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BULLETIN of the BRITISH MYRIAPOD GROUP

Edited for the Group by:
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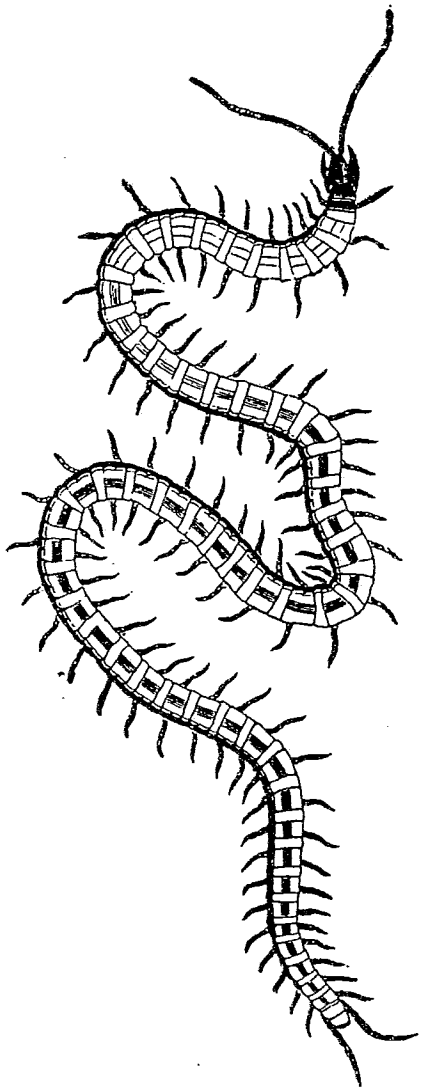
and
J.G. BLOWER



Volume 9

April 1993

BULLETIN OF THE BRITISH MYRIAPOD GROUP

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CONTENTS

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EDITORIAL

Volume 9 of the Bulletin sees the second of Doug Richardson's papers on the myriapods of Yorkshire; this time "Yorkshire Centipedes" some 38 years since Gordon Blower's pioneering report of the same name in The Naturalist of 1955. Our knowledge of the myriapod fauna of the white rose county has grown not just in numbers of species but in terms of the detail with which their distribution is known. Again we are referred to the enigma of Lithobius variegatus distribution.

Ted Eason provides us with food for thought on secondary sexual characters in Lithobius which should prompt us to examine specimens of Lithobius calcaratus, L.curtipes, etc more closely. As to the significance of these structures - do we have any ideas ?

We also include updating in terms of those useful units, the Watson-Praeger vice counties of our knowledge of distribution of both millipedes (Dick Jones) and centipedes (Andy Keay). Looking at the latter prompted examination of what turned out to be a surprising number of record cards and amendments to Andy's account.

Miscellanea, as usual includes a variety of observations including two records of Scutigera from England. We also take the liberty of advertising a journal from across the Channel, "Millepatia" and Steve Hopkin and Helen Read's "Biology of Millipedes". There is a request for information on an alien, not a myriapod but a crustacean (but at least not a woodlouse !), Arcitalitrus dorieni which those making field collections may come across.

Once again, we appeal for manuscripts. We had hoped for a slightly earlier publication date this time but there was a relative dearth of material plus an excess of other commitments. In consequence we are a little thinner than usual. If we do not get suitable material, longer articles and short notes, then we fear we may become an occaisional rather than an annual publication. There must be a number of articles "out there" just waiting for someone to put pen (or word processor) to paper !

Bulletin of the British Myriapod Group 9 (1993)

