

McCarthy, T. K. (1986) Biogeographical aspects of Ireland's invertebrate fauna. *In*: Sleeman, D.P., Devoy, R. J. and Woodman, P. C. (eds): Proceedings of the postglacial colonization conference. *Occ. Publ. Ir. biogeog. Soc.* **1**: 67-81.

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## ORDER COLLEMBOLA (17 species)

Gisin (1978) listed Irish freshwater Collembola. Subsequently, Bolger (1986) provided a comprehensive account of the Irish springtails. A total of 203 Irish species are now known but only 17 are aquatic. In Britain, 20 aquatic species are recorded, the additional species being *Isotoma* (*Isotoma*) *infuscata* Murphy, *Sminthurides* (*Sminthurides*) *cruciatus* Axelson, *S.* (*S.*) *signatus* (Krausbauer) and *Bourletiella* (*Heterosminthurus*) *insignis* Reuter. However, one Irish species, *Sminthurides* (*Sminthurides*) *assimilis* (Krausbauer), has not been recorded in Britain and therefore 21 aquatic species are known from the British Isles.

| | |
|---|---|
| | Family **PODURIDAE** |
| **PODURA** | ***aquatica*** Linnaeus |
| | Family **HYPOGASTRURIDAE** |
| **HYPOGASTRURA (HYPOGASTRURA)** | ***viatica*** (Tullberg) |
| | Family **NEANURIDAE** |
| **ANURIDA** | ***tullbergi*** Schött |
| | Family **ISOTOMIDAE** |
| **PROISOTOMA (PROISOTOMA)** | ***crassicauda*** (Tullberg) |
| **PROISOTOMA (BALLISTURA)** | ***schoetti*** Della Torre |
| **ISOTOMA (ISOTOMA)** | ***antennalis*** (Bagnall) |
| | ***viridis*** Bourlet |
| **AGRENIA** | ***bidenticulata*** (Tullberg) |
| **ISOTOMURUS** | ***alticola*** (Carl) |
| | ***palustris*** (Müller) |
| | Family **SMINTHURIDAE** |
| **SMINTHURIDES (SMINTHURIDES)** | ***aquaticus*** (Bourlet) |
| | ***assimilis*** (Krausbauer) |
| | ***malmgreni*** (Tullberg) |
| | ***parvulus*** (Krausbauer) |
| | ***schoetti*** (Axelson) |
| **SMINTHURIDES (STENACIDIA)** | ***violaceus*** (Reuter) |
| **BOURLETIELLA (HETEROSMINTHURUS)** | ***novemlineatus*** (Tullberg) |

### References

Bolger, T. (1986) The Collembola of Ireland - a checklist and bibliography. *Proc. R. Ir. Acad.* **86B**: 183-218.

Gisin, H. (1978) Collembola, pp. 254-255. *In*: Illies, J. (ed.) *Limnofauna Europaea*, 2nd edn. Gustav Fischer Verlag, Stuttgart. 534 pp.

## ORDER EPHEMEROPTERA (33 species)

There are 33 species recorded from Ireland whereas in Britain the total is 48 species. Connolly and McCarthy (1993) provide an account of the mayflies of the Corrib catchment in the west of Ireland while Wise and O'Connor (1997) give data on the group in the Killarney area of south-west Ireland (Co. Kerry). Kelly Quinn and Bracken (in prep.) review the Irish fauna.

| | |
|---|---|
| | Family **SIPHLONURIDAE** |
| **AMELETUS** | ***inopinatus*** Eaton |
| **SIPHLONURUS** | ***alternatus*** (Say) |
| | ***armatus*** Eaton |
| | ***lacustris*** Eaton |
| | Family **BAETIDAE** |
| **BAETIS** | ***atrebatinus*** Eaton |
| | ***fuscatus*** (Linnaeus) |
| | ***muticus*** (Linnaeus) |
| | ***rhodani*** (Pictet) |
| | ***scambus*** Eaton |
| | ***vernus*** Curtis |
| **CENTROPTILUM** | ***luteolum*** (Müller) |
| **CLOEON** | ***dipterum*** (Linnaeus) |
| | ***simile*** Eaton |
| **PROCLOEON** | ***bifidum*** (Bengttson) |
| | Family **HEPTAGENIIDAE** |
| **ECDYONURUS** | ***dispar*** (Curtis) |
| | ***insignis*** (Eaton) |
| | ***torrentis*** Kimmins |
| | ***venosus*** (Fabricius) |

| | |
|---|---|
| **ELECTROGENA** | ***lateralis*** (Curtis) |
| **HEPTAGENIA** | ***fuscogrisea*** (Retzius) |
| | ***sulphurea*** (Müller) |
| **RHITHROGENA** | ***germanica*** Eaton |
| | ***semicolorata*** (Curtis) |
| | Family **LEPTOPHLEBIIDAE** |
| **LEPTOPHLEBIA** | ***marginata*** (Linnaeus) |
| | ***vespertina*** (Linnaeus) |
| **PARALEPTOPHLEBIA** | ***cincta*** (Retzius) |
| | Family **EPHEMERELLIIDAE** |
| **EPHEMERELLA** | ***ignita*** (Poda) |
| | ***notata*** Eaton |
| | Family **EPHEMERIDAE** |
| **EPHEMERA** | ***danica*** Müller |
| | Family **CAENIDAE** |
| **CAENIS** | ***horaria*** (Linnaeus) |
| | ***luctuosa*** (Burmeister) |
| | ***macrura*** Stephens |
| | ***rivulorum*** Eaton |

## References

Connolly, B. and McCarthy, T. K. (1993) Mayflies (Ephemeroptera) of the Corrib catchment, Ireland. *In*: Costello, M. J. and Kelly, K. S. (eds) Biogeography of Ireland: past, present and future. *Occ. Publ. Ir. biogeog. Soc.* **No. 2**.

Kelly Quinn, M. and Bracken, J. J. (in prep.) A review of the distribution of the Ephemeroptera in Ireland. *Bull. Ir. biogeog. Soc.*

Wise, E. J. and O'Connor, J. P. (1997) Observations on the distribution and relative abundance of the Ephemeroptera and Plecoptera in the Killarney Valley, Co. Kerry, Ireland. *In*: Landolt, P. and Sartori, M. (eds) *Ephemeroptera and Plecoptera: Biology-Ecology-Systematics*, pp. 175-179. MTL, Fribourg.

## ORDER ODONATA (27 species)

Merritt *et al.* (1996) provide a comprehensive account of the Irish fauna and 27 species are recorded compared with 45 species known in Britain. The 'Irish Damselfly', *Coenagrion lunulatum* (Charpentier), is a widely distributed but uncommon species found in sheltered mesotrophic lakes and pools in cutover bogs in Ireland. This is a north European species that is rare outside northern Fennoscandia and the Irish population is one of the largest in western Europe. It is absent from Britain probably due to lack of suitable habitat (Nelson, 1997) and consequently a total of 46 species occur in the British Isles.

*Hemianax ephippiger* (Burmeister) is excluded from the list as it is essentially a species of arid parts of Africa, the Middle East and south-west Asia to Pakistan. This strongly migrant species is only known in Ireland from a single specimen found dead in a public park in Dublin in October 1913. Five other vagrant species, *Aeshna cyanea* (Müller), *Libellula depressa* Linnaeus, *L. fulva* Müller, *Sympetrum fonscolombii* (Sélys-Longchamps) and *S. flaveolum* (Linnaeus), have been included however since the records are more recent.

### SUBORDER ZYGOPTERA

Family **CALOPTERYGIDAE**

| | |
|---|---|
| **CALOPTERYX** | ***splendens*** (Harris) |
| | ***virgo*** (Linnaeus) |

Family **LESTIDAE**

| | |
|---|---|
| **LESTES** | ***dryas*** Kirby |
| | ***sponsa*** (Hansemann) |

Family **COENAGRIONIIDAE**

| | |
|---|---|
| **COENAGRION** | ***lunulatum*** (Charpentier) |
| | ***puella*** (Linnaeus) |
| | ***pulchellum*** (van der Linden) |
| **ENALLAGMA** | ***cyathigerum*** (Charpentier) |
| **ISCHNURA** | ***elegans*** (van der Linden) |
| | ***pumilio*** (Charpentier) |
| **PYRRHOSOMA** | ***nymphula*** (Sulzer) |

### SUBORDER ANISOPTERA

Family **AESHNIDAE**

| | |
|---|---|
| **AESHNA** | ***cyanea*** (Müller) |

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| | |
|---|---|
| | ***grandis*** (Linnaeus) |
| | ***juncea*** (Linnaeus) |
| **BRACHYTRON** | ***pratense*** (Müller) |
| | Family **CORDULIIDAE** |
| **CORDULIA** | ***aenea*** (Linnaeus) |
| **SOMATOCHLORA** | ***arctica*** (Zetterstedt) |
| | Family **LIBELLULIDAE** |
| **ORTHETRUM** | ***cancellatum*** (Linnaeus) |
| | ***coerulescens*** (Fabricius) |
| **LIBELLULA** | ***depressa*** Linnaeus |
| | ***fulva*** Müller |
| | ***quadrimaculata*** Linnaeus |
| **SYMPETRUM** | ***danae*** (Sulzer) |
| | ***flaveolum*** (Linnaeus) |
| | ***fonscolombii*** (Sélys-Longchamps) |
| | ***nigrescens*** Lucas |
| | ***sanguineum*** (Müller) |
| | ***striolatum*** (Charpentier) |

## References

Merritt, R., Moore, N. W. and Eversham, B. C. (1996) *Atlas of the dragonflies of Britain and Ireland.* (ITE research publication no. 9). HMSO, London. 149 pp.

Nelson, B. (1977) Species Inventory for Northern Ireland: Odonata. *Environment and Heritage Service Research and Development Series*. No. 97/5.

## ORDER PLECOPTERA (20 species)

Twenty species of stonefly are recorded from Ireland (Costello, 1988; O'Connor and Costello, 1997) and the total known from Britain stands at 34 species. One of these, *Perlodes microcephalus* (Pictet), is only known from two old records (King and Halbert, 1910) and may be extinct. Wise and O'Connor (1997) have published data on the Plecoptera occurring in the Killarney area of south-west Ireland (Co. Kerry).

| | |
|---|---|
| | Family **TAENIOPTERYGIDAE** |
| **BRACHYPTERA** | ***risi*** (Morton) |
| | Family **NEMOURIDAE** |
| **AMPHINEMURA** | ***sulcicollis*** (Stephens) |
| **NEMOURA** | ***avicularis*** Morton |
| | ***cinerea*** (Retzius) |
| **NEMURELLA** | ***pictetii*** Klapálek |
| **PROTONEMURA** | ***meyeri*** (Pictet) |
| | ***praecox*** (Morton) |
| | Family **LEUCTRIDAE** |
| **LEUCTRA** | ***fusca*** (Linnaeus) |
| | ***hippopus*** Kempny |
| | ***inermis*** Kempny |
| | ***nigra*** (Olivier) |
| | Family **CAPNIIDAE** |
| **CAPNIA** | ***atra*** Morton |
| | ***bifrons*** (Newman) |
| | Family **PERLODIDAE** |
| **DIURA** | ***bicaudata*** (Linnaeus) |
| **ISOPERLA** | ***grammatica*** (Poda) |
| **PERLODES** | ***microcephalus*** (Pictet) |
| | Family **PERLIDAE** |
| **DINOCRAS** | ***cephalotes*** (Curtis) |

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**PERLA** ***bipunctata*** Pictet

Family **CHLOROPERLIDAE**

**CHLOROPERLA** ***tripunctata*** (Scopoli)

**SIPHONOPERLA** ***torrentium*** (Pictet)

## References

Costello, M. J. (1988) A review of the distribution of stoneflies (Insecta, Plecoptera) in Ireland. *Proc. R. Ir. Acad.* **88B**: 1-22.

King, J. J. F. X. and Halbert, J. N. (1910) A list of the Neuroptera of Ireland. *Proc. R. Ir. Acad.* **28B**: 29-112.

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## ORDER HEMIPTERA (50 species)

Nelson (1995) gives a comprehensive account of the Irish fauna including a checklist and some additional distribution records for some species are given in Nelson (1997a, b). The nomenclature is based on Savage (1989). A total of 63 species are known from the British Isles of which 61 occur in Britain and 50 occur in Ireland. The 50 Irish species include two, *Limnoporus rufoscutellatus* (Latreille) and *Sigara fallenoidea* (Hungerford), which are not known to be resident in Britain. Once thought to be a migrant throughout the British Isles, *L. rufoscutellatus* is now considered to be a resident species in Ireland. The corixid *S. fallenoidea* is common in the calcareous lakes of the Irish midlands. However, it has recently been discovered in the non-calcareous Lough Neagh in Northern Ireland. Outside Ireland, the species is only known from Finland, Russia and Canada (where it is rare and found on the prairies). It has not been reported from Britain.

### SUBORDER HETEROPTERA

| | |
|---|---|
| | Family **HEBRIDAE** |
| **HEBRUS** | ***ruficeps*** (Thomson) |
| | Family **HYDROMETRIDAE** |
| **HYDROMETRA** | ***stagnorum*** (Linnaeus) |
| | Family **VELIIDAE** |
| **MICROVELIA** | ***pygmaea*** (Dufour) |
| | ***reticulata*** (Burmeister) |
| **VELIA** | ***caprai*** Tamanini |
| | ***saulii*** Tamanini |
| | Family **GERRIDAE** |
| **GERRIS** | ***argentatus*** Schummel |
| | ***costai*** (Herrich-Schaeffer) |
| | ***lacustris*** (Linnaeus) |
| | ***lateralis*** Schummel |
| | ***odontogaster*** (Zetterstedt) |
| | ***najas*** (De Geer) |
| | ***thoracicus*** Schummel |
| **LIMNOPORUS** | ***rufoscutellatus*** (Latreille) |

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| | |
|---|---|
| | Family **NEPIDAE** |
| **NEPA** | ***cinerea*** Linnaeus |
| | Family **APHELOCHEIRIDAE** |
| **APHELOCHEIRUS** | ***aestivalis*** (Fabricius) |
| | Family **NOTONECTIDAE** |
| **NOTONECTA** | ***glauca*** Linnaeus |
| | ***maculata*** Fabricius |
| | ***marmorea*** Delcourt |
| | ***obliqua*** Gallen |
| | Family **PLEIDAE** |
| **PLEA** | ***leachi*** McGregor & Kirkaldy |
| | Family **CORIXIDAE** |
| **ARCTOCORISA** | ***germari*** (Fieber) |
| **CALLICORIXA** | ***praeusta*** (Fieber) |
| | ***wollastoni*** (Douglas & Scott) |
| **CORIXA** | ***dentipes*** (Thomson) |
| | ***punctata*** (Illiger) |
| | ***iberica*** Jansson |
| | ***affinis*** Leach |
| | ***panzeri*** (Fieber) |
| **CYMATIA** | ***bonsdorffii*** (Sahlberg) |
| **GLAENOCORISA** | ***propinqua*** (Fieber) |
| **HESPEROCORIXA** | ***linnaei*** (Fieber) |
| | ***sahlbergi*** (Fieber) |
| | ***castanea*** (Thomson) |
| | ***moesta*** (Fieber) |
| **MICRONECTA** | ***poweri*** (Douglas & Scott) |
| **SIGARA** | ***concinna*** (Fieber) |
| | ***dorsalis*** (Leach) |
| | ***distincta*** (Fieber) |
| | ***falleni*** (Fieber) |
| | ***fallenoidea*** (Hungerford) |
| | ***fossarum*** (Leach) |

***lateralis*** (Leach)
***limitata*** (Fieber)
***nigrolineata*** (Fieber)
***scotti*** (Douglas & Scott)
***selecta*** (Fieber)
***semistriata*** (Fieber)
***stagnalis*** (Leach)
***venusta*** (Douglas & Scott)

## References

Nelson, B. (1995) The distribution of the aquatic and semi-aquatic Heteroptera in Northern Ireland. *Bull. Ir. biogeog. Soc.* **18**: 66-130.

Nelson, B. (1997a) Records of aquatic Heteroptera from Northern Ireland and Co. Kerry. *Ir. Nat. J.* **25**: 342-343.

Nelson, B. (1997b) A record of *Gyrinus urinator* Illiger (Coleoptera: Gyrinidae) from Meath. *Ir. Nat. J.* **25**: 345.

Savage, A. A. (1989) Adults of the British aquatic Hemiptera Heteroptera: a key with ecological notes. *Scient. Publs Freshwat. Biol. Ass.* **No. 50**.

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## ORDER COLEOPTERA (248 species)

The aquatic Coleoptera with 248 species are well represented in Ireland whereas Britain has 364 species. The British fauna is richer by 26 genera and 116 species. Two beetle families, Limnichidae and Psephenidae, are each represented in Britain by a single genus and species but they are not recorded from Ireland - the record of *Eubria palustris* Germar (Psephenidae) for Ireland in Berthelemy and Olmi (1978) is apparently erroneous as we can find no basis for the record. A modern and comprehensive checklist of Irish Coleoptera is provided by Anderson *et al.* (1997) and this may be consulted for further information including references. It has often been difficult to decide with some species whether they are aquatic or not. Some genera such as *Bagous* and *Cercyon* include both aquatic and terrestrial species and the latter are excluded or in doubtful cases we follow the species listings in the relevant section of *Limnofauna Europaea*. Other aquatic species apparently exist in the Chrysomelidae (Halticinae and Galerucinae) but it has not been possible to include these here because there is no reference work available which enables an easy listing to be made of the aquatic species.

