

MYRIAPOD (CHILOPODA AND DIPLOPODA) NOTES FROM SOME IRISH OFFSHORE ISLANDS

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INTRODUCTION

The primary purpose of this article is to give details of myriapod collections which I made on 4 Irish offshore islands, Cape Clear, Inishmore, Tory and Ireland's Eye, in recent years. The opportunity has also been taken to collate and briefly review all other available Irish island myriapod records. I have been able to trace records from a total of 15 islands, a surprisingly large number, given that these groups have received very little attention from Irish naturalists. Many of these records were made during the late 19th and early 20th centuries, by G. H. Carpenter, W. F. Johnson and S. M. Selbie. In most cases information consists of incidental observations of the larger species. An exception however concerns Clare Island, Co Mayo which was surveyed intensively during the Clare Island Survey 1909-1911. The myriapods of the island were dealt with by Johnson (1912). I have summarised all available offshore records in Table 1.

RESULTS

CAPE CLEAR ISLAND, WEST CORK

I visited Cape Clear Island for 2 days in August 1996. Unfortunately the visit coincided with a period of almost incessant rain and so my myriapod recording was not as thorough as had been hoped. This is one of the best known Irish islands from a natural history point of view. It has been the site of a bird observatory since 1959, and many of the visiting ornithologists have been involved in recording the flora and invertebrate fauna. These records were collated by Sharrock (1973), and there are also scattered non-ornithological notes in the *Cape Clear Bird Observatory Reports*, but it appears that no information has been gathered on the myriapods. The plants include a number of Irish rarities, notably the hairy bird's-foot trefoil, *Lotus subbiflorus* Lag. The flora of the islands of Roaringwater Bay, including Cape Clear, has been reviewed by Akeroyd *et.al.* (1996). Cape Clear is quite a hilly island, and the soils are generally acid. The underlying bedrock is Old Red Sandstone. There are no woodlands on the island, the most interesting habitat being south facing coastal heaths. Most of the island lies in the 10km square V92, however a small portion just extends into V91. This portion represents, with the exception of nearby Fastnet Rock, the southernmost part of Ireland. The following myriapods were encountered on the island.

Chilopoda: *Schendyla nemorensis* (Koch) (3 records), *Strigamia maritima* (Lea record) *Geophilus carpophagus* Leach (1), *Necrophloeophagus flavus* (De Geer) *Cryptops hortensis* Leach (1), *Lithobius variegatus* Leach (3), *L. forficatus* (L) (*L. melanops* Newport (3), *L. microps* Meinert (3) and *Lamcytes fulvicornis* Meinert (1

Diplopoda: *Glomeris marginata* (Villers) (3 records), *Cylindroiulus latestriatus* (C (3) and *Polydesmus* sp. (1).

One interesting observation made was of numerous *G. marginata* apparently grazing the painted walls of a house at Cummer, V9521, having climbed about 2 metres from ground.

INISHMORE, CO GALWAY

Inishmore is one of the three Aran Islands which lie across the entrance to Galway Bay. The other two islands are Inishmann and Inisheer. The islands are composed of carboniferous limestone, much of it present as bare fissured limestone pavement, represent a geological and botanical extension of the famed Burren region of north Co. Galway. They are included with that county (under vice-county H09) for the purposes of biological recording. The islands are home to a remarkable flora, which has been reviewed by Webb and Scannell (1983). Among the many noteworthy plants are *Adiantum capillus-veneris* L, *Geranium sanguineum* L, *Helianthemum canum* Baumg., and *Gentiana verna* L, all of which are common on the islands. *Astragalus danicus* Retz. occurs nowhere else in Ireland. It seems clear that much work remains to be carried out on the invertebrates of the islands, however some interesting animals have been recorded including the endangered snail *Catinella arenaria* (Bouchard) Chantreaux and an distinctive subspecies, *alleneus* of the bumblebee *Bombus muscorum* (L). I visited the island between 19 and 21 July 1996. Rather surprisingly this visit coincided with a heat wave. While this made the fieldwork very pleasant, it proved quite difficult to turn up many heat sensitive invertebrates, including myriapods. There was however some rain on the night of 20th, and myriapods were found to be much more in evidence during a brief search on the morning of the 21st, prior to departure. I have been unable to trace any previous myriapod records from the Aran Islands. The following were the species which I collected.

Chilopoda: *Haplophilus subterraneus* (Shaw) (1 record), *S. maritima* (2), *C. hortensis* (1), *L. variegatus* (2), *L. forficatus* (4), *L. melanops* (2), and *L. microps* (2).

Diplopoda: *Nanogona polydesmoides* (Leach) (1 record), *C. latestriatus* (3), *Ophiulus pilosus* (Newport) (1), *Macrosternodesmus palicola* Brolemann (1) and *Ophiodesmus albonanus* (Latzel) (1).