YORKSHIRE CENTIPEDES

Douglas T Richardson
5 Calton Terrace, Skipton, North Yorkshire BD23 2AY

INTRODUCTION

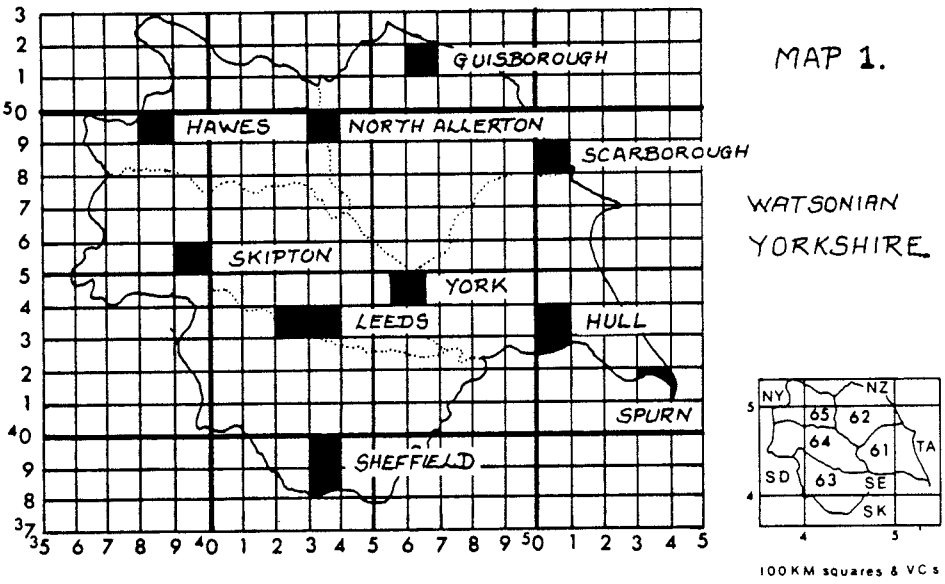
The substance of this paper is treated similarly to that of a previous paper on Yorkshire millipedes (Richardson, 1990). The aim is to bring up to date our knowledge of the centipede fauna of Yorkshire and by doing so remove the necessity for future researchers having to repeat the groundwork. To this end it was considered appropriate to include details of what transpired prior to 1970.

No details of the geology of the county are given, but all area from the Ordovician to the Cretaceous (except Devonian) are represented and to some extent this indicates the tolerance of ubiquitous species.

Altitude varies from sea level in the east to 730 m O.D. in the Pennines of the west.

The survey stemmed from the writers quite personal individual interest in myriapoda and was not in the first place planned as a deliberate scientific survey. Details of how and to what extent other individuals and organisation became involved are given in the paper on Yorkshire Millipedes (Richardson, 1990) already referred to.

YORKSHIRE DEFINED



The boundary shown on the map is the Watsonian County boundary (Dandy, 1969) not to be confused with the quite different Local Government and Parliamentary Constituency Boundaries. The county is defined as being made up of the following 188 10km squares.

34(SD) 64-69; 74-79; 84-89; 90-99.
35(NY) 80-82; 90-92.
43(SK) 19; 28; 29; 38; 48; 49; 58; 59; 69.
44(SE) 00-79; 81-89; 92-99.
45(NZ) 00; 01; 10; 11; 20; 21; 30; 40; 41; 50-52; 60-62; 70-72; 80; 81; 90; 91.
54(TA) 02-09; 12-18; 21-24; 26; 27; 31-33; 41.

Excluded are the following nine land-locked 10km squares each with less than five 1km squares belonging to Watsonian Yorkshire:- 34(SD) 54; 55; 73. 35(NY) 72. 43(SK) 47; 57. 45(NZ) 02; 31; 42.

All the coastal/estuarine 10km squares are included irrespective of the number of 1km squares involved. In the 10km squares shared with adjacent counties collecting/recording has been confined to the portions of the 10km squares lying wholly within the Watsonian Yorkshire boundary (Richardson, 1983).

HISTORICAL

The story can be conveniently divided into four periods: 1878: 1910 to 1935: 1947 to 1969: 1970 to 1989.