Family **GYRINIDAE**

Subfamily GYRININAE

| | |
|---|---|
| **GYRINUS** | ***aeratus*** Stephens |
| | ***caspius*** Ménétriés |
| | ***distinctus*** Aubé |
| | ***marinus*** Gyllenhal |
| | ***minutus*** Fabricius |
| | ***natator*** (Linnaeus) |
| | ***paykulli*** Ochs |
| | ***substriatus*** Stephens |
| | ***urinator*** Illiger |
| **ORECTOCHILUS** | ***villosus*** (Müller) |

Family **HALIPLIDAE**

| | |
|---|---|
| **BRYCHIUS** | ***elevatus*** (Panzer) |
| **HALIPLUS** | ***apicalis*** Thomson |
| | ***confinis*** Stephens |
| | ***flavicollis*** Sturm |
| | ***fluviatilis*** Aubé |
| | ***fulvus*** (Fabricius) |
| | ***immaculatus*** Gerhardt |
| | ***lineatocollis*** (Marsham) |

| | | |
|---|---|---|
| | | ***lineolatus*** Mannerheim |
| | | ***obliquus*** (Fabricius) |
| | | ***ruficollis*** (De Geer) |
| | | ***variegatus*** Sturm |
| | | ***wehnckei*** Gerhardt |
| | Family | **HYGROBIIDAE** |
| **HYGROBIA** | | ***hermanni*** (Fabricius) |
| | Family | **NOTERIDAE** |
| **NOTERUS** | | ***clavicornis*** (De Geer) |
| | | ***crassicornis*** (Müller) |
| | Family | **DYTISCIDAE** |
| | Subfamily | COPELATINAE |
| **COPELATUS** | | ***haemorrhoidalis*** (Fabricius) |
| | Subfamily | HYDROPORINAE |
| **LACCORNIS** | | ***oblongus*** (Stephens) |
| **BIDESSUS** | | ***minutissimus*** (Germar) |
| **HYGROTUS (HYGROTUS)** | | ***inaequalis*** (Fabricius) |
| | | ***quinquelineatus*** (Zetterstedt) |
| | | ***versicolor*** (Schaller) |
| **HYGROTUS (COELAMBUS)** | | ***confluens*** (Fabricius) |
| | | ***impressopunctatus*** (Schaller) |
| | | ***novemlineatus*** (Stephens) |
| | | ***parallelogrammus*** (Ahrens) |
| **HYPHYDRUS** | | ***ovatus*** (Linnaeus) |
| **HYDROPORUS** | | ***angustatus*** Sturm |
| | | ***discretus*** Fairmaire & Brisout |
| | | ***erythrocephalus*** (Linnaeus) |
| | | ***glabriusculus*** Aubé |
| | | ***gyllenhalii*** (Schiödte) |
| | | ***incognitus*** Sharp |
| | | ***longicornis*** Sharp |
| | | ***longulus*** Mulsant |
| | | ***melanarius*** Sturm |
| | | ***memnonius*** Nicolai |

| | |
|---|---|
| | ***morio*** Aubé |
| | ***nigrita*** (Fabricius) |
| | ***obscurus*** Sturm |
| | ***obsoletus*** Aubé |
| | ***palustris*** (Linnaeus) |
| | ***planus*** (Fabricius) |
| | ***pubescens*** (Gyllenhal) |
| | ***scalesianus*** Stephens |
| | ***striola*** (Gyllenhal) |
| | ***tessellatus*** Drapiez |
| | ***tristis*** (Paykull) |
| | ***umbrosus*** (Gyllenhal) |
| **PORHYDRUS** | ***lineatus*** (Fabricius) |
| **GRAPTODYTES** | ***bilineatus*** (Sturm) |
| | ***granularis*** (Linnaeus) |
| | ***pictus*** (Fabricius) |
| **OREODYTES** | ***davisii*** (Curtis) |
| | ***sanmarkii*** (Sahlberg) |
| | ***septentrionalis*** (Gyllenhal) |
| **SUPHRODYTES** | ***dorsalis*** (Fabricius) |
| **STICTOTARSUS** | ***duodecimpustulatus*** (Fabricius) |
| | ***multilineatus*** (Falkenström) |
| **STICTONECTES** | ***lepidus*** (Olivier) |
| **NEBRIOPORUS** | ***assimilis*** (Paykull) |
| | ***depressus*** (Fabricius) |
| | Subfamily COLYMBETINAE |
| **AGABUS** | ***affinis*** (Paykull) |
| | ***arcticus*** (Paykull) |
| | ***biguttatus*** (Olivier) |
| | ***bipustulatus*** (Linnaeus) |
| | ***chalconatus*** (Panzer) |
| | ***congener*** (Thunberg) |
| | ***conspersus*** (Marsham) |
| | ***guttatus*** (Paykull) |
| | ***labiatus*** (Brahm) |
| | ***montanus*** (Stephens) |
| | ***nebulosus*** (Forster) |

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|---|---|---|
| | | ***paludosus*** (Fabricius) |
| | | ***sturmii*** (Gyllenhal) |
| | | ***unguicularis*** Thomson |
| **ILYBIUS** | | ***aenescens*** Thomson |
| | | ***ater*** (De Geer) |
| | | ***fuliginosus*** (Fabricius) |
| | | ***guttiger*** (Gyllenhal) |
| | | ***quadriguttatus*** (Lacordaire) |
| | | ***subaeneus*** Erichson |
| **RHANTUS (NARTUS)** | | ***grapii*** (Gyllenhal) |
| **RHANTUS (RHANTUS)** | | ***exsoletus*** (Forster) |
| | | ***frontalis*** (Marsham) |
| | | ***suturalis*** (Macleay) |
| | | ***suturellus*** (Harris) |
| **COLYMBETES** | | ***fuscus*** (Linnaeus) |
| | Subfamily | LACCOPHILINAE |
| **LACCOPHILUS** | | ***hyalinus*** (De Geer) |
| | | ***minutus*** (Linnaeus) |
| | Subfamily | DYTISCINAE |
| **HYDATICUS** | | ***seminiger*** (De Geer) |
| **ACILIUS** | | ***canaliculatus*** (Nicolai) |
| | | ***sulcatus*** (Linnaeus) |
| **DYTISCUS** | | ***circumcinctus*** Ahrens |
| | | ***circumflexus*** Fabricius |
| | | ***lapponicus*** Gyllenhal |
| | | ***marginalis*** Linnaeus |
| | | ***semisulcatus*** Müller |
| | Family | **HYDRAENIDAE** |
| | Subfamily | HYDRAENINAE |
| **HYDRAENA** | | ***britteni*** Joy |
| | | ***gracilis*** Germar |
| | | ***minutissima*** Stephens |
| | | ***nigrita*** Germar |
| | | ***pulchella*** Germar |
| | | ***pygmaea*** Waterhouse |
| | | ***riparia*** Kugelann |

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| | ***rufipes*** Curtis |
| | ***testacea*** Curtis |
| **LIMNEBIUS** | ***aluta*** (Bedel) |
| | ***nitidus*** (Marsham) |
| | ***truncatellus*** (Thunberg) |
| | Subfamily OCHTHEBIINAE |
| **OCHTHEBIUS** | ***auriculatus*** Rey |
| | ***bicolon*** Germar |
| | ***dilatatus*** Stephens |
| | ***exsculptus*** Germar |
| | ***lejolisii*** Mulsant & Rey |
| | ***marinus*** (Paykull) |
| | ***minimus*** (Fabricius) |
| | ***nanus*** Stephens |
| | ***punctatus*** Stephens |
| | ***viridis*** Peyron |
| | Family **HELOPHORIDAE** |
| **HELOPHORUS** | ***aequalis*** Thomson |
| | ***alternans*** Géné |
| | ***arvernicus*** Mulsant |
| | ***brevipalpis*** Bedel |
| | ***flavipes*** Fabricius |
| | ***fulgidicollis*** Motschulsky |
| | ***grandis*** Illiger |
| | ***granularis*** (Linnaeus) |
| | ***griseus*** Herbst |
| | ***minutus*** Fabricius |
| | ***nanus*** Sturm |
| | ***nubilus*** Fabricius |
| | ***obscurus*** Mulsant |
| | ***porculus*** Bedel |
| | ***rufipes*** (Bosc d'Antic) |
| | ***strigifrons*** Thomson |
| | Family **GEORISSIDAE** |
| **GEORISSUS** | ***crenulatus*** (Rossi) |

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| | Family **HYDROCHIDAE** |
| **HYDROCHUS** | ***angustatus*** Germar |
| | ***brevis*** (Herbst) |
| | ***ignicollis*** Motschulsky |
| | Family **HYDROPHILIDAE** |
| | Subfamily HYDROPHILINAE |
| **BEROSUS** | ***luridus*** (Linnaeus) |
| | ***signaticollis*** (Charpentier) |
| **CHAETARTHRIA** | ***seminulum*** (Herbst) |
| **PARACYMUS** | ***scutellaris*** (Rosenhauer) |
| **ANACAENA** | ***globulus*** (Paykull) |
| | ***limbata*** (Fabricius) |
| | ***lutescens*** (Stephens) |
| **LACCOBIUS** | ***atratus*** (Rottenburg) |
| | ***atrocephalus*** Reitter |
| | ***biguttatus*** Gerhardt |
| | ***bipunctatus*** (Fabricius) |
| | ***minutus*** (Linnaeus) |
| | ***sinuatus*** Motschulsky |
| | ***striatulus*** (Fabricius) |
| **HELOCHARES** | ***punctatus*** Sharp |
| **ENOCHRUS** | ***affinis*** (Thunberg) |
| | ***bicolor*** (Fabricius) |
| | ***coarctatus*** (Gredler) |
| | ***fuscipennis*** (Thomson) |
| | ***halophilus*** (Bedel) |
| | ***melanocephalus*** (Olivier) |
| | ***ochropterus*** (Marsham) |
| | ***testaceus*** (Fabricius) |
| **CYMBIODYTA** | ***marginella*** (Fabricius) |
| **HYDROBIUS** | ***fuscipes*** (Linnaeus) |
| | Subfamily SPHAERIDIINAE |
| **COELOSTOMA** | ***orbiculare*** (Fabricius) |
| **CERCYON** | ***convexiusculus*** Stephens |
| | ***depressus*** Stephens |

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| | ***littoralis*** (Gyllenhal) |
| | ***marinus*** Thomson |
| | ***tristis*** (Illiger) |
| | ***ustulatus*** (Preyssler) |
| **MEGASTERNUM** | ***obscurum*** (Marsham) |
| | Family **SCIRTIDAE** |
| **ELODES** | ***elongata*** Tournier |
| | ***marginata*** (Fabricius) |
| **MICROCARA** | ***testacea*** (Linnaeus) |
| **CYPHON** | ***coarctatus*** Paykull |
| | ***hilaris*** Nyholm |
| | ***ochraceus*** Stephens |
| | ***padi*** (Linnaeus) |
| | ***palustris*** Thomson |
| | ***punctipennis*** Sharp |
| | ***variabilis*** (Thunberg) |
| **PRIONOCYPHON** | ***serricornis*** (Müller) |
| **HYDROCYPHON** | ***deflexicollis*** (Müller) |
| **SCIRTES** | ***hemisphaericus*** (Linnaeus) |
| | ***orbicularis*** (Panzer) |
| | Family **ELMIDAE** |
| **ELMIS** | ***aenea*** (Müller) |
| **OULIMNIUS** | ***tuberculatus*** (Müller) |
| **LIMNIUS** | ***volckmari*** (Panzer) |
| **ESOLUS** | ***parallelepipedus*** (Müller) |
| | Family **DRYOPIDAE** |
| **DRYOPS** | ***ernesti*** Des Gozis |
| | ***luridus*** (Erichson) |
| | ***similaris*** Bollow |
| | Family **HETEROCERIDAE** |
| **HETEROCERUS** | ***fenestratus*** (Thunberg) |
| | ***flexuosus*** Stephens |
| | ***fossor*** Kiensenwetter |

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| | ***marginatus*** (Fabricius) |
| | ***maritimus*** Guérin-Méneville |
| | Family **CHRYSOMELIDAE** |
| | Subfamily DONACIINAE |
| **PLATEUMARIS** | ***braccata*** (Scopoli) |
| | ***discolor*** (Panzer) |
| | ***rustica*** (Kunze) |
| | ***sericea*** (Linnaeus) |
| **DONACIA** | ***aquatica*** (Linnaeus) |
| | ***bicolora*** Zschach |
| | ***cinerea*** Herbst |
| | ***clavipes*** Fabricius |
| | ***crassipes*** Fabricius |
| | ***dentata*** Hoppe |
| | ***impressa*** Paykull |
| | ***marginata*** Hoppe |
| | ***obscura*** Gyllenhal |
| | ***semicuprea*** Panzer |
| | ***simplex*** Fabricius |
| | ***thalassina*** Germar |
| | ***versicolorea*** (Brahm) |
| | ***vulgaris*** Zschach |
| **MACROPLEA** | ***appendiculata*** (Panzer) |
| | Family **CURCULIONIDAE** |
| | Subfamily CURCULIONINAE |
| **CLEOPUS** | ***pulchellus*** (Herbst) |
| **CIONUS** | ***alauda*** (Herbst) |
| | ***hortulanus*** (Geoffroy) |
| **HYDRONOMUS** | ***alismatus*** (Marsham) |
| **BAGOUS** | ***glabrirostris*** (Herbst) |
| | ***lutulentus*** (Gyllenhal) |
| **ERIRHINUS** | ***acridulus*** (Linnaeus) |
| | ***aethiops*** (Fabricius) |
| | ***scirpi*** (Fabricius) |
| **NOTARIS** | ***bimaculatus*** (Fabricius) |

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| **THRYOGENES** | ***festucae*** (Herbst) |
| | ***nereis*** (Paykull) |
| **GRYPUS** | ***equiseti*** (Fabricius) |
| **TANYSPHYRUS** | ***lemnae*** (Paykull) |
| **EUBRYCHIUS** | ***velutus*** (Beck) |
| **PHYTOBIUS** | ***leucogaster*** (Marsham) |
| **POOPHAGUS** | ***sisymbrii*** (Fabricius) |
| **MECINUS** | ***collaris*** Germar |
| **GYMNETRON** | ***beccabungae*** (Linnaeus) |
| | ***villosulum*** Gyllenhal |

## References

Anderson, R., Nash, R. and O'Connor, J. P. (1997) Irish Coleoptera. A revised and annotated list. *Ir. Nat. J. Spec. Ent. Suppl.* 81pp

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## ORDER NEUROPTERA (4 species)

Only four aquatic species are known from Ireland (Barnard *et al.*, 1991) and Britain (Plant, 1994; Elliott, 1996).

Family **OSMYLIDAE**

**OSMYLUS** ***fulvicephalus*** (Scopoli)

Family **SISYRIDAE**

**SISYRA** ***dalii*** McLachlan
***fuscata*** (Fabricius)
***terminalis*** Curtis

### References

Barnard, P. C., O'Connor, J. P. and Speight, M. C. D. (1991) A review of published distribution data for Irish Neuroptera (Insecta), together with additional records and a check-list of the Irish species. *Bull. Ir. biogeog. Soc.* **14**: 109-123.

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Plant, C. W. (1994) *Provisional atlas of the lacewings and allied insects (Neuroptera, Megaloptera, Raphidioptera and Mecoptera) of Britain and Ireland.* NERC Institute of Terrestrial Ecology, Monks Wood. 208 pp.

*Occ. Pub. Ir. biogeog. Soc.* No. 3 (1998)

## ORDER MEGALOPTERA (2 species)

Two species are known from Ireland compared with three in Britain (Elliott, 1996), the additional British species being *Sialis fuliginosa* Pictet. *Sialis nigripes* Pictet was discovered for the first time in the British Isles when in 1976, adults and a larva were collected in Ireland at Hare Island, Lough Ree, Co. Westmeath (Elliott *et al.*, 1979). Very little is known about the life history and habitat requirements of this species. Its distribution in Ireland indicates that it may be associated chiefly with calcareous rivers, streams and lakes (O'Connor and O'Grady, 1990).

Family **SIALIDAE**

**SIALIS** ***lutaria*** (Linnaeus)
***nigripes*** Pictet

### References

Elliott, J. M. (1996) British freshwater Megaloptera and Neuroptera: a key with ecological notes. *Scient. Publs Freshwat. Biol. Ass.* **No. 54**.

Elliott, J. M., O'Connor, J. P. and O'Connor, M. A. (1979) A key to the larvae of Sialidae (Insecta: Megaloptera) occurring in the British Isles. *Freshwat. biol.* **9**: 511-514.

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## ORDER HYMENOPTERA (17 species)

Hedqvist (1978) lists the European species which are known to be aquatic. In Ireland, 17 aquatic species of Hymenoptera are recorded whereas in Britain the number is 38 species. However, two species of Braconidae, *Syncrasis fucicola* (Haliday) and *Coelinius podagricus* (Haliday), are known from Ireland but not from Britain and the British Isles total for aquatic Hymenoptera is therefore 40 species.