At French Strand, L8809, I turned up a *Cryptops hortensis* dining on a *Lithobius forficatus*. The *Lithobius* was still alive although the base of its head was half severed by *Cryptops*. The apparent absence of small geophilomorphs from Inishmore is presumably a reflection of the unusual weather conditions. Available information would suggest that

O. albonanus and especially *M. palicola* are quite widespread on lime rich soils in Ireland Cawley (1997).

TORY ISLAND, WEST DONEGAL

Tory lies 14 kilometres off the north-west Donegal coast, and is the most remote of the inhabited Irish offshore islands. The island is covered with blanket bog and poor pasture, and there are a few small lakes. The blanket bog has been largely destroyed by peat extraction for fuel. The island is exposed to the full force of Atlantic gales and has a rather impoverished flora and fauna. Trees and brambles *Rubus* were among the plants which I noted as being entirely absent, as apparently, were many usually common landbirds and invertebrates. I visited the island between 31 August and 2 September 1996, and as the weather was quite pleasant for about half my stay I was able to carry out a reasonably thorough survey of the myriapods. The only species previously recorded from the island was *L. forficatus* (Selbie 1913). The following are the myriapods which I collected.

Chilopoda: *S. nemorensis* (4 records), *N. flavus* (2), *Brachygeophilus truncorum* (Bergsoë & Meinert) (4), *L. forficatus* (6), *L. melanops* (2), *L. borealis* Meinert (2), *L. crassipes* Koch (4) and *L. fulvicornis* (2).

Diplopoda: *C. latestriatus* (4 records), *O. pilosus* (1) and *Polydesmus inconstans* Latzel (1).

The *L. crassipes* record was the first for vice-county West Donegal (H35) and was listed as such by Cawley (1998). *P. inconstans* was found in association with a small refuse tip, and could be an introduction. A notable absentee was *L. variegatus*, although it is present on the Donegal mainland. I also failed to turn up any *Strigamia maritima*.

IRELAND'S EYE, CO DUBLIN

At about 25 hectares in area, Ireland's Eye was the smallest island visited, and also the closest to shore, being only 1km offshore from the Dublin city suburb of Howth. I visited the island, under ideal weather conditions, for 3 hours on 9 March 1999, primarily with the intention of generating myriapod records for this article. Most of this now uninhabited island is composed of rabbit grazed grassland, invaded by bracken and bramble. There is also some rock exposure, composed of Cambrian quartzites, and sheltered sandy ground around Carrigeen Bay. The island is managed by An Taisce, which is the Irish equivalent of the National Trust. Being so close to Dublin, Ireland's Eye has been visited by many leading Irish naturalists over the years, but so far as I can ascertain the only myriapod previously noted on the island is *L. variegatus*, based on an early 20th century record, which is plotted by Barber & Keay (1988). I encountered the following myriapods during my visit.

Chilopoda: *S. nemorensis* (2 records), *S. maritima* (1), *G. carpophagus* (1), *G. electricus* (L) (1), *N. flavus* (3), *C. hortensis* (3), *L. variegatus* (3), *L. forficatus* (4), *L. melanops* (2), *L. borealis* (2) and *L. microps* (2).

Diplopoda: *Blaniulus guttulatus* (Fabricius) (1 record), *C. latestriatus* (4), *B. superus* (2) and *M. palicola* (1). In addition specimens of a blaniulid millipede were collected from a rock fissure in the orange lichen zone at Rowan Rocks, O2941. It appears very likely that these refer to *Choneiulus palmatus* (Nemec), however as both of the specimens collected were adult female, this record must remain unconfirmed.

One specimen of *N. flavus* collected was dining on a small beetle larva. The *G. electricus*, *B. guttulatus* and *M. palicola* records came from under stones embedded in dark, enriched soil inside the ruins of an ancient church, which strongly suggests that these species were introduced by man to the island.

DISCUSSION

The most important point to be remembered when considering the distribution of myriapods on Irish offshore islands is that while records are available from quite a number of islands, very few islands have been surveyed in anything approaching reasonable detail. In fact it is likely that only the Clare Island, Tory and Ireland's Eye lists are approximately complete. Notwithstanding this some patterns are beginning to emerge. It is clear that centipede faunas are relatively far more diverse on offshore islands than millipede faunas: approximately 60% of the Irish centipede fauna have been recorded on offshore islands, compared with about 30% of the millipede fauna. Presumably this is largely a reflection of the absence of woodlands from the islands, but it also suggests that centipedes are more adept at colonising islands than millipedes, and/or do better under the prevailing exposed conditions.

The most widespread centipede on Irish offshore islands is *L. forficatus* (recorded from 9 of the 15 islands from which details are available), followed by *L. variegatus* (8 islands), *L. melanops* (7), *S. maritima* (6), *S. nemorensis* (5), *G. carpophagus* (5), *N. flavus* (5), *C. hortensis* (5), *L. fulvicornis* (4), *L. microps* (3), *B. truncorum* (2), *L. borealis* (2), *H. subterraneus* (2), with the remaining species, *H. submarina*, *G. electricus*, and *L. crassipes* recorded from 1 island each. Comparing these results with the distribution table given by Cawley (1998) would suggest that *G. carpophagus* and *C. hortensis* are rather more frequent on the offshore islands than on the Irish mainland where they are both quite local. In fact *C. hortensis* appears to be a predictable member of the centipede faunas on the more southern offshore islands. It is clear also that *B. truncorum* and *L. microps* are distinctly less frequent on the islands than on the mainland. Also there are no island records for *Geophilus oligopus* (Attems) although it is widespread centipede on the mainland.