1878

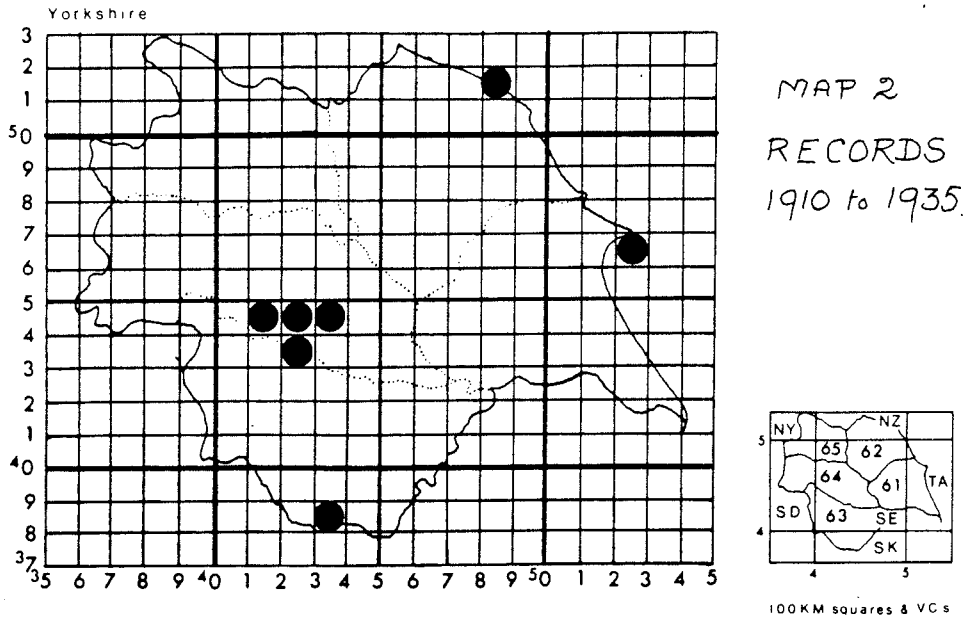
The first reference to the myriapoda of Yorkshire comes in the form of an appeal by H Franklin Parsons which appeared in The Naturalist under the heading "NEGLECTED ORDERS" (Parsons, 1878).

".....I need only mention Arachnida, Myriapoda, Crustacea, and Annelida. Who will take charge of these 'Neglected Orders' and tell us more of their wonderful forms and life histories?....."

No one took up the challenge, not even Dr Parsons himself. The latter is understandable his address was Whitehall, London. What a pity he did not reside in Yorkshire, for one thing he was an active microscopist, member of the Postal Microscopical Society and their President from 1879-80 (Allen, 1882). Had he lived on the doorstep and pursued his interest in 'Neglected Orders' we might have has a quite different story to tell.

1910 - 1935

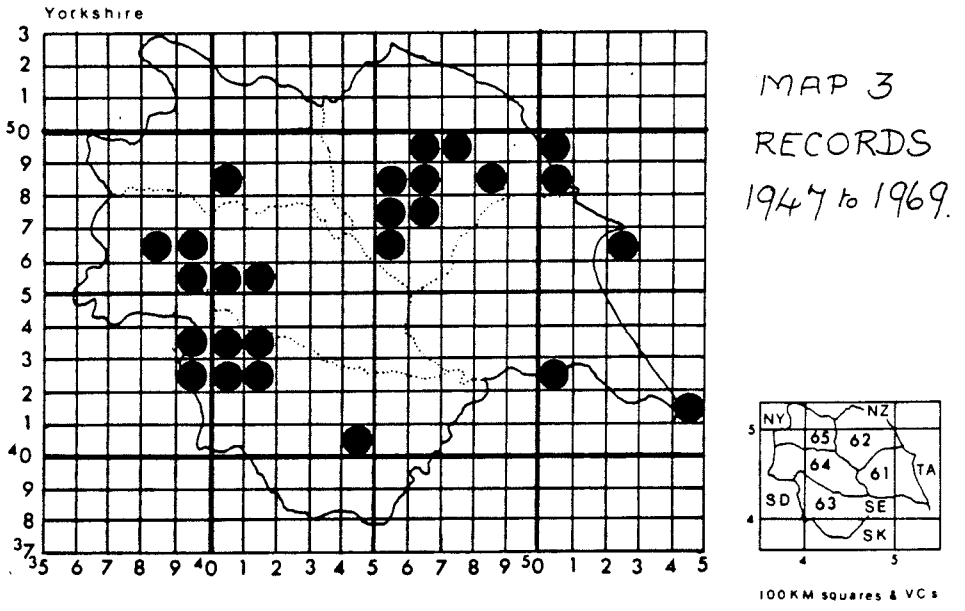
Seventeen records, 8 species, 7 10km squares. Obviously random sightings and not the product of a systematic investigation. Tables 1 and 2 give details of the species and number of records on an annual and collective basis, Map 2 the 10km squares involved. Eight recorders: R S Bagnall, S G Brade-Birks, T J Evans, W Falconer and H W Thompson.