### Family **ICHNEUMONIDAE**

There are eight aquatic species of Ichneumonidae recorded from Britain but none are known from Ireland. Surprisingly, the ichneumonid *Agriotypus armatus* (Walker) has not been found in Ireland - it is a parasitoid of goerid Trichoptera larvae.

### Family **BRACONIDAE**

In Ireland and Britain, 12 aquatic species are recorded but two of these, *Syncrasis fucicola* (Haliday) and *Coelinius podagricus* (Haliday), are known from Ireland but not from Britain. The total is the British Isles is therefore 14 species. Over 500 species of Braconidae have been recorded from Ireland (O'Connoe *et al.*, in prep.).

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| **OPIUS** | ***caesus*** Haliday |
| | ***rudius*** Wesmael |
| **SYNCRASIS** | ***fucicola*** (Haliday) |
| **CHAENUSA** | ***conjugens*** (Nees) |
| | ***naiadum*** (Haliday) |
| | ***nereidum*** (Haliday) |
| **COELINIUS** | ***podagricus*** (Haliday) |
| **DACNUSA** | ***discolor*** (Förster) |
| | ***temula*** (Haliday) |
| **CHOREBUS** | ***affinis*** (Nees) |
| | ***striola*** Stelfox |
| | ***uliginosa*** (Haliday) |

### Family **CHALCIDIDAE**

Only one aquatic species is known from Ireland but three are known from Britain, the two additional species being *Chalcis biguttata* Spinola and *C. myrifex* (Schulz).

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| **CHALCIS** | ***sispes*** (Linnaeus) |

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Family **PTEROMALIDAE**

Two aquatic species are known from Ireland but three are known from Britain, the additional species being *Polycystus clavicornis* Walker.

**GYRINOPHAGUS** ***aper*** (Walker)
**UROLEPIS** ***maritima*** (Walker)

Family **EULOPHIDAE**

Only one species of Eulophidae known from Ireland and Britain.

**MESTOCHARIS** ***bimacularis*** (Dalman)

Family **MYMARIDAE**

Although some species do occur in Ireland we are unaware of published records for any species. In Britain, four species are recorded.

Family **TRICHOGRAMMATIDAE**

Although the family does occur in Ireland we are unaware of any published records. In Britain, a single species is recorded.

Family **CERAPHRONIDAE**

In Britain, there is one aquatic species which has not been recorded from from Ireland.

Family **DIAPRIIDAE**

Although 68 species are recorded from Ireland (O'Connor and Ashe, 1992), only one is known to be aquatic. *Diapria conica* (Fabricius) is a parasitoid of the syrphids *Eristalis arbustorum* (Linnaeus) *and E. tenax* (Linnaeus) - it is widely distributed. A second aquatic species, *Paramesius rufipes* Westwood, is found in Britain.

**DIAPRIA** ***conica*** (Fabricius)

Family **SCELIONIDAE**

In Britain, there is one aquatic species which has not been recorded from from Ireland.

Family **EUCOILIDAE**

In Britain, there are two aquatic species which have not been recorded from from Ireland.

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Hedqvist, K.-J. (1978) Hymenoptera, pp. 286-289. *In*: Illies, J. (ed.) *Limnofauna Europaea*, 2nd edn. Gustav Fischer Verlag, Stuttgart. 534 pp.

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*Occ. Pub. Ir. biogeog. Soc.* No. 3 (1998)

## ORDER TRICHOPTERA (147 species)

The most recent complete checklist of Irish Trichoptera was published in O'Connor (1987) which listed a total of 143 authentically recorded species. Since then there have been several additional species recorded from Ireland which have been published in O'Connor and O'Hanrahan (1988), O'Connor *et al.* (1990) and O'Connor and Bond (1995) which brings the total number up to 147 species. The fauna of the British Isles has a total of 198 species of which 195 occur in Britain. However, there are three species, *Tinodes maculicornis* (Pictet), *Apatania auricula* (Forsslund) and *Limnephilus fuscinervis* (Zetterstedt), which occur in Ireland but have not been found in Britain.

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| | Family **RHYACOPHILIDAE** |
| **RHYACOPHILA** | ***dorsalis*** (Curtis) |
| | ***munda*** McLachlan |
| | Family **PHILOPOTAMIDAE** |
| **PHILOPOTAMUS** | ***montanus*** (Donovan) |
| **WORMALDIA** | ***mediana*** McLachlan |
| | ***occipitalis*** (Pictet) |
| | ***subnigra*** McLachlan |
| **CHIMARRA** | ***marginata*** (Linnaeus) |
| | Family **PSYCHOMYIIDAE** |
| **LYPE** | ***phaeopa*** (Stephens) |
| | ***reducta*** (Hagen) |
| **METALYPE** | ***fragilis***(Pictet) |
| **PSYCHOMYIA** | ***pusilla*** (Fabricius) |
| **TINODES** | ***dives*** (Pictet) |
| | ***maclachani*** Kimmins |
| | ***maculicornis*** (Pictet) |
| | ***unicolor*** (Pictet) |
| | ***waeneri*** (Linnaeus) |
| | Family **ECNOMIDAE** |
| **ECNOMUS** | ***tenellus*** (Rambur) |
| | Family **POLYCENTROPODIDAE** |
| **CYRNUS** | ***flavidus*** McLachlan |

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| | ***insolutus*** McLachlan |
| | ***trimaculatus*** (Curtis) |
| **HOLOCENTROPUS** | ***dubius*** (Rambur) |
| | ***picicornis*** (Stephens) |
| **NEURECLIPSIS** | ***bimaculata*** (Linnaeus) |
| **PLECTROCNEMIA** | ***conspersa*** (Curtis) |
| | ***geniculata*** McLachlan |
| **POLYCENTROPUS** | ***flavomaculatus*** (Pictet) |
| | ***irroratus*** (Curtis) |
| | ***kingi*** McLachlan |
| | Family **HYDROPSYCHIDAE** |
| **CHEUMATOPSYCHE** | ***lepida*** (Pictet) |
| **DIPLECTRONA** | ***felix*** McLachlan |
| **HYDROPSYCHE** | ***angustipennis*** (Curtis) |
| | ***contubernalis*** McLachlan |
| | ***instabilis*** (Curtis) |
| | ***pellucidula*** (Curtis) |
| | ***siltalai*** Döhler |
| | Family **GLOSSOSOMATIDAE** |
| **GLOSSOSOMA** | ***boltoni*** Curtis |
| | ***conformis*** Neboiss |
| **AGAPETUS** | ***delicatulus*** McLachlan |
| | ***fuscipes*** Curtis |
| | ***ochripes*** Curtis |
| | Family **HYDROPTILIDAE** |
| **AGRAYLEA** | ***multipunctata*** Curtis |
| | ***sexmaculata*** Curtis |
| **ALLOTRICHIA** | ***pallicornis*** (Eaton) |
| **HYDROPTILA** | ***angulata*** Mosely |
| | ***cornuta*** Mosely |
| | ***forcipata*** (Eaton) |
| | ***martini*** Marshall |
| | ***occulta*** (Eaton) |
| | ***pulchricornis*** Pictet |

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| | ***simulans*** Mosely |
| | ***sparsa*** Curtis |
| | ***tigurina*** Ris |
| | ***tineoides*** Dalman |
| **OXYETHIRA** | ***falcata*** Morton |
| | ***flavicornis*** (Pictet) |
| | ***frici*** Klapálek |
| | ***sagittifera*** Ris |
| | ***simplex*** Ris |
| | ***tristella*** Klapálek |
| **TRICHOLEIOCHITON** | ***fagesii*** (Guinard) |
| **ITHYTRICHIA** | ***clavata*** Morton |
| | ***lamellaris*** Eaton |
| **ORTHOTRICHIA** | ***angustella*** (McLachlan) |
| | ***costalis*** (Curtis) |
| | Family **PHRYGANEIDAE** |
| **AGRYPNIA** | ***obsoleta*** (Hagen) |
| | ***pagetana*** Curtis |
| | ***varia*** (Fabricius) |
| **OLIGOTRICHA** | ***striata*** (Linnaeus) |
| **PHRYGANEA** | ***bipunctata*** Retzius |
| | ***grandis*** Linnaeus |
| | Family **LEPIDOSTOMATIDAE** |
| **CRUNOECIA** | ***irrorata*** (Curtis) |
| **LASIOCEPHALA** | ***basalis*** (Kolenati) |
| **LEPIDOSTOMA** | ***hirtum*** (Fabricius) |
| | Family **LIMNEPHILIDAE** |
| **APATANIA** | ***auricula*** (Forsslund) |
| | ***muliebris*** McLachlan |
| | ***wallengreni*** McLachlan |
| **DRUSUS** | ***annulatus*** (Stephens) |
| **ECCLISOPTERYX** | ***guttulata*** (Pictet) |
| **HALESUS** | ***digitatus*** (Şchrank) |
| | ***radiatus*** (Curtis) |

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| **HYDATOPHYLAX** | ***infumatus*** (McLachlan) |
| **MESOPHYLAX** | ***impunctatus*** McLachlan |
| **MICROPTERNA** | ***lateralis*** (Stephens) |
| | ***sequax*** McLachlan |
| **POTAMOPHYLAX** | ***cingulatus*** (Stephens) |
| | ***latipennis*** (Curtis) |
| **STENOPHYLAX** | ***permistus*** McLachlan |
| **CHAETOPTERYX** | ***villosa*** (Fabricius) |
| **ANABOLIA** | ***nervosa*** (Curtis) |
| **GLYPHOTAELIUS** | ***pellucidus*** (Retzius) |
| **GRAMMOTAULIUS** | ***nigropunctatus*** (Retzius) |
| **LIMNEPHILUS** | ***affinis*** Curtis |
| | ***auricula*** Curtis |
| | ***binotatus*** Curtis |
| | ***centralis*** Curtis |
| | ***coenosus*** Curtis |
| | ***decipiens*** (Kolenati) |
| | ***elegans*** Curtis |
| | ***flavicornis*** (Fabricius) |
| | ***fuscinervis*** (Zetterstedt) |
| | ***griseus*** (Linnaeus) |
| | ***hirsutus*** (Pictet) |
| | ***ignavus*** McLachlan |
| | ***incisus*** Curtis |
| | ***lunatus*** Curtis |
| | ***luridus*** Curtis |
| | ***marmoratus*** Curtis |
| | ***nigriceps*** (Zetterstedt) |
| | ***pati*** O'Connor |
| | ***rhombicus*** (Linnaeus) |
| | ***sparsus*** Curtis |
| | ***stigma*** Curtis |
| | ***tauricus*** Schmid |
| | ***vittatus*** (Fabricius) |
| **PHACOPTERYX** | ***brevipennis*** (Curtis) |

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| | Family **GOERIDAE** |
| **GOERA** | ***pilosa*** (Fabricius) |
| **SILO** | ***nigricornis*** (Picte) |
| | ***pallipes*** (Fabricius) |
| | Family **BERAEIDAE** |
| **BERAEA** | ***maurus*** (Curtis) |
| | ***pullata*** (Curtis) |
| **BERAEODES** | ***minutus*** (Linnaeus) |
| | Family **SERICOSTOMATIDAE** |
| **SERICOSTOMA** | ***personatum*** (Spence in Kirby & Spence) |
| | Family **ODONTOCERIDAE** |
| **ODONTOCERUM** | ***albicorne*** (Scopoli) |
| | Family **MOLANNIDAE** |
| **MOLANNA** | ***albicans*** (Zetterstedt) |
| | Family **LEPTOCERIDAE** |
| **ATHRIPSODES** | ***albifrons*** (Linnaeus) |
| | ***aterrimus*** (Stephens) |
| | ***bilineatus*** (Linnaeus) |
| | ***cinereus*** (Curtis) |
| | ***commutatus*** (Rostock) |
| **CERACLEA** | ***albimacula*** (Rambur) |
| | ***annulicornis*** (Stephens) |
| | ***dissimilis*** (Stephens) |
| | ***fulva*** (Rambur) |
| | ***nigronervosa*** (Retzius) |
| | ***senilis*** (Burmeister) |
| **LEPTOCERUS** | ***tineiformis*** Curtis |
| **MYSTACIDES** | ***azurea*** (Linnaeus) |
| | ***longicornis*** (Linnaeus) |
| **ADICELLA** | ***reducta*** (McLachlan) |
| **TRIAENODES** | ***bicolor*** (Curtis) |
| **YLODES** | ***reuteri*** (McLachlan) |

| | |
|---|---|
| **OECETIS** | ***furva*** (Rambur) |
| | ***lacustris*** (Pictet) |
| | ***notata*** (Rambur) |
| | ***ochracea*** (Curtis) |
| | ***testacea*** (Curtis) |
| **SETODES** | ***argentipunctellus*** McLachlan |

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## ORDER LEPIDOPTERA (5 species)

The aquatic Lepidoptera in Europe are represented by a total of five species (Hannemann, 1978), all belonging to the Family Pyralidae. In the recent checklist of Irish Microlepidoptera (Bond, 1995), all five species are confirmed as occurring in Ireland.

### Family **PYRALIDAE**

| | |
|---|---|
| **ACENTRIA** | ***ephemerella*** (Denis & Schiffermüller) |
| **CATACLYSTA** | ***lemnata*** (Linnaeus) |
| **ELOPHILA** | ***nymphaeata*** (Denis & Schiffermüller) |
| **NYMPHULA** | ***stagnata*** (Donovan) |
| **PARAPONYX** | ***stratiotata*** (Linnaeus) |

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*Occ. Pub. Ir. biogeog. Soc.* No. 3 (1998)

## ORDER DIPTERA (929 species)

Unlike most insect orders, entomologists working on Diptera tend to specialise on one or several closely related families rather than work on the whole order. Consequently, a short account for each dipteran family is given followed by the checklist and relevant references.

The number of known aquatic Diptera in Ireland is 929 species whereas 1525 species are known in Britain. However, 17 species occur in Ireland which have not been found in Britain and the British Isles total is therefore 1542 species. The aquatic species numbers for each family are summarised in Table 2.

We have utilised the aquatic Diptera lists for Europe (Illies, 1978) and the Netherlands (Mol, 1984) as the basis for deciding which species are included here since our main aim is to produce a comparable list for Ireland. There are problems in trying to calculate the exact number of aquatic and terrestrial species in some families because the immature stages and habitats of many species are unknown. In some cases we have made educated estimates of the numbers of aquatic species.

**TABLE 2.** Summary of the Irish aquatic Diptera fauna compared with Britain.

| | Ireland | Britain | British Isles | Irish only |
|---|---|---|---|---|
| Athericidae | 2 | 3 | 3 | |
| Ceratopogonidae | 40 | 131 | 132 | 1 |
| Chaoboridae | 3 | 6 | 6 | |
| Chironomidae | 396 | 578 | 588 | 10 |
| Culicidae | 18 | 32 | 32 | |
| Cylindrotomidae | 1 | 2 | 2 | |
| Dixidae | 13 | 15 | 15 | |
| Dolichopodidae | 54 | 80 | 82 | 2 |
| Empididae | 47 | 110 | 110 | |
| Ephydridae | 19 | 38 | 38 | |
| Hybotidae | 4 | 5 | 5 | |
| Limoniidae | 99 | 186 | 188 | 2 |
| Muscidae | 6 | 10 | 10 | |
| Pediciidae | 13 | 17 | 17 | |
| Psychodidae | 51 | 81 | 83 | 2 |
| Ptychopteridae | 6 | 7 | 7 | |
| Rhagionidae | 1 | 2 | 2 | |
| Scatophagidae | 6 | 9 | 9 | |
| Sciomyzidae | 39 | 48 | 48 | |
| Simuliidae | 26 | 33 | 33 | |
| Stratiomyidae | 13 | 26 | 26 | |
| Syrphidae | 43 | 52 | 52 | |
| Tabanidae | 9 | 29 | 29 | |
| Thaumaleidae | 2 | 3 | 3 | |
| Tipulidae | 18 | 22 | 22 | |
| Total DIPTERA | 929 | 1525 | 1542 | 17 |

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Illies, J. (ed.) (1978)*Limnofauna Europaea*, 2nd edn. Gustav Fischer Verlag, Stuttgart. 534 pp.

Mol, A. W. M. (1984) Limnofauna Neerlandica. Een lijst van meercellige ongewervelde dieren aangetroffen in binnenwateren van Nederland. *Nieuwsbrief European Invertebrate Survey - Nederland*, Nummer 15, 124 pp.

## Family **ATHERICIDAE** (2 species)

A review of the records of this small family in Ireland, which were previously included in the Rhagionidae, is given in Chandler (1975). There is one additional aquatic genus and species, *Atrichops crassipes* (Meigen), recorded from Britain which has not been found in Ireland.

**ATHERIX** *ibis* Fabricius
*marginata* Fabricius

### Reference

Chandler, P. J. (1975) An account of the Irish species of two-winged flies (Diptera) belonging to the families of larger Brachycera (Tabanoidea and Asiloidea). *Proc. R. Ir. Acad.* **75B**: 81-110.