As far as the millipedes are concerned the only common island species appears to be *C. latestriatus* (5 islands). *B. superus* is also recorded from 5 islands, although it is generally less in evidence on islands than *C. latestriatus*. *G. marginata*, *O. pilosus* and *M. palicola* are each recorded from 2 islands, with the remaining species, *P. lagurus*, *N. polydesmoides*, *B. guttulatus*, *C. punctatus*, *P. angustus*, *P. inconstans*, and *O. albonanus* so far noted from only single islands. Clearly the island millipedes are quite a

hodgepodge of species, some of which are likely to have been introduced by man. Notable absentees are *Tachypodiulus niger* (Leach) and *Polydesmus gallicus* Latzel.

ACKNOWLEDGEMENT

Paul Harding of the Biological Records Centre very kindly provided me with a printout of the centipede records which were used to produce the distribution maps contained in Barber & Keay (1988).

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TABLE 1
SUMMARY OF MYRIAPOD (CHILOPODA AND DIPLOPODA) RECORDS
FROM IRISH OFFSHORE ISLANDS*

ISLAND	CCR	TEA	GBL	IMO	ITU	CLA	IMU	RUT	TOR	LM	EYE	X
<i>H. subterraneus</i>				*						*		
<i>H. submarina</i>						*						
<i>S. nemorensis</i>	*					*			*	*	*	
<i>S. maritima</i>	*	*		*		*				*	*	
<i>G. carpophagus</i>	*	*				*		*			*	
<i>G. electricus</i>											*	
<i>N. flavus</i>	*	*							*	*	*	
<i>B. truncorum</i>		*							*			
<i>C. hortensis</i>	*	*	*	*							*	
<i>L. variegatus</i>	*		*	*		*		*			*	**
<i>L. forficatus</i>	*	*		*		*			*	*	*	**
<i>L. melanops</i>	*			*		*		*	*	*	*	
<i>L. borealis</i>									*			
<i>L. crassipes</i>											*	
<i>L. microps</i>	*			*								
<i>L. fulvicornis</i>	*				*	*			*			
<i>P. lagurus</i>										*		
<i>G. marginata</i>	*					*						
<i>N. polydesmoides</i>				*							*	
<i>B. guttulatus</i>										*		
<i>C. punctatus</i>									*		*	
<i>C. latestriatus</i>	*			*			*		*			
<i>O. pilosus</i>				*						*		
<i>P. angustus</i>									*			
<i>P. inconstans</i>										*	*	*
<i>B. superus</i>					*	*	*				*	
<i>M. palicola</i>				*							*	
<i>O. albonanus</i>				*								

*Table 1 can be interpreted using the following key:

CCR = Cape Clear Island, West Cork. Source = M. Cawley (this study).

TEA = Tearaght Island, South Kerry. Source = Barber & Keay (1988).

GBL = Great Blasket Island, South Kerry. Source = Selbie (1913).

IMO = Inishmore, Aran Islands, vc Clare. Source = M. Cawley (this study).

ITU = Inishturk, West Mayo. Source = Johnson (1912).

CLA = Clare Island, West Mayo. Source = Johnson (1912).

IMU = Inishmurray, Co Sligo. Source = British Myriapod Group (1988).

RUT = Rutland Island, West Donegal, also known as Inishmacadura. Source = Barber & Keay 1988, based on late 19th century specimens in National Museum of Ireland.

TOR = Tory Island, West Donegal. Source = Selbie (1913) and M. Cawley (this study).

LM = Lambay Island, Co Dublin. Source = Carpenter (1907), Selbie (1912) and Barber & Keay (1988).

EYE = Ireland's Eye, Co Dublin. Source = M. Cawley (this study).

X = in order to save space I have grouped the following miscellaneous records into this column: *Lithobius variegatus* from Inishbofin, West Galway (Johnson 1912), and from Dalkey Island, Co Dublin (Pocock 1893), as well as *L. forficatus* from Bear Island, West Cork (Pocock 1893), and from Bills Rocks, 13km NW of Clare Island (Johnson 1912).

Excluded from this table are records for *Iulus luscus* Meinert from McDara's Island, West Galway (Carpenter 1895), Clare Island and Inishbofin (Johnson 1912), and Tory (Selbie 1913), as well as *Iulus teutonicus* Pocock from Great Blasket Island (Selbie 1913). These probably refer to *C. latestriatus*. A record for *C. britannicus* from Lambay Island is likely also to refer to *C. latestriatus* (Carpenter 1907). Also excluded are records from Achill Island, West Mayo, and from Valentia Island, South Kerry (Jones 1992) as both of these are now joined by road to the mainland.