Bagnall (1918, 1935); Blower (1955); Brade-Birks (1917); Brölemann (1896, 1930); Evans (1910); Falconer (1911); Thompson (1921); Turk (1947).

1947 - 1969

Most of the work done during this period was carried out between 1950 and 1954 by J Gordon Blower and four colleagues - Dr P M Butler; P H Gabbutt; Miss M T Sewell and G B Walsh who between them raised the number of species for the county from 8 to 21 (Tables 1 and 2). Blower worked the North Yorkshire Moors (V.C. 62), his colleagues the Malham area (V.C. 64). Twenty six 10km squares were examined and 142 records listed. Ten recorders in all: J G Blower; P M Butler; P D Gabbutt; P H Langton; J G E Lewis; N Pearson; M T Sewell; P Skidmore; J E Smith and G B Walsh.



Blower (1955); Cloudsley-Thompson (1948); Eason (1951, 1953).

Table: 1.

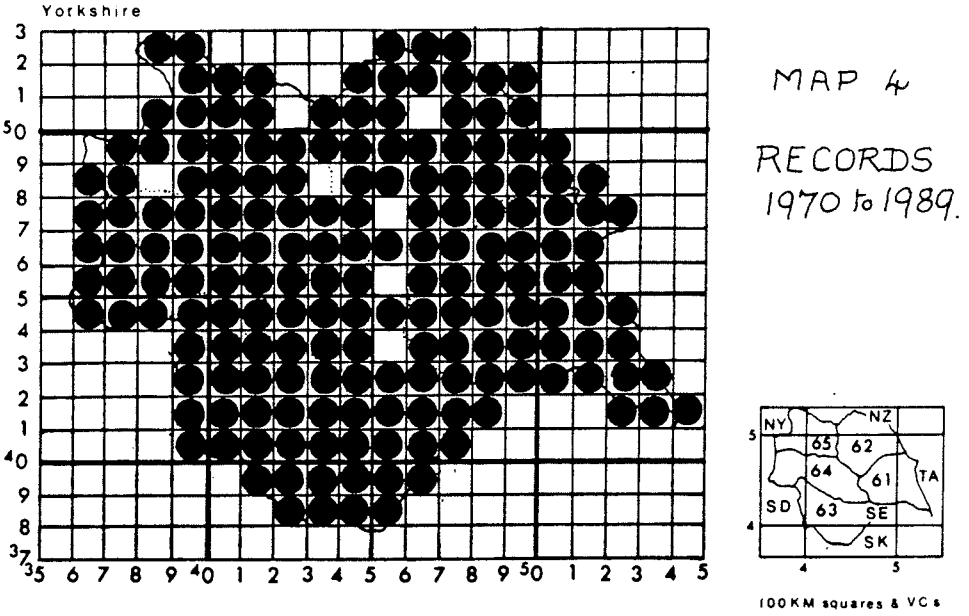
YEAR(S) 19--	10	11	13	17	21	34	35	47	48	49	50	51	52	53	54	55	59	60	61	68	69	70 to 89
Haplophilus subterraneus.	1										2	1		1				1		2		56
Hydroschendyla submarina								1														0
Schendyla nemorensis												1										14
Strigamia crassipes																						1
accuminata															3		2		1		1	41
maritima												1										3
Clinopodes linearis							1															1
Geophilus carpophagus	1								1			4	2					4				110
electricus			1																			13
insculptus						1				1	2	3	3		3			1				133
Necrophloeophagus flavus		3			2						4		2		4			1				67
Brachygeophilus truncorum											1	5	2		2	1		5				135
Cryptops hortensis												1	1									22
Lithobius variegatus	1	1		1							1				4			6		1		405
forficatus		3			1						4	5	8		1		1	5				352
melanops												1	1									66
macilentus																						27
borealis															1							8
piliconnis																						1
calcaratus												2	1		1							53
crassipes											3	5	8	1	3			1				293
curtipes													4									8
microps											1	1			1							95
Lamyctes fulvicornis															1							22
TOTAL RECORDS	3	7	1	1	3	1	1	1	1	1	18	30	32	2	24	1	3	24	1	3	1	2126
	17							142.														