## Family **CERATOPOGONIDAE** (40 species)

There is no comprehensive account of the Irish Ceratopogonidae apart from that published for the genus *Culicoides* (Boorman, 1986) and the records for other genera and species which do occur are scattered in various papers. A few species were originally described in the 19th century based on Irish type material (Haliday, 1833; Haliday in Walker, 1856) but most records of other species from this time are doubtful and excluded from the list below because they require confirmation. Scattered Irish records of various species are included in Yerbury (1902), Grimshaw (1912), Edwards (1926, 1929a, b), Edwards *et al.* (1939), Jackson (1947), Downes and Kettle (1952), Healy (1975), Speight and Healy (1977), Havelka (1978), Blackith and Blackith (1989) and Blackith *et al.* (1991). The nomenclature follows that given in Chandler (in press).

The total number of species recorded in the British Isles is 161 of which 132 are estimated to be aquatic and the remaining 29 are terrestrial - these figures are likely to change as the habitat preferences of many species are still unknown. The list below is a complete list of all 44 reliably published Irish species (40 aquatic and four terrestrial species). The four terrestrial species, indicated

by a # symbol, are not counted in the aquatic species totals. One aquatic Irish species, *Bezzia taeniata* (Haliday in Walker), has not been recorded from Britain where the estimated number of aquatic species is 131.

Subfamily **CERATOPOGONINAE**

Tribe CERATOPOGONINI

| | | |
|---|---|---|
| **KOLENOHELEA** | ***calcarata*** (Goetghebuer) | |
| **SERROMYIA** | ***femorata*** (Meigen) | |
| | ***morio*** (Fabricius) | |
| **STILOBEZZIA (ACANTHOHELEA)** | ***gracilis*** (Haliday) | |

Tribe CULICOIDINI

| | | |
|---|---|---|
| **CULICOIDES (AVARITIA)** | ***chiopterus*** (Meigen) | # |
| | ***dewulfi*** Goetghebuer | # |
| | ***obsoletus*** (Meigen) | |
| | ***scoticus*** Downes & Kettle | # |
| **CULICOIDES (BELTRANMYIA)** | ***circumscriptus*** Kieffer | |
| **CULICOIDES (CULICOIDES)** | ***delta*** Edwards | |
| | ***grisescens*** Edwards | |
| | ***impunctatus*** Goetghebuer | |
| | ***newsteadi*** Austen | |
| | ***pulicaris*** (Linnaeus) | |
| | ***punctatus*** (Meigen) | |
| **CULICOIDES (MONOCULICOIDES)** | ***nubeculosus*** (Meigen) | |
| | ***parroti*** Kieffer | |
| | ***riethi*** Kieffer | |
| | ***stigma*** (Meigen) | |
| **CULICOIDES (OECACTA)** | ***brunnicans*** Edwards | |
| | ***duddingstoni*** Kettle & Lawson | |
| | ***festivipennis*** Kieffer | |
| | ***furcillatus*** Callot, Kremer & Paradis | |
| | ***heliophilus*** Edwards | |
| | ***kibunensis*** Tokunaga | |
| | ***pictipennis*** (Staeger) | |
| | ***poperinghensis*** Goetghebuer | |
| | ***reconditus*** Campbell & Pelham-Clinton | |
| | ***segnis*** Campbell & Pelham-Clinton | |
| | ***vexans*** (Staeger) | |

| | |
|---|---|
| **CULICOIDES** | |
| **(SILVATICULICOIDES)** | ***achrayi*** Kettle & Lawson |
| | ***fascipennis*** (Staeger) |
| | ***pallidicornis*** Kieffer |
| | Tribe PALPOMYIINI |
| **BEZZIA (BEZZIA)** | ***coracina*** (Zetterstedt) |
| | ***nobilis*** (Winnertz) |
| | ***ornata*** (Meigen) |
| **BEZZIA (HOMOBEZZIA)** | ***taeniata*** (Haliday in Walker) |
| **BEZZIA (PYGOBEZZIA)** | ***calceata*** (Haliday in Walker) |
| **PALPOMYIA** | ***brachialis*** (Haliday) |
| | ***distincta*** (Haliday) |
| | ***flavipes*** (Meigen) |
| | ***spinipes*** (Meigen in Panzer) |
| | Subfamily **DASYHELEINAE** |
| **DASYHELEA** | |
| **(PSEUDOCULICOIDES)** | ***flavoscutellata*** (Zetterstedt) |
| | Subfamily **FORCIPOMYIINAE** |
| **ATRICHOPOGON** | |
| **(LOPHOMYIDIUM)** | ***rostratus*** (Winnertz) # |

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## Family **CHAOBORIDAE** (3 species)

There has been no published checklist of the Irish species and there are only a few scattered species records in the literature (Haliday, 1833; Hogan and Haliday, 1855; Grimshaw, 1912; Edwards, 1929, 1930; Freeman, 1950). Edwards (1930) described a new species, *Mochlonyx martinii* Edwards from Killarney, Co. Kerry but this species has since been shown to be a synonym of *M. fuliginosus* (Felt). *M. culiciformis* (De Geer), which is now a junior synonym of *M. velutinus* (Ruthé) (Wagner, 1990), is the most commonly mentioned species in the Irish literature. In Britain, six species are recorded and the additional three species not yet found in Ireland are *C.* (*C.*) *flavicans* (Meigen), *C.* (*C.*) *obscuripes* (van der Wulp) and *C.* (*Peusomyia*) *pallidus* (Fabricius).

| | |
|---|---|
| **CHAOBORUS (CHAOBORUS)** | ***crystallinus*** (De Geer) |
| **MOCHLONYX** | ***velutinus*** (Ruthé) |
| | ***fuliginosus*** (Felt) |

## References

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Wagner, R. (1990) Family Chaoboridae. *In*: Soós, Á. & Papp, L. (eds) *Catalogue of Palaearctic Diptera* **2**: 71-74.

## Family **CHIRONOMIDAE** (396 species)

The first modern checklist of Irish species is given in Murray (1972). A considerable number of Irish species are recorded in Ashe and Cranston (1990) but some widely distributed species are not listed by country. In the last complete checklist of Irish Chironomidae there were 347 species recorded (Murray and Ashe, 1984). Additional species have been published in several subsequent papers (Sæther and Sublette, 1983; Murray and Fittkau, 1985; Ashe, 1987; Henegan and Murray, 1987; Bond *et al.*, 1988; Morgan and Murray, 1988; Hayes and Murray, 1989; Sæther, 1990; Soponis, 1990; Tokeshi, 1990; Ashe and O'Connor, 1994; Murray, 1996; Ashe and O'Connor, 1997; Langton and McLarnon, 1998) bringing the Irish total to 396 species. Nomenclatural changes are based on Ashe and Cranston (1990) and include the most recent changes given in Chandler (in press).

Two species, *Harnischia curtilamellata* (Malloch) and *Prodiamesa rufovittata* Goetghebuer, which are doubtfully Irish are excluded from the list given below because the former is based on the questionable synonymy of *Chironomus lacustris* Haliday and the latter is based on an unconfirmed 19th century record. The British chironomid fauna currently stands at 578 species with 182 more species there than are known in Ireland. However, ten species are known from Ireland but not yet recorded from Britain, *Anatopynia plumipes* (Fries), *Corynocera ambigua* Zetterstedt, *Diamesa cinerella* Meigen, *Metriocnemus beringiensis* (Cranston & Oliver), *Parachironomus subalpinus* (Goetghebuer), *P. swammerdami* (Kruseman), *Paratanytarsus dimorphis* Reiss, *Pseudorthocladius rectangilobus* Caspers & Siebert, *Rheotanytarsus nigricauda* Fittkau and *Saetheria reissi* Jackson, and therefore the total number of species for the British Isles is 588. There are a number of additional

species known from Ireland which have not yet been published and more additional species are expected to be added to both the British and Irish lists on a regular basis. Two additional Irish species, *Procladius* "near *crassinervis*" (Murray, pers. obs.) and *Phaenopsectra (Phaenopsectra)* "Pe F Bala" (Murray, 1996), are excluded from the totals and the list below because the correct taxonomic names to apply to these species needs to be resolved.

A complete checklist of all the Irish species is given here and no attempt has been made to exclude the relatively small number of terrestrial species as the ecology of many of these species is still imperfectly known.

| | |
|---|---|
| | Subfamily **PODONOMINAE** |
| | Tribe BOREOCHLINI |
| **LASIODIAMESA** | ***sphagnicola*** (Kieffer) |
| | Tribe PODONOMINI |
| **PAROCHLUS** | ***kiefferi*** (Garrett) |
| | Subfamily **TANYPODINAE** |
| | Tribe ANATOPYNIINI |
| **ANATOPYNIA** | ***plumipes*** (Fries) |
| | Tribe COELOTANYPODINI |
| **CLINOTANYPUS** | ***nervosus*** (Meigen) |
| | Tribe MACROPELOPIINI |
| **APSECTROTANYPUS** | ***trifascipennis*** (Zetterstedt) |
| **MACROPELOPIA** | ***adaucta*** Kieffer in Thienemann & Kieffer |
| | ***nebulosa*** (Meigen) |
| | ***notata*** (Meigen) |
| **PSECTROTANYPUS (PSECTROTANYPUS)** | ***varius*** (Fabricius) |
| | Tribe NATARSIINI |
| **NATARSIA** | ***nugax*** (Walker) |
| | ***punctata*** (Meigen) |
| | Tribe PENTANEURINI |
| **ABLABESMYIA** | ***longistyla*** Fittkau |
| | ***monilis*** (Linnaeus) |
| | ***phatta*** (Egger) |
| **ARCTOPELOPIA** | ***barbitarsis*** (Zetterstedt) |
| | ***griseipennis*** (van der Wulp) |
| **CONCHAPELOPIA** | ***melanops*** (Meigen) |

| | |
|---|---|
| | ***pallidula*** (Meigen) |
| | ***viator*** (Kieffer) |
| **GUTTIPELOPIA** | ***guttipennis*** (van der Wulp) |
| **HAYESOMYIA** | ***tripunctata*** (Goetghebuer) |
| **KRENOPELOPIA** | ***binotata*** (Wiedemann) |
| | ***nigropunctata*** (Staeger) |
| **LARSIA** | ***atrocincta*** (Goetghebuer) |
| | ***curticalcar*** (Kieffer) |
| **MONOPELOPIA** | ***tenuicalcar*** (Kieffer) |
| **NILOTANYPUS** | ***dubius*** (Meigen) |
| **PARAMERINA** | ***cingulata*** (Stephens in Walker) |
| | ***divisa*** (Walker) |
| **RHEOPELOPIA** | ***eximia*** (Edwards) |
| | ***maculipennis*** (Zetterstedt) |
| | ***ornata*** (Meigen) |
| **TELMATOPELOPIA** | ***nemorum*** (Goetghebuer) |
| **THIENEMANNIMYIA** | ***carnea*** (Fabricius) |
| | ***festiva*** (Meigen) |
| | ***geijkesi*** (Goetghebuer) |
| | ***laeta*** (Meigen) |
| | ***lentiginosa*** (Fries) |
| | ***northumbrica*** (Edwards) |
| | ***pseudocarnea*** Murray |
| **TRISSOPELOPIA** | ***longimana*** (Staeger) |
| **XENOPELOPIA** | ***falcigera*** (Kieffer) |
| | ***nigricans*** (Goetghebuer) |
| **ZAVRELIMYIA** | ***barbatipes*** (Kieffer) |
| | ***hirtimana*** (Kieffer) |
| | ***melanura*** (Meigen) |
| | ***nubila*** (Meigen) |
| | Tribe PROCLADIINI |
| **PROCLADIUS (HOLOTANYPUS)** | ***choreus*** (Meigen) |
| | ***crassinervis*** (Zetterstedt) |
| | ***culiciformis*** (Linnaeus) |
| | ***sagittalis*** (Kieffer) |
| | ***signatus*** (Zetterstedt) |
| | ***simplicistylis*** Freeman |

| | |
|---|---|
| **PROCLADIUS (PSILOTANYPUS)** | ***flavifrons*** Edwards |
| | ***lugens*** Kieffer |
| | ***rufovittatus*** (van der Wulp) |
| | Tribe TANYPODINI |
| **TANYPUS** | ***punctipennis*** Meigen |
| | Subfamily **BUCHONOMYIINAE** |
| **BUCHONOMYIA** | ***thienemanni*** Fittkau |
| | Subfamily **DIAMESINAE** |
| | Tribe DIAMESINI |
| **DIAMESA** | ***bohemani*** Goetghebuer |
| | ***cinerella*** Meigen in Gistl |
| | ***incallida*** (Walker) |
| | ***insignipes*** Kieffer in Kieffer & Thienemann |
| | ***permacra*** (Walker) |
| | ***tonsa*** (Haliday in Walker) |
| **POTTHASTIA** | ***gaedii*** (Meigen) |
| | ***longimanus*** (Kieffer) |
| | ***montium*** (Edwards) |
| **PSEUDODIAMESA** | ***branickii*** (Nowicki) |
| | ***nivosa*** (Goetghebuer) |
| | Tribe PROTANYPINI |
| **PROTANYPUS** | ***morio*** (Zetterstedt) |
| | Subfamily **TELMATOGETONINAE** |
| **THALASSOMYA** | ***frauenfeldi*** Schiner |
| | Subfamily **PRODIAMESINAE** |
| **MONODIAMESA** | ***bathyphila*** (Kieffer) |
| | ***ekmani*** Brundin |
| **PRODIAMESA** | ***olivacea*** (Meigen) |
| | Subfamily **ORTHOCLADIINAE** |
| **ACAMPTOCLADIUS** | ***submontanus*** (Edwards) |
| **ACRICOTOPUS** | ***lucens*** (Zetterstedt) |
| **BRILLIA** | ***flavifrons*** (Johannsen) |
| | ***modesta*** (Meigen) |

| | |
|---|---|
| **BRYOPHAENOCLADIUS** | ***femineus*** (Edwards) |
| | ***furcatus*** (Kieffer in Thienemann & Kieffer) |
| | ***nitidicollis*** (Goetghebuer) |
| | ***subvernalis*** (Edwards) |
| | ***vernalis*** (Goetghebuer) |
| **CAMPTOCLADIUS** | ***stercorarius*** (De Geer) |
| **CARDIOCLADIUS** | ***capucinus*** (Zetterstedt) |
| | ***fuscus*** Kieffer |
| **CHAETOCLADIUS** | ***dentiforceps*** (Edwards) |
| | ***dissipatus*** (Edwards) |
| | ***perennis*** (Meigen) |
| **CLUNIO** | ***marinus*** Haliday |
| **CORYNONEURA** | ***carriana*** Edwards |
| | ***celeripes*** Winnertz |
| | ***celtica*** Edwards |
| | ***coronata*** Edwards |
| | ***edwardsi*** Brundin |
| | ***lacustris*** Edwards |
| | ***lobata*** Edwards |
| | ***scutellata*** Winnertz |
| **CRICOTOPUS (CRICOTOPUS)** | ***albiforceps*** (Kieffer in Thienemann & Kieffer) |
| | ***annulator*** Goetghebuer |
| | ***bicinctus*** (Meigen) |
| | ***curtus*** Hirvenoja |
| | ***cylindraceus*** (Kieffer in Kieffer & Thienemann) |
| | ***ephippium*** (Zetterstedt) |
| | ***festivellus*** (Kieffer) |
| | ***fuscus*** (Kieffer) |
| | ***pallidipes*** Edwards |
| | ***pulchripes*** Verrall |
| | ***similis*** Goetghebuer |
| | ***tremulus*** (Linnaeus) |
| | ***triannulatus*** (Macquar) |
| | ***trifascia*** Edwards |
| | ***tristis*** Hirvenoja |
| **CRICOTOPUS (ISOCLADIUS)** | ***intersectus*** (Staeger) |
| | ***laricomalis*** Edwards |

| | |
|---|---|
| | ***obnixus*** (Walker) |
| | ***ornatus*** (Meigen) |
| | ***pilitarsis*** (Zetterstedt) |
| | ***reversus*** Hirvenoja |
| | ***sylvestris*** (Fabricius) |
| | ***tricinctus*** (Meigen) |
| | ***trifasciatus*** (Meigen in Panzer) |
| **CRICOTOPUS (NOSTOCOCLADIUS)** | ***lygropis*** Edwards |
| **DIPLOCLADIUS** | ***cultriger*** Kieffer in Kieffer & Thienemann |
| **EPOICOCLADIUS** | ***ephemerae*** (Kieffer in Sulc & Zavrel) |
| **EUKIEFFERIELLA** | ***ancyla*** Svensson |
| | ***brevicalcar*** (Kieffer) |
| | ***claripennis*** (Lundbeck) |
| | ***clypeata*** (Kieffer) |
| | ***coerulescens*** (Kieffer in Zavrel) |
| | ***devonica*** (Edwards) |
| | ***dittmari*** Lehmann |
| | ***gracei*** (Edwards) |
| | ***ilkeyensis*** (Edwards) |
| | ***minor*** (Edwards) |
| | ***tirolensis*** Goetghebuer |
| **EURYCNEMUS** | ***crassipes*** (Panzer) |
| **GEORTHOCLADIUS** | ***luteicornis*** (Goetghebuer in Strenzke) |
| **GYMNOMETRIOCNEMUS** | ***brumalis*** (Edwards) |
| | ***subnudus*** (Edwards) |
| **HALOCLADIUS (HALOCLADIUS)** | ***fucicola*** (Edwards) |
| | ***variabilis*** (Staeger) |
| | ***varians*** (Staeger) |
| **HALOCLADIUS (PSAMMOCLADIUS)** | ***braunsi*** (Goetghebuer) |
| **HELENIELLA** | ***ornaticollis*** (Edwards) |
| **HETEROTANYTARSUS** | ***apicalis*** (Kieffer) |
| **HETEROTRISSOCLADIUS** | ***grimshawi*** (Edwards) |
| | ***marcidus*** (Walker) |
| **KRENOSMITTIA** | ***camptophleps*** (Edwards) |
| **LIMNOPHYES** | ***edwardsi*** Sæther |
| | ***gurgicola*** (Edwards) |
| | ***habilis*** (Walker) |

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| | ***minimus*** (Meigen) |
| | ***natalensis*** (Kieffer) |
| | ***pentaplastus*** (Kieffer) |
| | ***pumilio*** (Holmgren) |
| **MESOSMITTIA** | ***flexuella*** (Edwards) |
| **METRIOCNEMUS** | ***albolineatus*** (Meigen) |
| | ***atriclavus*** Kieffer |
| | ***beringiensis*** (Cranston & Oliver) |
| | ***eurynotus*** (Holmgren) |
| | ***fuscipes*** (Meigen) |
| | ***hirticollis***: Edwards, misident. |
| | ***martinii*** Thienemann |
| | ***picipes*** (Meigen) |
| **NANOCLADIUS** | ***balticus*** (Palmen) |
| | ***bicolor*** (Zetterstedt) |
| | ***rectinervis*** (Kieffer) |
| **ORTHOCLADIUS (EUDACTYLOCLADIUS)** | ***fuscimanus*** (Kieffer in Kieffer & Thienemann) |
| **ORTHOCLADIUS (EUORTHOCLADIUS)** | ***ashei*** Soponis |
| | ***rivicola*** Kieffer |
| | ***rivulorum*** Kieffer |
| | ***thienemanni*** Kieffer in Kieffer & Thienemann |
| **ORTHOCLADIUS (ORTHOCLADIUS)** | ***dentifer*** Brundin |
| | ***frigidus*** (Zetterstedt) |
| | ***oblidens*** (Walker) |
| | ***obumbratus*** Johannsen |
| | ***pedestris*** Kieffer |
| | ***rivinus*** Kieffer |
| | ***rubicundus*** (Meigen) |
| | ***wetterensis*** Brundin |
| **ORTHOCLADIUS (POGONOCLADIUS)** | ***consobrinus*** (Holmgren) |
| **ORTHOCLADIUS (SYMPOSIOCLADIUS)** | ***lignicola*** Kieffer in Potthast |
| **PARACLADIUS** | ***conversus*** (Walker) |
| **PARAKIEFFERIELLA** | ***bathophila*** (Kieffer) |

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| | ***coronata*** (Edwards) |
| **PARALIMNOPHYES** | ***hydrophilus*** (Goetghebuer) |
| **PARAMETRIOCNEMUS** | ***stylatus*** (Kieffer) |
| **PARAPHAENOCLADIUS** | ***exagitans*** ssp. ***monticola*** Strenzke |
| | ***impensus*** (Walker) |
| | ***irritus*** (Walker) |
| | ***penerasus*** (Edwards) |
| | ***pseudirritus*** Strenzke |
| **PARATRICHOCLADIUS** | ***rufiventris*** (Meigen) |
| | ***skirwithensis*** (Edwards) |
| **PARATRISSOCLADIUS** | ***excerptus*** (Walker) |
| **PSECTROCLADIUS** | |
| **(ALLOPSECTROCLADIUS)** | ***obvius*** (Walker) |
| | ***platypus*** (Edwards) |
| **PSECTROCLADIUS** | |
| **(MESOPSECTROCLADIUS)** | ***barbatipes*** Kieffer |
| **PSECTROCLADIUS** | |
| **(MONOPSECTROCLADIUS)** | ***calcaratus*** (Edwards) |
| **PSECTROCLADIUS** | |
| **(PSECTROCLADIUS)** | ***barbimanus*** (Edwards) |
| | ***bisetus*** Goetghebuer |
| | ***fennicus*** Storå |
| | ***limbatellus*** (Holmgren) |
| | ***octomaculatus*** Wülker |
| | ***oligosetus*** Wülker |
| | ***psilopterus*** (Kieffer in Kieffer & Thienemann) |
| | ***sordidellus*** (Zetterstedt) |
| **PSEUDORTHOCLADIUS** | |
| **(PSEUDORTHOCLADIUS)** | ***cranstoni*** Sæther & Sublette |
| | ***curtistylus*** (Goetghebuer) |
| | ***filiformis*** (Kieffer in Kieffer & Thienemann) |
| | ***rectangilobus*** Caspers & Siebert |
| **PSEUDOSMITTIA** | ***recta*** (Edwards) |
| | ***trilobata*** (Edwards) |
| **RHEOCRICOTOPUS** | |
| **(PSILOCRICOTOPUS)** | ***chalybeatus*** (Edwards) |
| | ***glabricollis*** (Meigen) |

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| **RHEOCRICOTOPUS** | |
| **(RHEOCRICOTOPUS)** | ***fuscipes*** (Kieffer) |
| **RHEOSMITTIA** | ***spinicornis*** (Brundin) |
| **SMITTIA** | ***albipennis*** (Goetghebuer) |
| | ***aterrima*** (Meigen) |
| | ***contingens*** (Walker) |
| | ***edwardsi*** Goetghebuer |
| | ***leucopogon*** (Meigen) |
| | ***pratorum*** (Goetghebuer) |
| **SYNORTHOCLADIUS** | ***semivirens*** (Kieffer) |
| **THALASSOSMITTIA** | ***thalassophila*** (Bequaert & Goetghebuer) |
| **THIENEMANNIA** | ***gracilis*** Kieffer |
| **THIENEMANNIELLA** | ***acuticornis*** (Kieffer) |
| | ***clavicornis*** (Kieffer) |
| | ***flavescens*** (Edwards) |
| | ***majuscula*** (Edwards) |
| | ***vittata*** (Edwards) |
| **TRISSOCLADIUS** | ***brevipalpis*** Kieffer in Kieffer & Thienemann |
| **TVETENIA** | ***bavarica*** (Goetghebuer) |
| | ***calvescens*** (Edwards) |
| | ***discoloripes*** (Goetghebuer in Thienemann) |
| | ***verralli*** (Edwards) |
| **ZALUTSCHIA** | ***humphriesiae*** Dowling & Murray |

Subfamily **CHIRONOMINAE**

Tribe CHIRONOMINI

| | |
|---|---|
| **CHIRONOMUS** | |
| **(CAMPTOCHIRONOMUS)** | ***tentans*** Fabricius |
| **CHIRONOMUS (CHIRONOMUS)** | ***annularius***: auctt., misident. |
| | ***anthracinus*** Zetterstedt |
| | ***aprilinus*** Meigen |
| | ***cingulatus*** Meigen |
| | ***commutatus*** Keyl |
| | ***dorsalis***: auctt., misident. |
| | ***longipes*** Staeger |
| | ***longistylus*** Goetghebuer |
| | ***lugubris*** Zetterstedt |

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| | ***pilicornis*** (Fabricius) |
| | ***plumosus*** (Linnaeus) |
| | ***prasinus*** Meigen |
| | ***pseudothummi*** Strenzke |
| | ***riparius*** Meigen |
| | ***salinarius*** Kieffer in Thienemann |
| | ***striatus***: auctt., misident. |
| **CLADOPELMA** | ***krusemani*** (Goetghebuer) |
| | ***laterale*** (Goetghebuer) |
| | ***viridulum*** (Linnaeus) |
| **CRYPTOCHIRONOMUS** | ***albofasciatus*** (Staeger) |
| | ***psittacinus*** (Meigen) |
| | ***rostratus*** Kieffer |
| | ***supplicans*** (Meigen) |
| **CRYPTOTENDIPES** | ***pseudotener*** (Goetghebuer) |
| **DEMEIJEREA** | ***rufipes*** (Linnaeus) |
| **DEMICRYPTOCHIRONOMUS** | |
| **(DEMICRYPTOCHIRONOMUS)** | ***vulneratus*** (Zetterstedt) |
| **DICROTENDIPES** | ***lobiger*** (Kieffer) |
| | ***nervosus*** (Staeger) |
| | ***notatus*** (Meigen) |
| | ***objectans*** (Walker) |
| | ***tritomus*** (Kieffer in Thienemann & Kieffer) |
| **EINFELDIA** | ***pagana*** (Meigen) |
| **ENDOCHIRONOMUS** | ***albipennis*** (Meigen) |
| | ***tendens*** (Fabricius) |
| **GLYPTOTENDIPES** | |
| **(CAULOCHIRONOMUS)** | ***viridis*** (Macquart) |
| **GLYPTOTENDIPES** | |
| **(GLYPTOTENDIPES)** | ***barbipes*** (Staeger) |
| | ***gripekoveni*** (Kieffer) |
| | ***pallens*** (Meigen) |
| | ***paripes*** (Edwards) |
| **GRACEUS** | ***ambiguus*** Goetghebuer |
| **KIEFFERULUS** | ***tendipediformis*** (Goetghebuer) |
| **LAUTERBORNIELLA** | ***agrayloides*** (Kieffer) |
| **MICROCHIRONOMUS** | ***deribae*** (Freeman) |

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| **MICROTENDIPES** | ***chloris*** (Meigen) |
| | ***confinis*** (Meigen) |
| | ***nitidus*** (Meigen) |
| | ***pedellus*** (De Geer) |
| | ***rydalensis*** (Edwards) |
| | ***tarsalis*** (Stephens in Walker) |
| **NILOTHAUMA** | ***brayi*** (Goetghebuer) |
| **OMISUS** | ***caledonicus*** (Edwards) |
| **PAGASTIELLA** | ***orophila*** (Edwards) |
| **PARACHIRONOMUS** | ***arcuatus*** (Goetghebuer) |
| | ***biannulatus*** (Staeger) |
| | ***frequens*** (Johannsen) |
| | ***monochromus*** (van der Wulp) |
| | ***parilis*** (Walker) |
| | ***subalpinus*** (Goetghebuer) |
| | ***swammerdami*** (Kruseman) |
| | ***tenuicaudatus*** (Malloch) |
| **PARACLADOPELMA** | ***camptolabis*** (Kieffer) |
| | ***laminatum*** (Kieffer) |
| | ***nigritulum*** (Goetghebuer) |
| **PARALAUTERBORNIELLA** | ***nigrohalteralis*** (Malloch) |
| **PARATENDIPES** | ***albimanus*** (Meigen) |
| | ***nudisquama*** (Edwards) |
| | ***plebeius*** (Meigen) |
| **PHAENOPSECTRA** | ***flavipes*** (Meigen) |
| | ***punctipes*** (Wiedemann) |
| **POLYPEDILUM (PENTAPEDILUM)** | ***nubens*** (Edwards) |
| | ***sordens*** (van der Wulp) |
| | ***tritum*** (Walker) |
| | ***uncinatum*** (Goetghebuer) |
| **POLYPEDILUM (POLYPEDILUM)** | ***acutum*** Kieffer |
| | ***albicorne*** (Meigen) |
| | ***arundineti*** (Goetghebuer) |
| | ***convictum*** (Walker) |
| | ***cultellatum*** Goetghebuer |
| | ***laetum*** (Meigen) |
| | ***nubeculosum*** (Meigen) |

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| | ***pedestre*** (Meigen) |
| **POLYPEDILUM (TRIPODURA)** | ***bicrenatum*** Kieffer |
| | ***pullum*** (Zetterstedt) |
| | ***quadriguttatum*** Kieffer |
| | ***scalaenum*** (Schrank) |
| **SAETHERIA** | ***reissi*** Jackson |
| **SERGENTIA (SERGENTIA)** | ***coracina*** (Zetterstedt) |
| **STENOCHIRONOMUS (STENOCHIRONOMUS)** | ***gibbus*** (Fabricius) |
| **STENOCHIRONOMUS** (?subgenus) | ***hibernicus*** (Edwards) |
| **STICTOCHIRONOMUS** | ***maculipennis*** (Meigen) |
| | ***pictulus*** (Meigen) |
| | ***rosenschoeldi*** (Zetterstedt) |
| | ***sticticus*** (Fabricius) |
| **SYNENDOTENDIPES** | ***dispar*** (Meigen) |
| | ***impar*** (Walker) |
| **XENOCHIRONOMUS** | ***xenolabis*** (Kieffer in Thienemann & Kieffer) |
| | Tribe PSEUDOCHIRONOMINI |
| **PSEUDOCHIRONOMUS** | ***prasinatus*** (Staeger) |
| | Tribe TANYTARSINI |
| **CLADOTANYTARSUS** | ***atridorsum*** Kieffer |
| | ***difficilis*** Brundin |
| | ***mancus*** (Walker) |
| | ***nigrovittatus*** (Goetghebuer) |
| | ***vanderwulpi*** (Edwards) |
| **CORYNOCERA** | ***ambigua*** Zetterstedt |
| **MICROPSECTRA** | ***apposita*** (Walker) |
| | ***aristata*** Pinder |
| | ***atrofasciata*** (Kieffer) |
| | ***bidentata*** (Goetghebuer) |
| | ***contracta*** Reiss |
| | ***fusca*** (Meigen) |
| | ***groenlandica*** Andersen |
| | ***junci*** (Meigen) |
| | ***lindrothi*** Goetghebuer in Goetghebuer & Lindroth |
| | ***notescens*** (Walker) |
| | ***recurvata*** Goetghebuer |

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| **NEOZAVRELIA** | ***luteola*** Goetghebuer in Goetghebuer & Thienemann |
| **PARAPSECTRA** | ***nana*** (Meigen) |
| **PARATANYTARSUS** | ***austriacus*** (Kieffer in Albrecht) |
| | ***bituberculatus*** (Edwards) |
| | ***dimorphis*** Reiss |
| | ***dissimilis*** (Johannsen) |
| | ***grimmii*** (Schneider) |
| | ***inopertus*** (Walker) |
| | ***intricatus*** (Goetghebuer) |
| | ***laccophilus*** (Edwards) |
| | ***penicillatus*** (Goetghebuer) |
| | ***tenuis*** (Meigen) |
| **RHEOTANYTARSUS** | ***curtistylus*** (Goetghebuer) |
| | ***distinctissimus*** (Brundin) |
| | ***nigricauda*** Fittkau |
| | ***pentapoda*** (Kieffer) |
| | ***photophilus*** (Goetghebuer) |
| | ***rhenanus*** Klink |
| **STEMPELLINA** | ***bausei*** (Kieffer) |
| **STEMPELLINELLA** | ***brevis*** (Edwards) |
| **TANYTARSUS** | ***bathophilus*** Kieffer |
| | ***brundini*** Lindeberg |
| | ***buchonius*** Reiss & Fittkau |
| | ***chinyensis*** Goetghebuer |
| | ***curticornis*** Kieffer |
| | ***debilis*** (Meigen) |
| | ***eminulus*** (Walker) |
| | ***excavatus*** Edwards |
| | ***glabrescens*** Edwards |
| | ***gracilentus*** (Holmgren) |
| | ***gregarius*** Kieffer |
| | ***heusdensis*** Goetghebuer |
| | ***lestagei*** (aggregate) |
| | ***medius*** Reiss & Fittkau |
| | ***pallidicornis*** (Stephens in Walker) |
| | ***quadridentatus*** Brundin |
| | ***signatus*** (van der Wulp) |

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|---|---|
| | ***striatulus*** Lindeberg |
| | ***sylvaticus*** (van der Wulp) |
| | ***usmaensis*** Pagast |
| **VIRGATANYTARSUS** | ***arduennensis*** (Goetghebuer) |
| | ***triangularis*** (Goetghebuer) |
| **ZAVRELIA** | ***pentatoma*** Kieffer |

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## Family **CULICIDAE** (18 species)

A checklist of the eighteen species and their known distribution in Ireland is given by Ashe *et al.* (1991). In Britain, the total number of recorded species stands at 32 and of the additional 16 species at least eight can be expected to occur in Ireland. The *Anopheles maculipennis* complex contains two species in the British Isles, *A. atroparvus* van Thiel and *A. messeae* Falleroni, but which one (or if both species) occurs in Ireland is unknown at present.

### Subfamily **ANOPHELINAE**

| | |
|---|---|
| **ANOPHELES (ANOPHELES)** | ***algeriensis*** Theobald |
| | ***claviger*** (Meigen) |
| | ***maculipennis*** complex |
| | ***plumbeus*** Stephens |

### Subfamily **CULICINAE**

| | |
|---|---|
| **AEDES (AEDES)** | ***cinereus*** Meigen |
| **AEDES (OCHLEROTATUS)** | ***cantans*** Meigen |
| | ***caspius*** (Pallas) |
| | ***detritus*** (Haliday) |
| | ***dorsalis*** (Meigen) |
| | ***punctor*** (Kirby) |
| | ***rusticus*** (Rossi) |

**COQUILLETTIDIA**

| | |
|---|---|
| **(COQUILLETTIDIA)** | ***richiardii*** (Ficalbi) |
| **CULEX (CULEX)** | ***pipiens*** Linnaeus |
| **CULISETA (CULICELLA)** | ***litorea*** (Shute) |
| | ***morsitans*** (Theobald) |
| **CULISETA (CULISETA)** | ***alaskaensis*** (Ludlow) |
| | ***annulata*** (Schrank) |
| | ***subochrea*** (Edwards) |

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Family **CYLINDROTOMIDAE** (1 species)

A single aquatic species, *Phalacrocera replicata* (Linnaeus), was added to the Irish fauna several years ago (Ashe *et al.* 1991). In Britain two aquatic species are recorded with the additional species being *Triogma trisulcata* (Schummel) which has not yet been found in Ireland.