Table: 2.

	1910 to 1935	1947 to 1969	1970 to 1989	TOTAL	No of 10 km squares	FIRST RECORD(S)		
Haplophilus subterraneus	1	7	56	64	37	EVANS	1910	Sheffield district 43/38
Hydroschendyla submarina	0	1	0	1	1	J.E. SMITH	-, 8.1947	Cloughton Wyke 94/09
Schendyla nemorensis	0	1	14	15	14	J.G. BLOWER	7.4.1951	Easingwold 44/56
Strigamia crassipes	0	0	1	1	1	A.J. RUNDLE	20.9.1975	Thorne 44/71
accuminata	0	7	41	48	30	P.D. GABBUTT	-. 8.1954.	Malham 34/86 : J.G BLOWER: Oldstead 44/57
maritima	0	1	3	4	2	J.G. BLOWER	1951.	Spurn 34/41
Clinopodes linearis	1	0	1	2	2	R.S. BAGNALL	1935	Sewerby 54/26.
Geophilus carpophagus	1	11	110	122	58	EVANS	1910	Sheffield district 43/38.
electricus	1	0	13	14	12	R.S. BAGNALL	1913	Whitby 43/81
insculptus	1	13	133	147	67	R.S. BAGNALL	1934	Sewerby 54/26
Necrophloeophagus flavus	5	11	67	83	42	W. FALCONER	1911	Leeds: Woodhall; Harewood, E. Keswick 44/34
Brachygeophilus truncorum	0	16	135	151	67	J.G BLOWER	31.12.1950	Rievaulx 44/58
Cryptops hortensis.	0	2	22	24	14	J.G BLOWER.	9.4.1951.	Duncombe Park 44/58
Lithobius variegatus	3	12	405	420	85	EVANS	1910	Sheffield district 43/38
forficatus	4	24	352	380	156	W. FALCONER	1911	Leeds: Woodhall; Harewood; E. Keswick 44/34
melanops	0	2	66	68	44	J.G BLOWER	16.8.1951	Oswaldkirk 44/67
macilentus	0	0	27	27	17	J.E. ADDEY	19.4.1977	Squirrel Castle Plantation 43/49 1977
borealis	0	1	8	9	8	P.M. BUTLER	-.6.1954	Malham 34/86
piliconnis	0	0	1	1	1	A.N. KEAY	6.8.1986	Wakefield 44/32
calcaratus	0	4	53	57	33	M.T SEWELL	7.4.1951	Farndale 44/69 : Hutton-le-Hole 44/79
crassipes	0	21	293	314	103	J.G BLOWER.	10.8.1950	Rievaulx 44/58 : Sproxton 44/68
curtipes	0	4	8	12	8	J.G BLOWER.	2.9.1933	Oulston 44/57. Oldstead 44/58
microps	0	3	95	98	52	J.G BLOWER	1950	Spurn 54/41
Lamyctes fulvicornis.	0	1	22	23	17	P.D.GABBUTT	-8.1954	Malham Tarn area 34/86
TOTAL RECORDS	17	142	2126	2285				
No. of 10Km squares	7	26	176					

1970 - 1989

Three more species were added to the list bringing the total for the county to 24. 176 (94% of the counties 188 10km squares were visited and a total of 2126 records amassed and documented. (Tables 1 and 2: Map 4) 38 recorders



Howes (1973 a, b); Lee (1987, 1988, 1989, 1991 a, b); Lee & Richardson (1988, 1991); Richardson (1975, 1979 a, b, 1981 a, b, 1982, a, b, c, d, 1983, a, b, c, 1987, 1988, 1990)

SPECIES RECORDED

It is recommended that the notes be read in conjunction with those given in the Provisional Atlas of the Centipedes of the British Isles (Barber and Keay, 1988), and Centipedes of the British Isles (Eason, 1964). The figures in parenthesis at the end of each species account denotes the number of 10km National Grid squares in which it has been found.