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| **PHALACROCERA** | ***replicata*** (Linnaeus) |

**References**

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Family **DIXIDAE** (13 species)

A review of the Irish species is given in Ashe (1986). Further records are published in Ashe and O'Connor (1990) and Blackith *et al.* (1991) and the current total stands at 13 species. In Britain, 15 species are recorded, the two additional species not found in Ireland being *Dixella graeca* (Pandazis) and *D. obscura* (Loew).

Although *Dixa maculata* Meigen was not included in Ashe (1986) as definitely Irish, the synonymy of *D. maculata* (Chandler, in press) with *D. moesta* Haliday in Curtis (1832), with the latter having a

type locality of "Ireland", confirms that *D. maculata* does occur here though there are no modern records.

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|---|---|
| **DIXA** | ***dilatata*** Strobl |
| | ***nebulosa*** Meigen |
| | ***maculata*** Meigen |
| | ***nubilipennis*** Curtis |
| | ***puberula*** Loew |
| | ***submaculata*** Edwards |
| **DIXELLA** | ***aestivalis*** Meigen |
| | ***amphibia*** De Geer |
| | ***attica*** Pandazis |
| | ***autumnalis*** Meigen |
| | ***filicornis*** Edwards |
| | ***martinii*** Peus |
| | ***serotina*** Meigen |

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## Family **DOLICHOPODIDAE** (54 species)

A provisional list of the Irish Dolichopodidae was published by Dyte (1969) and additional records of some aquatic species are given in Speight (1987), Speight and Meuffels (1989), Blackith *et al.* (1991) and Speight *et al.* (1992). The most recent list of all Irish species in given in Chandler (in press). A total of 54 aquatic Dolichopididae are known from Ireland. Two species, *Argyra argyria* (Meigen) and *Dolichopus* (*Dolichopus*) *arbustorum* Stannius, are excluded from the list given below

because they are doubtfully Irish and require confirmation. Two species, *Campsicnemus dasycnemus* Loew (Chandler, 1989) and *Syntormon setosum* Parent (Speight and Meuffels, 1989), have been recorded from Ireland which have not yet been found in Britain. However, it is estimated that there are 28 aquatic species (including the two doubtful Irish species noted above) found in Britain which are not known from Ireland. The total number of aquatic species in the British Isles is estimated to be 82. In some of the genera listed below, there are additional species known from Ireland and Britain and it is likely that some of these will eventually prove to be aquatic.

Subfamily **DIAPHORINAE**

| | |
|---|---|
| **ARGYRA** | ***argentina*** (Meigen) |
| | ***diaphana*** (Fabricius) |
| | ***elongata*** (Zetterstedt) |
| | ***leucocephala*** (Meigen) |
| | ***perplexa*** Becker |
| | ***vestita*** (Wiedemann) |

Subfamily **DOLICHOPODINAE**

| | |
|---|---|
| **DOLICHOPUS (DOLICHOPUS)** | ***atratus*** Meigen |
| | ***nubilus*** Meigen |
| | ***pennatus*** Meigen |
| | ***phaeopus*** Haliday in Walker |
| | ***plumipes*** (Scopoli) |
| | ***signatus*** Meigen |
| | ***trivialis*** Haliday |
| | ***urbanus*** Meigen |
| **HERCOSTOMUS (GYMNOPTERNUS)** | ***aerosus*** (Fallén) |
| | ***assimilis*** (Staeger) |
| **POECILOBOTHRUS** | ***nobilitatus*** (Linnaeus) |
| **SYBISTROMA** | ***obscurellum*** (Fallén) |
| **TACHYTRECHUS** | ***insignis*** (Stannius) |
| | ***notatus*** (Stannius) |

Subfamily **HYDROPHORINAE**

| | |
|---|---|
| **HYDROPHORUS** | ***albiceps*** Frey |
| | ***balticus*** (Meigen) |
| | ***bipunctatus*** (Lehmann) |

| | |
|---|---|
| | ***litoreus*** Fallén |
| | ***nebulosus*** Fallén |
| | ***oceanus*** (Macquart) |
| | ***praecox*** (Lehmann) |
| **LIANCALUS** | ***virens*** (Scopoli) |
| **MACHAERIUM** | ***maritimae*** Haliday |
| **ORTHOCERATIUM** | ***lacustre*** (Scopoli) |
| | Subfamily **RHAPHIINAE** |
| **RHAPHIUM** | ***albomaculatum*** (Becker) |
| | ***brevicorne*** Curtis |
| | ***consobrinum*** Zetterstedt |
| | ***elegantulum*** (Meigen) |
| | ***riparium*** (Meigen) |
| | Subfamily **SYMPYCNINAE** |
| **ANEPSIOMYIA** | ***flaviventris*** (Meigen) |
| **CAMPSICNEMUS** | ***armatus*** (Zetterstedt) |
| | ***compeditus*** Loew |
| | ***curvipes*** (Fallén) |
| | ***dasycnemus*** Loew |
| | ***loripes*** (Haliday) |
| | ***pusillus*** (Meigen) |
| | ***scambus*** (Fallén) |
| **SYNTORMON** | ***aulicum*** (Meigen) |
| | ***mikii*** Strobl |
| | ***monile*** (Haliday in Walker) |
| | ***pallipes*** (Fabricius) |
| | ***pumilum*** (Meigen) |
| | ***setosum*** Parent |
| | ***sulcipes*** (Meigen) |
| | ***tarsatum*** (Fallén) |
| | ***zelleri*** (Loew) |
| **TEUCHOPHORUS** | ***monacanthus*** Loew |
| | ***spinigerellus*** (Zetterstedt) |

*Occ. Pub. Ir. biogeog. Soc.* No. 3 (1998)

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Speight, M.C.D. (1987) *Achalcus melanotrichus*, *Systenus leucurus* and *S. pallipes* (Diptera: Dolichopodidae) new to Ireland, bred from rot-holes in *Betula*, *Fagus* and *Acer pseudoplatanus*, with a comment on the significance of these records. *Ir. Nat. J.* **22**: 250-252.

Speight, M.C.D., Blackith, R.M. and de Courcy Williams, M. (1992) *Calliopum elisae*, *Hercostomus nanus*, *Psacadina verbekei*, *Systenus alpinus* and *Zabrachia tenella*. Insects new to Ireland. *Ir. Nat. J.* **24**: 147-151.

Speight, M.C.D. and Meuffels, H.G.J. (1989) *Campsicnemus compeditus*, *Melanostolus melancholicus*, *Syntormon setosus* and *Systenus pallidus* (Diptera: Dolichopodidae), insects new to Ireland. *Ir. Nat. J.* **23**: 92-97.

## Family **EMPIDIDAE** (47 species)

The first modern review of the Irish Empididae is given in Chandler (1978). A checklist, including additions to the Irish fauna, is included in Lavery *et al.* (1993). Recently *Dolichocephala oblongoguttata* (Dale) was added to the Irish list by Drake and Chandler (1997). The majority of Empididae are terrestrial but it is estimated that there are 110 species in the British Isles which are aquatic of which 47 occur in Ireland - all the Irish species occur in Britain.

### Subfamily **CLINOCERINAE**

| | |
|---|---|
| **CLINOCERA** | ***fontinalis*** (Haliday) |
| | ***nigra*** Meigen |
| | ***stagnalis*** (Haliday) |
| **DOLICHOCEPHALA** | ***guttata*** (Haliday) |
| | ***irrorata*** (Fallén) |
| | ***oblongoguttata*** (Dale) |
| **KOWARZIA** | ***bipunctata*** (Haliday) |
| **WIEDEMANNIA (CHAMAEDIPSIA)** | ***lota*** Walker |
| **WIEDEMANNIA (WIEDEMANNIA)** | ***bistigma*** (Curtis) |

| | |
|---|---|
| | ***insularis*** Collin |
| | Subfamily **EMPIDINAE** |
| **HILARA** | ***anglodanica*** Lundbeck |
| | ***beckeri*** Strobl |
| | ***brevistyla*** Collin |
| | ***chorica*** (Fallén) |
| | ***clavipes*** (Harris) |
| | ***cornicula*** Loew |
| | ***flavipes*** Meigen |
| | ***galactoptera*** Strobl |
| | ***intermedia*** (Fallén) |
| | ***interstincta*** (Fallén) |
| | ***litorea*** (Fallén) |
| | ***longivittata*** Zetterstedt |
| | ***lundbecki*** Frey |
| | ***manicata*** Meigen |
| | ***maura*** (Fabricius) |
| | ***monedula*** Collin |
| | ***morata*** Collin |
| | ***nigrina*** (Fallén) |
| | ***obscura*** Meigen |
| | ***quadriseta*** Collin |
| | ***quadrivittata*** Meigen |
| | ***rejecta*** Collin |
| | ***subpollinosa*** Collin |
| | ***thoracica*** Macquart |
| | Subfamily **HEMERODROMINAE** |
| **CHELIFERA** | ***concinnicauda*** Collin |
| | ***diversicauda*** Collin |
| | ***pectinicauda*** Collin |
| | ***precatoria*** (Fallén) |
| | ***trapezina*** (Zetterstedt) |
| **CHELIPODA** | ***albiseta*** (Zetterstedt) |
| | ***vocatoria*** (Fallén) |
| **HEMERODROMIA** | ***baetica*** Collin |

***oratoria*** (Fallén)
***raptoria*** Meigen
***unilineata*** Zetterstedt

Subfamily **TRICHOPEZINAE**

**HELEODROMIA** ***immaculata*** Haliday

**References**

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Family **EPHYDRIDAE** (19 species)

The Irish fauna has not been intensively studied though the older records have been reviewed by de Courcy Williams (1989) and some new locality records are given for some species in Blackith *et al.* (1991). There are 137 species of ephydrid recorded in Britain (Chandler, in press) of which 38 species are known to be aquatic. The habitat preference of many species is unknown and at least some of these are likely to be aquatic. In Ireland, 19 aquatic species have been recorded though additional species await discovery.

Subfamily **EPHYDRINAE**

Tribe EPHYDRINI

**COENIA** ***palustris*** (Fallén)
**EPHYDRA (EPHYDRA)** ***riparia*** Fallén
**PARACOENIA (PARACOENIA)** ***fumosa*** (Stenhammar)
**SETACERA** ***micans*** (Haliday)

Tribe PARYDRINI

**PARYDRA (CHAETOAPNAEA)** ***pusilla*** (Meigen)

Tribe SCATELLINI

**SCATELLA** ***paludum*** (Meigen)
***stagnalis*** (Fallén)

Subfamily **GYMNOMYZINAE**

Tribe OCHTHERINI

**OCHTHERA (OCHTHERA)** ***mantis*** (De Geer)

Subfamily **HYDRELLIINAE**

Tribe HYDRELLIINI

**HYDRELLIA** ***albilabris*** (Meigen)
***cardamines*** Haliday
***griseola*** (Fallén)
***maura*** Meigen
***ranunculi*** Haliday
***subalbiceps*** Collin

Tribe NOTIPHILINI

**NOTIPHILA (AGROLIMNA)** ***uliginosa*** Haliday
**NOTIPHILA (NOTIPHILA)** ***annulipes*** Stenhammar
***cinerea*** Fallén
***riparia*** Meigen

Subfamily **ILYTHEINAE**

Tribe HYADININI

**PELINA** ***aenescens*** (Stenhammar)

## References

Blackith, R. E., Blackith, R. M., Speight, M. C. D. and de Courcy Williams, M. (1991) A first list of Diptera from the Murrough, Co. Wicklow, Ireland, including 663 species and 140 breeding records. *Bull. Ir. biogeog. Soc.* **14**: 185-253.

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*Occ. Pub. Ir. biogeog. Soc.* No. 3 (1998)

## Family **HYBOTIDAE** (4 species)

Four aquatic species of Hybotidae are known from Ireland (Chandler, 1978; Lavery *et al.*, 1993). One additional aquatic species, *Stilpon sublunatus* Collin, is known from Britain which has not been found in Ireland.

### Subfamily **TACHYDROMIINAE**

Tribe DRAPETINI

**STILPON**

***graminum*** (Fallén)
***lunatus*** (Haliday in Walker)
***nubilus*** Collin
***subnubilus*** Chvála

### References

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## Family **LIMONIIDAE** (99 species)

There are a considerable number of references which contain records of Limoniidae in Ireland. However only the more recent publications are included here because a detailed review of the records, literature and distribution of Irish species is to be published in a series of papers of which Ashe *et al.* (in press) is expected to be published in 1998. Mendl (1987) included many distribution records as well as adding a considerable number of species which were new to Ireland. Since then additional records and/or species have been added by Nash (1989), Hancock (1990), Ashe *et al.* (1991), Blackith *et al.* (1991) and Ashe and O'Connor (1993). There are some species recorded for Ireland in the 19th century literature which are excluded from the list below because they are doubtful and require confirmation.

To date there are 216 species of Limoniidae recorded from the British Isles and most (188 species) are aquatic though an estimated 28 species are regarded as having terrestrial larvae. In Ireland 115 species are recorded (99 aquatic and 16 terrestrial) - the list below includes all 115 species but the terrestrial ones are marked with a # symbol and are excluded from the aquatic totals. However, there are two aquatic species, *Hoplolabis* (*Parilisia*) *yezoana* (Alexander) and *Orimarga* (*Orimarga*) *attenuata* (Walker), recorded from Ireland which have not yet been found in Britain. The nomenclature in general follows Savchenko *et al.* (1992) apart from any more recent changes

included in Chandler (in press). Because there is at present a considerable amount of research being done on the Irish fauna, additions to the present list are expected.

Subfamily **CHIONEINAE**

| | | |
|---|---|---|
| **CHEILOTRICHIA (CHEILOTRICHIA)** | ***imbuta*** (Meigen) | |
| **CHEILOTRICHIA (EMPEDA)** | ***cinerascens*** (Meigen) | # |
| **CRYPTERIA** | ***limnophiloides*** Bergroth | |
| **ELLIPTEROIDES (ELLIPTEROIDES)** | ***lateralis*** (Macquart) | |
| **ERIOCONOPA** | ***diuturna*** (Walker) | |
| | ***trivialis*** (Meigen) | |
| **ERIOPTERA (ERIOPTERA)** | ***flavata*** (Westhoff) | |
| | ***fuscipennis*** Meigen | |
| | ***lutea*** Meigen | |
| | ***nielseni*** de Meijere | |
| | ***squalida*** Loew | |
| **GONEMPEDA** | ***flava*** (Schummel) | |
| **GONOMYIA** | ***bifida*** Tonnoir | |
| | ***conoviensis*** Barnes | |
| | ***dentata*** de Meijere | |
| | ***lucidula*** de Meijere | |
| | ***simplex*** Tonnoir | |
| | ***tenella*** (Meigen) | |
| **HOPLOLABIS (PARILISIA)** | ***areolata*** (Siebke) | |
| | ***yezoana*** (Alexander) | |
| **ILISIA** | ***maculata*** (Meigen) | |
| **MOLOPHILUS** | ***appendiculatus*** (Staeger) | |
| | ***ater*** (Meigen) | |
| | ***bifidus*** Goetghebuer | |
| | ***bihamatus*** de Meijere | |
| | ***cinereifrons*** de Meijere | |
| | ***crassipygus*** de Meijere | |
| | ***czizeki*** Lackschewitz | |
| | ***flavus*** Goetghebuer | |
| | ***griseus*** (Meigen) | |
| | ***lackschewitzianus*** Alexander | |
| | ***medius*** de Meijere | |
| | ***obscurus*** (Meigen) | |

| | | |
|---|---|---|
| | ***occultus*** de Meijere | |
| | ***ochraceus*** (Meigen) | |
| | ***pleuralis*** de Meijere | |
| | ***propinquus*** (Egger) | |
| | ***pusillus*** Edwards | |
| | ***serpentiger*** Edwards | |
| **NEOLIMNOPHILA** | ***carteri*** (Tonnoir) | |
| **ORMOSIA (ORMOSIA)** | ***albitibia*** Edwards | |
| | ***depilata*** Edwards | |
| | ***hederae*** (Curtis) | |
| | ***nodulosa*** (Macquart) | # |
| | ***pseudosimilis*** (Lundström) | |
| **RHYPHOLOPHUS** | ***varius*** (Meigen) | |
| **SYMPLECTA (PSILOCONOPA)** | ***stictica*** (Meigen) | |
| **SYMPLECTA (SYMPLECTA)** | ***hybrida*** (Meigen) | |
| **TASIOCERA (DASYMOPHILUS)** | ***collini*** Freeman | # |
| | ***fuscescens*** (Lackschewitz) | # |
| | ***murina*** (Meigen) | # |
| **TRIMICRA** | ***pilipes*** (Fabricius) | |
| | Subfamily **DACTYLOLABINAE** | |
| **DACTYLOLABIS** | ***sexmaculata*** (Macquart) | |
| | Subfamily **LIMNOPHILINAE** | |
| **AUSTROLIMNOPHILA (AUSTROLIMNOPHILA)** | ***ochracea*** (Meigen) | # |
| **ELOEOPHILA** | ***apicata*** (Loew) | |
| | ***maculata*** (Meigen) | |
| | ***mundata*** (Loew) | |
| | ***submarmorata*** (Verrall) | |
| | ***trimaculata*** (Zetterstedt) | |
| **EPIPHRAGMA (EPIPHRAGMA)** | ***ocellare*** (Linnaeus) | # |
| **EUPHYLIDOREA** | ***aperta*** (Verrall) | |
| | ***dispar*** (Meigen) | |
| | ***lineola*** (Meigen) | |
| | ***meigenii*** Verrall | |
| **IDIOPTERA** | ***linnei*** Oosterbroek | |