DISTRIBUTION MAPS - LEGEND

1970 to 1989

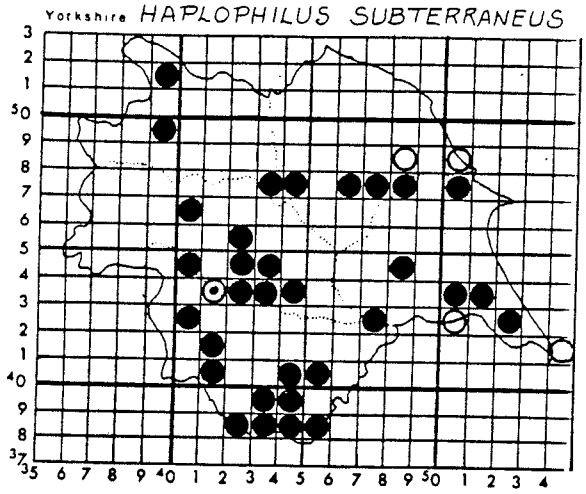
Pre 1970 confirmed during the 1970-89 survey

Pre 1970 not confirmed during the 1970-89 survey

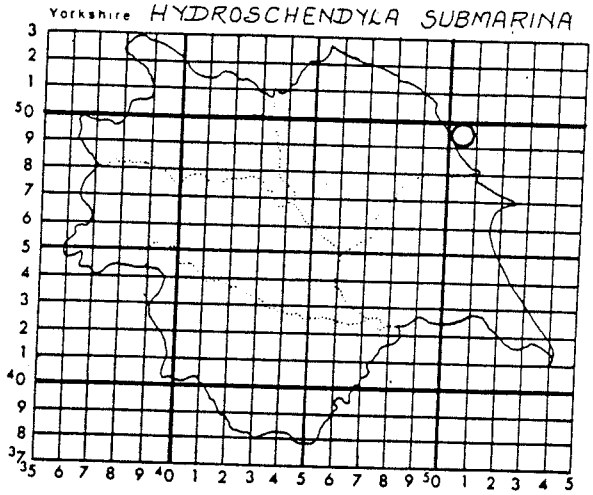
Haplophilus subterraneus (Shaw, 1789)

Habitats more or less equally divided between deciduous woodland and synthantropic sites. Little doubt that by carefully searching appropriate sites it will be shown to be equally distributed across the county. (37)