| | | |
|---|---|---|
| **NEOLIMNOMYIA (BRACHYLIMNOPHILA)** | ***adjuncta*** (Walker) | |
| | ***nemoralis*** (Meigen) | |
| **NEOLIMNOMYIA (NEOLIMNOMYIA)** | ***batava*** (Edwards) | |
| | ***filata*** (Walker) | |
| **PARADELPHOMYIA (OXYRHIZA)** | ***fuscula*** (Loew) | |
| | ***senilis*** (Haliday) | |
| **PHYLIDOREA (PARAPHYLIDOREA)** | ***fulvonervosa*** (Schummel) | |
| **PHYLIDOREA (PHYLIDOREA)** | ***abdominalis*** Staeger | |
| | ***ferruginea*** (Meigen) | |
| | ***squalens*** (Zetterstedt) | |
| **PILARIA** | ***discicollis*** (Meigen) | |
| | ***fuscipennis*** (Meigen) | |
| | ***meridiana*** (Staeger) | |
| **PSEUDOLIMNOPHILA** | ***lucorum*** (Meigen) | |
| | ***sepium*** (Verrall) | |
| Subfamily **LIMONIINAE** | | |
| **ANTOCHA (ANTOCHA)** | ***vitripennis*** (Meigen) | |
| **DICRANOMYIA (DICRANOMYIA)** | ***autumnalis*** (Staeger) | |
| | ***chorea*** (Meigen) | # |
| | ***didyma*** Meigen | |
| | ***goritiensis*** (Mik) | |
| | ***lucida*** (de Meijere) | |
| | ***mitis*** (Meigen) (species complex) | |
| | ***modesta*** (Meigen) | |
| | ***omissinervis*** (de Meijere) | |
| | ***sera*** (Walker) | |
| **DICRANOMYIA (IDIOPYGA)** | ***danica*** (Kuntze) | |
| **DICRANOMYIA (MELANOLIMONIA)** | ***caledonica*** (Edwards) | |
| | ***morio*** (Fabricius) | |
| | ***stylifera*** (Lackschewitz) | |
| **DICRANOMYIA (NUMANTIA)** | ***fusca*** (Meigen) | |
| **DICRANOMYIA (SIVALIMNOBIA)** | ***aquosa*** (Verrall) | |
| **GERANOMYIA** | ***bezzii*** Alexander & Leonard | |
| | ***unicolor*** (Haliday) | |
| **HELIUS** | ***flavus*** (Walker) | |

| | | |
|---|---|---|
| | ***longirostris*** (Meigen) | |
| | ***pallirostris*** Edwards | |
| **LIMONIA** | ***flavipes*** (Fabricius) | # |
| | ***macrostigma*** (Schummel) | |
| | ***nubeculosa*** Meigen | # |
| | ***phragmitidis*** (Schrank) | # |
| | ***trivittata*** (Schummel) | |
| **LIPSOTHRIX** | ***remota*** (Walker) | |
| **METALIMNOBIA (METALIMNOBIA)** | ***bifasciata*** (Schrank) | # |
| | ***quadrinotata*** (Meigen) | # |
| **NEOLIMONIA** | ***dumetorum*** Meigen | # |
| **ORIMARGA (ORIMARGA)** | ***attenuata*** (Walker) | |
| | ***juvenilis*** (Zetterstedt) | |
| **RHIPHIDIA (RHIPHIDIA)** | ***ctenophora*** (Loew) | # |
| | ***maculata*** Meigen | # |
| **THAUMASTOPTERA** | ***calceata*** Mik | |

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## Family **MUSCIDAE** (5 species)

Since the publication of the revision of Irish Muscidae given in Nash (1979) only one additional aquatic species, *Limnophora exuta* Kowarz, has been added to the list (Nash and O'Connor 1982). Nash (1997) published a recent review of all the muscid species, including aquatic ones, occurring in Northern Ireland. In Britain, an additional five species are known bringing the total known aquatic muscid fauna in the British Isles to 10 species.

### Subfamily **LIMNOPHORINAE**

Tribe LIMNOPHORINI

| | |
|---|---|
| **LIMNOPHORA** | ***exuta*** Kowarz |
| | ***riparia*** (Fallén) |
| **LISPE** | ***litorea*** Fallén |
| | ***pygmaea*** Fallén |
| | ***tentaculata*** (De Geer) |

### References

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## Family **PEDICIIDAE** (13 species)

A detailed account of the Irish Pediciinae, which has recently been raised to family rank, is given in Ashe *et al.* (1995). Of the 15 Irish species 13 are aquatic. In Britain four additional aquatic species are recorded which bring the total known to occur in the British Isles to 17 species.

### Subfamily **PEDICIINAE**

| | |
|---|---|
| **DICRANOTA (DICRANOTA)** | ***bimaculata*** (Schummel) |
| | ***guerini*** Zetterstedt |

| | |
|---|---|
| **DICRANOTA (PARADICRANOTA)** | ***pavida*** (Haliday) |
| | ***subtilis*** Loew |
| **DICRANOTA (LUDICIA)** | ***claripennis*** (Verrall) |
| | ***lucidipennis*** (Edwards) |
| **DICRANOTA (RHAPHIDOLABIS)** | ***exclusa*** (Walker) |
| **PEDICIA (AMALOPIS)** | ***occulta*** (Meigen) |
| **PEDICIA (CRUNOBIA)** | ***littoralis*** (Meigen) |
| | ***straminea*** (Meigen) |
| **PEDICIA (PEDICIA)** | ***rivosa*** (Linnaeus) |
| **TRICYPHONA** | ***immaculata*** (Meigen) |
| | ***schummeli*** (Edwards) |

## Reference

Ashe, P., O'Connor, J. P., Chandler, P. J., Stubbs, A. E. Vane-Wright, R. I. and Blackith, R. E. (1995) The craneflies (Diptera) of Ireland. Part 1. Limoniidae: Pediciinae. *Bull. Ir. biogeog. Soc.* **18**: 136-147.

## Family **PSYCHODIDAE** (51 species)

Sixty species of moth-fly are recorded from Ireland (Withers and O'Connor, 1992) and 94 are found in Britain. Of these, 51 Irish and 81 British species may be regarded as aquatic although the life-histories of some psychodids are still unknown. Two aquatic species are recorded from Ireland but have not been found in Britain. These are *Panimerus goodi* (Vaillant and Withers, 1992) and *Mormia satchelli* (Jung) which are only known from Newbridge Fen, Co. Kildare. A total of 83 aquatic species occur therefore in the British Isles and additional species are likely to be found.

### Subfamily **PSYCHODINAE**

| | |
|---|---|
| | Tribe BRUNETTIINI |
| **ATRICHOBRUNETTIA** | ***angustipennis*** (Tonnoir) |
| | Tribe PERICOMINI |
| **BOREOCLYTOCERUS** | ***dalii*** (Eaton) |
| | ***ocellaris*** (Meigen) |
| **PERICOMA (PERICOMA)** | ***blandula*** Eaton |
| | ***diversa*** Tonnoir |
| | ***exquisita*** Eaton |
| | ***fallax*** Eaton |
| | ***pseudoexquisita*** Tonnoir |

| | |
|---|---|
| | ***rivularis*** Berdén |
| | ***tonnoiri*** Vaillant |
| | ***trifasciata*** (Meigen) |
| **PERICOMA (PNEUMIA)** | ***compta*** Eaton |
| | ***crispi*** Freeman |
| | ***mutua*** Eaton |
| | ***nubila*** (Meigen) |
| | ***palustris*** (Meigen) |
| | ***pilularia*** Tonnoir |
| | ***trivialis*** Eaton |
| **PERICOMA (ULOMYIA)** | ***cognata*** Eaton |
| | ***fuliginosa*** (Meigen) |
| **SZABOIELLA** | ***hibernica*** (Tonnoir) |
| **TONNOIRIELLA** | ***pulchra*** (Eaton) |
| | Tribe PSYCHODINI |
| **PSYCHODA** | ***albipennis*** Zetterstedt |
| | ***cinerea*** Banks |
| | ***gemina*** Eaton |
| | ***phalaenoides*** (Linnaeus) |
| **TINEARIA** | ***alternata*** (Say) |
| | Tribe TELMATOSCOPINI |
| **FEUERBORNIELLA** | ***obscura*** (Tonnoir) |
| **MORMIA** | ***satchelli*** (Jung) |
| **PANIMERUS** | ***albifacies*** (Tonnoir) |
| | ***denticulatus*** Krek |
| | ***goodi*** Vaillant and Withers |
| | ***maynei*** (Tonnoir) |
| | ***notabilis*** (Eaton) |
| **PARAMORMIA** | ***decipiens*** (Eaton) |
| | ***ustulata*** (Haliday in Walker) |
| **PERIPSYCHODA** | ***auriculata*** (Haliday in Curtis) |
| **TELMATOSCOPUS** | ***advenus*** Eaton |
| | ***ambiguus*** (Eaton) |
| | ***consors*** (Eaton) |
| | ***ellisi*** Withers |
| | ***labeculosus*** (Eaton) |
| | ***longicornis*** (Tonnoir) |

| | |
|---|---|
| | ***morulus*** (Eaton) |
| | ***parvulus*** Vaillant |
| | ***pseudolongicornis*** (Wagner) |
| | ***rothschildii*** Eaton |
| | ***tristis*** (Meigen) |
| **TELMATOSCOPUS** | ***lucifugus*** (Haliday in Walker) |

Subfamily **SYNCORACINAE**

| | |
|---|---|
| **SYCORAX** | ***silacea*** Haliday in Curtis |

**References**

Vaillant, F. and Withers, P. (1992) *Panimerus goodi* sp.n. from Ireland, with a description of other members of the *maynei* complex (Diptera: Psychodidae). *Ir. Nat. J.* **24**: 27-28.

Withers, P. and O'Connor, J. P. (1992) A preliminary account of the Irish species of moth fly (Diptera: Psychodidae). *Proc. R. Ir. Acad.* **92B**: 61-77.

Family **PTYCHOPTERIDAE** (6 species)

There are six species known from Ireland whereas seven are known from Britain, the additional British species being *Ptychoptera longicauda* (Tonnoir). The most recent account of the Irish species is given in Speight and O'Connor (1983) and the only other modern paper is Blackith *et al.* (1991) which includes a few additional records of *P. albimana* (Fabricius).

| | |
|---|---|
| **PTYCHOPTERA** | ***albimana*** (Fabricius) |
| | ***contaminata*** (Linnaeus) |
| | ***lacustris*** Meigen |
| | ***minuta*** Tonnoir |
| | ***paludosa*** Meigen |
| | ***scutellaris*** Meigen |

**References**

Blackith, R. E., Blackith, R. M., Speight, M. C. D. and de Courcy Williams, M. (1991) A first list of Diptera from the Murrough, Co. Wicklow, Ireland, including 663 species and 140 breeding records. *Bull. Ir. biogeog. Soc.* **14**: 185-253.

Speight, M. C. D. and O'Connor, J. P. (1983) The Irish Ptychopteridae (Diptera). *Bull. Ir. biogeog. Soc.* **5**: 29-37.

## Family **RHAGIONIDAE** (1 species)

There is only one recorded aquatic Irish species (Chandler, 1975) and some additional locality records for Co. Wicklow are given in Blackith *et al.* (1991). In Britain a second aquatic species, *Chrysopilus erythrophthalmus* Loew, is known.

**CHRYSOPILUS** ***cristatus*** (Fabricius)

### References

Blackith, R. E., Blackith, R. M., Speight, M. C. D. and de Courcy Williams, M. (1991) A first list of Diptera from the Murrough, Co. Wicklow, Ireland, including 663 species and 140 breeding records. *Bull. Ir. biogeog. Soc.* **14**: 185-253.

Chandler, P. J. (1975) An account of the Irish species of two-winged flies (Diptera) belonging to the families of larger Brachycera (Tabanoidea and Asiloidea). *Proc. R. Ir. Acad.* **75B**: 81-110.

## Family **SCATOPHAGIDAE** (6 species)

Apart from *Spaziphora hydromyzina* (Fallén), the other five species listed below are not usually regarded as aquatic. However, Chandler (1974) states that these species belong to a group of genera which have aquatic larvae, according to Vockeroth (in litt.), but they are not included as aquatic in Mol (1984). Consequently there are six aquatic species known from Ireland but nine occur in Britain, the additional species being *Acanthocnema* (*Acanthocnema*) *nigrimana* (Zetterstedt), *A.* (*Clinoceroides*) *glaucescens* (Loew) and *Hydromyza livens* (Fabricius). Some additional distribution records for two of the aquatic species are published in Irwin (1975) and Speight (1983) confirmed *Trichopalpus fraternus* (Meigen) as an Irish species. The larvae of *Coniosternum obscura* (Fallén) were found in Ireland feeding on the eggs of Trichoptera (Berté and Wallace, 1987).

### Subfamily **SCATHOPHAGINAE**

**CHAETOSA** ***punctipes*** (Meigen)
**CONISTERNUM** ***obscurum*** (Fallén)
**MICROPROSOPA** ***pallidicauda*** (Zetterstedt)
**POGONOTA** ***barbata*** (Zetterstedt)
**SPAZIPHORA** ***hydromyzina*** (Fallén)
**TRICHOPALPUS** ***fraternus*** (Meigen)

*Occ. Pub. Ir. biogeog. Soc.* No. 3 (1998)

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Berté, S.B. & Wallace, I.D. (1987) Larvae of *Coniosternum minuta* (Malloch) and *C. obscura* Fallén (Dipt., Scathophagidae) feeding on eggs of Trichoptera in Canada and Ireland. *Entomologist's mon. Mag.* **123**: 181-184.

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Irwin, A. G. (1975) Recent records of dung flies (Diptera, Scatophagidae) from Northern Ireland. *Ir. Nat. J.* **18**: 188-189.

Mol, A. W. M. (1984) Limnofauna Neerlandica. Een lijst van meercellige ongewervelde dieren aangetroffen in binnenwateren van Nederland. *Nieuwsbrief European Invertebrate Survey - Nederland*, Nummer 15, 124 pp.

Speight, M. C. D. (1983) *Cordilura aemula* and *Microprosopa pallidicauda* new to Ireland, *Trichopalpus fraternus* confirmed as an Irish insect and other records of Scathophagidae (Diptera). *Ir. Nat. J.* **21**: 165-167.

## Family **SCIOMYZIDAE** (39 species)

An account of the distribution of the Irish species was published by Chandler (1972) and Speight (1979) produced a checklist. Since the publication of these two papers, records of additional species have been added in several papers (Speight 1982, 1988, 1995; Blackith *et al.*, 1991). There are an estimated 48 aquatic species in Britain and of these 39 occur in Ireland. At least a few of the additional species known from Britain can be expected to occur in Ireland.

### Subfamily **SCIOMYZINAE**

#### Tribe SCIOMYZINI

| | |
|---|---|
| **COLOBAEA** | ***bifasciella*** (Fallén) |
| | ***punctata*** (Lundbeck) |
| **DITAENIELLA** | ***grisescens*** (Meigen) |
| **PHERBELLIA** | ***argyra*** Verbeke |
| | ***brunnipes*** (Meigen) |
| | ***griseola*** (Fallén) |
| | ***nana*** (Fallén) |
| | ***schoenherri*** (Fallén) |
| | ***ventralis*** (Fallén) |
| **PTEROMICRA** | ***angustipennis*** (Staeger) |
| | ***glabricula*** (Fallén) |

| | |
|---|---|
| | ***leucopeza*** (Meigen) |
| | ***pectorosa*** (Hendel) |
| **SCIOMYZA** | ***dryomyzina*** Zetterstedt |
| | Tribe TETANOCERINI |
| **ANTICHAETA** | ***analis*** (Meigen) |
| | ***brevipennis*** (Zetterstedt) |
| **DICTYA** | ***umbrarum*** (Linnaeus) |
| **ELGIVA** | ***cucularia*** (Linnaeus) |
| | ***solicita*** (Harris) |
| **HYDROMYA** | ***dorsalis*** (Fabricius) |
| **ILIONE (ILIONE)** | ***albiseta*** (Scopoli) |
| **ILIONE (TUMIDICERCUS)** | ***lineata*** (Fallén) |
| **LIMNIA** | ***paludicola*** Elberg |
| **PHERBINA** | ***coryleti*** (Scopoli) |
| **PSACADINA** | ***verbekei*** Rozkosny in Knutson, Rozkosny & Berg |
| | ***zernyi*** (Mayer) |
| **RENOCERA** | ***pallida*** (Fallén) |
| | ***striata*** (Meigen) |
| | ***stroblii*** Hendel |
| **SEPEDON** | ***sphegea*** (Fabricius) |
| | ***spinipes*** (Scopoli) |
| **TETANOCERA** | ***arrogans*** Meigen |
| | ***ferruginea*** Fallén |
| | ***freyi*** Stackelberg |
| | ***fuscinervis*** (Zetterstedt) |
| | ***hyalipennis*** von Roser |
| | ***punctifrons*** Rondani |
| | ***robusta*** Loew |
| | ***silvatica*** Meigen |

## References

Blackith, R. E., Blackith, R. M., Speight, M. C. D. and de Courcy Williams, M. (1991) A first list of Diptera from the Murrough, Co. Wicklow, Ireland, including 663 species and 140 breeding records. *Bull. Ir. biogeog. Soc.* **14**: 185-253.

Chandler, P. J. (1972) The distribution of snail-killing flies (Diptera: Sciomyzidae) in Ireland. *Proc. Brit. ent. Nat. Hist. Soc.* **5**: 1-21.

Chandler, P. J. (ed.) (in press) A checklist of insects of the British Isles (new series). Part 1: Diptera (incorporating a list of Irish Diptera). *Handbk Ident. Br. Insects* **12** (2).

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Speight, M. C. D. (1982) *Acrocera globulus*, *Limnia paludicola* and *Sphaerophoria loewi*: insects new to Ireland. *Ir. Nat. J.* **20**: 369-372.

Speight, M. C. D. (1988) *Elgiva solicita*, *Chyromya flava* and *Paykullia maculata*: insects new to Ireland. *Ir. Nat. J.* **22**: 415-416.

Speight, M. C. D. (1995) *Paragus constrictus*, *Pteromicra pectorosa* and *Stegana similis*: insects new to Ireland and *Stegana coleoptrata*, presence in Ireland confirmed (Diptera). *Ir. Nat. J.* **25**: 28-32.

## Family **SIMULIIDAE** (26 species)

Frost (1942) recorded several simuliid species from the upper reaches of the River Liffey. A preliminary account of the Irish species was given in Fahy (1972) who recorded 15 species. In Crosskey's (1991) checklist, 23 species are listed for Ireland. By combining the records in Fahy (1972), Dowling *et al.* (1981), Schröder and Schweder (1986), Schröder (1987, 1988), Bass (1990, 1998) and Crosskey (1991) the total number of Irish species is 26. Two species, *Simulium posticatum* Meigen and *S. tuberosum* (Lundström), are doubtfully recorded from Ireland and are excluded from the list below. In Britain, a total of 33 species are known.

### Subfamily **SIMULIINAE**

#### Tribe PROSIMULIINI

| | |
|---|---|
| **PROSIMULIUM** | ***hirtipes*** (Fries) |
| | ***latimucro*** (Enderlein) |
| | ***tomosvaryi*** (Enderlein) |

#### Tribe SIMULIINI

| | |
|---|---|
| **SIMULIUM (BOOPHTHORA)** | ***erythrocephalum*** (De Geer) |
| **SIMULIUM (EUSIMULIUM)** | ***angustipes*** Edwards |
| | ***aureum*** Fries |
| | ***velutinum*** (Santos Abreu) |
| **SIMULIUM (HELLICHIELLA)** | ***latipes*** (Meigen) |
| **SIMULIUM (NEVERMANNIA)** | ***angustitarse*** (Lundström) |
| | ***armoricanum*** Doby & David |
| | ***cryophilum*** (Rubzov) |
| | ***dunfellense*** Davies |

| | |
|---|---|
| | ***juxtacrenobium*** Bass & Blockhouse |
| | ***naturale*** Davies |
| | ***urbanum*** Davies |
| | ***vernum*** Macquart (spp. complex) |
| **SIMULIUM (SIMULIUM)** | ***argyreatum*** Meigen |
| | ***intermedium*** Roubaud |
| | ***noelleri*** Friederichs |
| | ***ornatum*** Meigen (spp. complex) |
| | ***reptans*** (Linnaeus) |
| | ***rostratum*** (Lundström) |
| | ***trifasciatum*** Curtis |
| | ***variegatum*** Meigen |
| **SIMULIUM (WILHELMIA)** | ***equinum*** (Linnaeus) |
| | ***lineatum*** (Meigen) |

## References

Bass, J. (1990) Some records of blackflies (Diptera: Simuliidae) from Co. Kerry. *Ir. Nat. J.* **23**: 305-307.

Bass, J. (1998) Last-instar larvae and pupae of the Simuliidae of Britain and Ireland. *Scient. Publs Freshwat. Biol. Ass.* No. **55**.

Crosskey, R. W. (1991) A new checklist of the blackflies of Britain and Ireland, with geographical and type information (Diptera: Simuliidae). *Entomologist's Gaz.* **42**: 206-217.

Dowling, C., O'Connor, J. P. and O'Grady, M. F. (1981) A baseline survey of the Caragh, an unpolluted river in southwest Ireland: observations on the macroinvertebrates. *J. life Sci. R. Dubl. Soc.* **2**: 147-159.

Fahy, E. (1972) A preliminary account of the Simuliidae (Diptera) in Ireland, with observations on the growth of three species. *Proc. R. Ir. Acad.* **72B**: 75-81.

Frost, W. E. (1942) R. Liffey Survey IV. The fauna of the submerged "mosses" in an acid and an alkaline water. *Proc. R. Ir. Acad.* **47B**: 293-369.

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Schröder, P. (1988) Distribution patterns of blackfly (Diptera: Simuliidae) associations in two Irish river systems. *Hydrobiologia* **164**: 149-160.

Schröder, P. and Schweder, H. (1986) Kriebelmücken (Diptera: Simuliidae) im county Kerry, Südwest Irland. *Z. angew. Ent.* **96**: 85-91.

*Occ. Pub. Ir. biogeog. Soc.* No. 3 (1998)

## Family **STRATIOMYIDAE** (13 species)

The species and their known distribution within Ireland is reviewed in Chandler (1975). There are 13 and 26 aquatic species recorded from Ireland and Britain respectively. Additional records of some aquatic species from Co. Wicklow are given in Blackith *et al.* (1991).

### Subfamily **CLITELLARIINAE**

| | |
|---|---|
| **NEMOTELUS (CAMPTOPELTA)** | ***nigrinus*** Fallén |
| **NEMOTELUS (NEMOTELUS)** | ***notatus*** Zetterstedt |
| | ***pantherinus*** Linnaeus |
| | ***uliginosus*** Linnaeus |
| **OXYCERA** | ***fallenii*** Staeger |
| | ***morrisii*** Curtis |
| | ***nigricornis*** Olivier |
| | ***pardalina*** Meigen |
| | ***pygmaea*** Fallén |
| | ***trilineata*** Fabricius |
| **VANOYIA** | ***tenuicornis*** (Macquart) |

### Subfamily **STRATIOMYINAE**

| | |
|---|---|
| **OPLODONTHA** | ***viridula*** (Fabricius) |
| **STRATIOMYS** | ***singularior*** (Harris) |

### References

Blackith, R. E., Blackith, R. M., Speight, M. C. D. and de Courcy Williams, M. (1991) A first list of Diptera from the Murrough, Co. Wicklow, Ireland, including 663 species and 140 breeding records. *Bull. Ir. biogeog. Soc.* **14**: 185-253.

Chandler, P. J. (1975) An account of the Irish species of two-winged flies (Diptera) belonging to the families of larger Brachycera (Tabanoidea and Asiloidea). *Proc. R. Ir. Acad.* **75B**: 81-110.

## Family **SYRPHIDAE** (43 species)

A detailed account of the Irish species was published by Speight *et al.* (1975) followed a few years later by an updated checklist (Speight, 1978). Since then, there have been a considerable number of nomenclatural changes and additions and the most complete current list for Ireland is included in Chandler (in press). Separation of the aquatic species from the terrestrial species is based on the

combined listing of aquatic species given in Venturi (1978), Mol (1984) and Chandler (in litt.). In the British Isles, 266 species of Syrphidae are recorded and of these 52 are aquatic. All of the 43 aquatic Irish species are known from Britain.

| | |
|---|---|
| **ANASIMYIA** | ***contracta*** Torp & Claussen |
| | ***lineata*** (Fabricius) |
| | ***lunulata*** (Meigen) |
| | ***transfuga*** (Linnaeus) |
| **ARCTOPHILA** | ***superbiens*** (Müller) |
| **CHRYSOGASTER** | ***cemiteriorum*** (Linnaeus) |
| | ***solstitialis*** (Fallén) |
| | ***virescens*** Loew |
| **ERISTALINUS (ERISTALINUS)** | ***sepulchralis*** (Linnaeus) |
| **ERISTALINUS (LATHYROPTHALMUS)** | ***aeneus*** (Scopoli) |
| **ERISTALIS (EOSERISTALIS)** | ***abusivus*** Collin |
| | ***arbustorum*** (Linnaeus) |
| | ***cryptarum*** (Fabricius) |
| | ***horticola*** (De Geer) |
| | ***interruptus*** (Poda) |
| | ***intricarius*** (Linnaeus) |
| | ***pertinax*** (Scopoli) |
| | ***rupium*** Fabricius |
| **ERISTALIS (ERISTALIS)** | ***tenax*** (Linnaeus) |
| **HELOPHILUS** | ***hybridus*** Loew |
| | ***pendulus*** (Linnaeus) |
| | ***trivittatus*** (Fabricius) |
| **LEJOGASTER** | ***metallina*** (Fabricius) |
| | ***tarsata*** (Megerle in Meigen) |
| **MELANOGASTER** | ***aerosa*** (Loew) |
| | ***hirtella*** Loew |
| **MYATHROPA** | ***florea*** (Linnaeus) |
| **NEOASCIA (NEOASCIA)** | ***podagrica*** (Fabricius) |
| | ***tenur*** (Harris) |
| **NEOASCIA (NEOASCIELLA)** | ***geniculata*** (Meigen) |
| | ***interrupta*** (Meigen) |
| | ***meticulosa*** (Scopoli) |

| | |
|---|---|
| | ***obliqua*** Coe |
| **ORTHONEVRA** | ***brevicornis*** Loew |
| | ***geniculata*** Meigen |
| | ***nobilis*** (Fallén) |
| **PARHELOPHILUS** | ***consimilis*** (Malm) |
| | ***versicolor*** (Fabricius) |
| **RIPONNENSIA** | ***splendens*** (Meigen) |
| **SERICOMYIA** | ***lappona*** (Linnaeus) |
| | ***silentis*** (Harris) |
| **SPHEGINA (SPHEGINA)** | ***clunipes*** (Fallén) |
| | ***elegans*** Schummel |

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Venturi, F. (1978) Syrphidae, pp. 479-481. *In*: Illies, J. (ed.) *Limnofauna Europaea*, 2nd edn. Gustav Fischer Verlag, Stuttgart. 534 pp.

## Family **TABANIDAE** (9 species)

A total of 30 species are currently known from Britain (Chandler, in press) of which 29 are aquatic (*Haematopota pluvialis* (Linnaeus) is terrestrial). Only nine aquatic species are recorded from Ireland. The first detailed review of the Irish distribution records is given in Chandler (1975). Additional records for some species are given in Blackith *et al.* (1991).

### Subfamily **CHRYSOPSINAE**

Tribe CHRYSOPSINI

| | |
|---|---|
| **CHRYSOPS (CHRYSOPS)** | ***caecutiens*** (Linnaeus) |
| | ***relictus*** Meigen |
| | ***sepulcralis*** (Fabricius) |

Subfamily **TABANINAE**

Tribe HAEMATOPOTINI

| | |
|---|---|
| **HAEMATOPOTA** | ***crassicornis*** Wahlberg |

Tribe TABANININI

| | |
|---|---|
| **ATYLOTUS** | ***fulvus*** (Meigen) |
| **HYBOMITRA** | ***montana*** (Meigen) |
| | ***muehlfeldi*** (Brauer in Brauer & Bergenstamm) |
| **TABANUS** | ***bromius*** Linnaeus |
| | ***sudeticus*** Zeller |

**References**

Blackith, R. E., Blackith, R. M., Speight, M. C. D. and de Courcy Williams, M. (1991) A first list of Diptera from the Murrough, Co. Wicklow, Ireland, including 663 species and 140 breeding records. *Bull. Ir. biogeog. Soc.* **14**: 185-253.

Chandler, P. J. (1975) An account of the Irish species of two-winged flies (Diptera) belonging to the families of larger Brachycera (Tabanoidea and Asiloidea). *Proc. R. Ir. Acad.* **75B**: 81-110.

Family **THAUMALEIDAE** (2 species)

An up to date review of the family in Ireland is given in Ashe (1987) and the only subsequent paper to appear is a brief note (O'Connor *et al.*, 1993) concerning *Thaumalea verralli* Edwards which was found in Co. Waterford. Three species are known from Britain, the additional species being *T. truncata* Edwards.

| | |
|---|---|
| **THAUMALEA** | ***testacea*** Ruthé |
| | ***verralli*** Edwards |

**References**

Ashe, P. (1987) The families Anisopodidae and Thaumaleidae (Diptera: Nematocera) in Ireland with comments on relevant Haliday manuscripts. *Bull. Ir. biogeog. Soc.* **10**: 107-123.

O'Connor, J. P., O'Connor, M. A. and Ashe, P. (1993) Records of *Thaumalea verralli* Edwards (Diptera) from Co. Waterford. *Ir. Nat. J.* **24**: 168.

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## Family **TIPULIDAE** (18 species)

There are a considerable number of references which contain records of Tipulidae in Ireland. However for the most part only the more recent publications are included here because a detailed review of the records, literature and distribution of Irish species is being prepared for publication. Feeney (1968) included distribution records from two counties as well as adding several species which were new to Ireland. Since then additional records of aquatic species have been added by Nash (1989), Hancock (1990), Ashe *et al.* (1991) and Blackith *et al.* (1991). Most of the species which occur in the British Isles are terrestrial but 22 species can be considered as aquatic of which 18 definitely occur in Ireland.

There are some species recorded for Ireland in the 19th century literature (Haliday, 1833; Walker, 1856) for which no museum reference material apparently exists and for which there are no recent records. One such example concerns the aquatic species, *T.* (*Platytipula*) *luteipennisis* Meigen, which require confirmation for Ireland and is excluded from the list below.

The nomenclature in general follows Oosterbroek and Theowald (1992) apart from any more recent changes included in Chandler (in press).

### Subfamily **TIPULINAE**

| | |
|---|---|
| | Tribe PRIONOCERINI |
| **PRIONOCERA** | ***turcica*** (Fabricius) |
| | Tribe TIPULINI |
| **TIPULA (ACUTIPULA)** | ***fulvipennis*** De Geer |
| | ***luna*** Westhoff |
| | ***maxima*** Poda |
| | ***vittata*** Meigen |
| **TIPULA (BERINGOTIPULA)** | ***unca*** Wiedemann |
| **TIPULA (PLATYTIPULA)** | ***melanoceros*** Schummel |
| **TIPULA (SAVTSHENKIA)** | ***subnodicornis*** Zetterstedt |
| **TIPULA (SCHUMMELIA)** | ***variicornis*** Schummel |
| | ***yerburyi*** Edwards |
| **TIPULA (TIPULA)** | ***oleracea*** Linnaeus |
| | ***subcunctans*** Alexander |
| **TIPULA (YAMATOTIPULA)** | ***couckei*** Tonnoir in Goetghebuer & Tonnoir |
| | ***lateralis*** Meigen |
| | ***marginella*** Theowald |
| | ***montium*** Egger |
| | ***pierrei*** Tonnoir in Goetghebuer & Tonnoir |
| | ***pruinosa*** Wiedemann |

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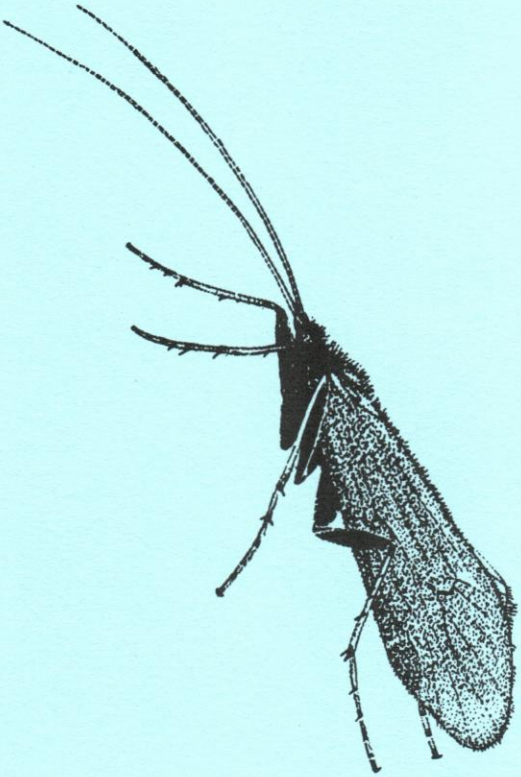

Adult of *Apatania auricula* (Forsslund) (Trichoptera: Limnephilidae), illustration by Norman Hickin.