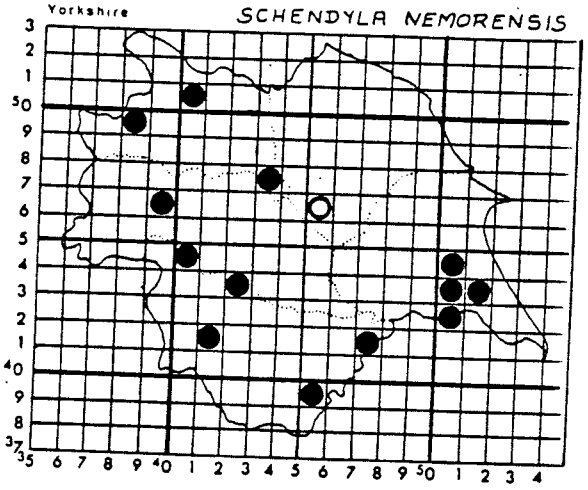
Yorkshire HAPLOPHILUS SUBTERRANEUS



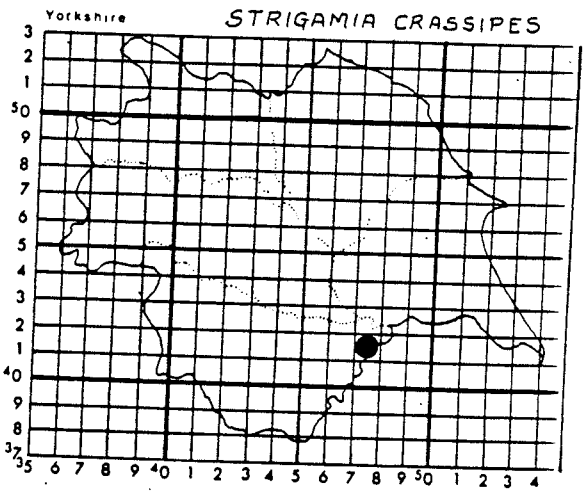
Yorkshire HYDROSCHENDYLA SUBMARINA



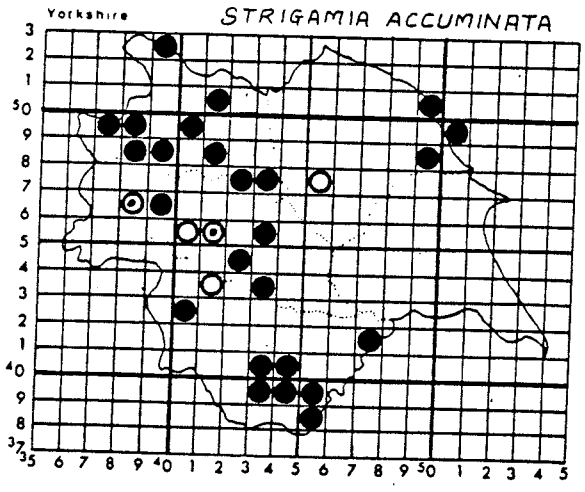
Yorkshire SCHENDYLA NEMORENSIS



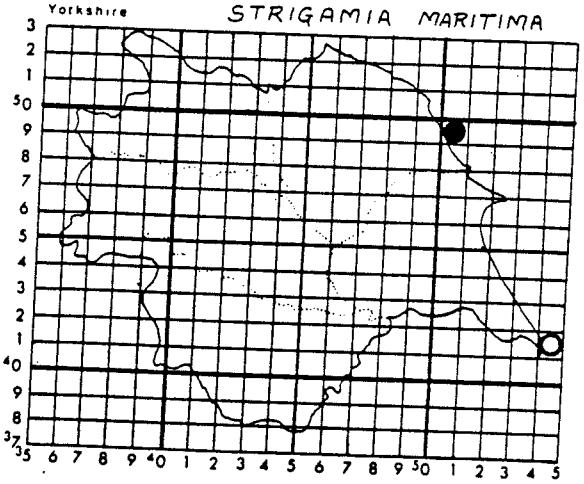
Yorkshire STRIGAMIA CRASSIPES



Yorkshire STRIGAMIA ACCUMINATA



Yorkshire STRIGAMIA MARITIMA



Hydroschendyla submarina (Grube, 1869)

Attempts to re-establish the existence of this species at Cloughton Wyke N.G.R. 54(TA(02-95-. have met with no success. Based on the original siting details E H Eason (Eason, 1964 p.68) quotes it as being found in Yorkshire. Barber & Keay (Barber & Keay, 1985 p22) write as follows:

".....There is considerable doubt about the Yorkshire record (J G E Lewis pers. comm.) which, in consequence has been omitted from the data....."

The original announcement given in the Naturalist of 1948 (Cloudsley-Thompson 1948) reads as follows:

".....During a holiday in August 1947 Dr J E Smith found a number of centipedes on the shore at Cloughton Wyke, Yorkshire living under rocks and weeds below high water mark. He collected 4 specimens, comprising both sexes, which I have no hesitation in referring to the species Hydroschendyla submarina (Grube)....."

I am given to understand that no voucher specimens area available so we are left with an unconfirmable record and the query were the four specimens collected in August 1947 Hydroschendyla submarina or not? It took 53 years before Clinopodes linearis re-surfaced - there's time yet. (1)

Schendyla nemorensis (C L Koch, 1837)

The map rather suggests it is less common in the North Yorkshire Moors and the Plain of York (V.C. 62) than elsewhere. What is more likely is, because of its small size, it has been overlooked. The pattern of sites seem to be contradictory to the national pattern which indicates it favours coastal sites. (14)

Strigamia crassipes (C L Koch, 1835)

A single record only for the county by A J Rundle. Queries as to authenticity were quickly allayed by the production of the specimen which was sent to the experts for confirmation. A definite county rarity. A 1970-89 (1)

Strigamia accuminata (Leach, 1814)

Most of the records have been from woodland and this may be one explanation for the paucity of records from the arable south east of the county - on the other hand we might well have not looked hard enough. (30)

Strigamia maritima (leach, 1817)

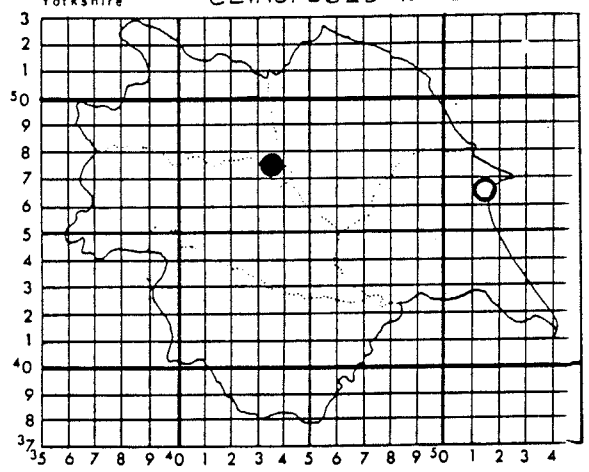
Not exactly common on the shoreline of the county. The south east shorelines tend to be of boulder clay where as the north east ones are sand, shingle, pebbles or just rock. The writers experience has been that it is particularly abundant under stones on muddy shorelines and estuaries. Perhaps there is not the correct balance between the two extremes on the Yorkshire coastline.(2)

Clinopodes linearis (C L Koch, 1835)

the first record was by Bagnall in 1935 from Sewerby 45(NZ) 20-68-, second and only other record was from under a plank of wood edging a path at Norton Conyers Hall 44(SE)318762 by D T Richardson and P Lee in October 1988. A rarity, but still obviously around. Investigations at Sewerby drew a blank. (2)

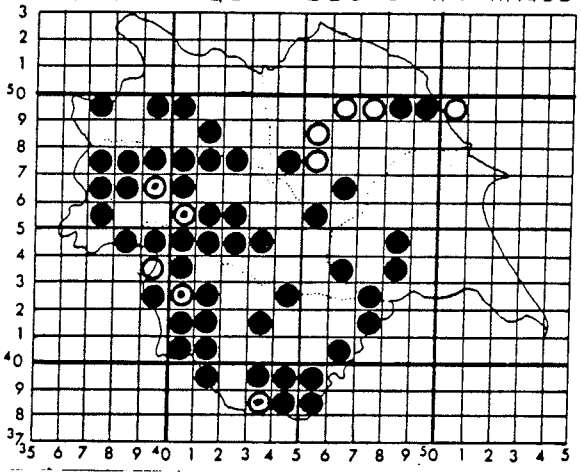
Yorkshire

CLINOPODES LINEARIS



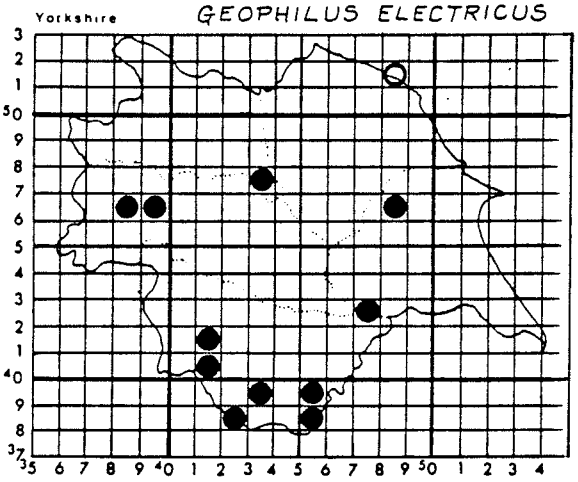
Yorkshire

GEOPHILUS CARPOPHAGUS



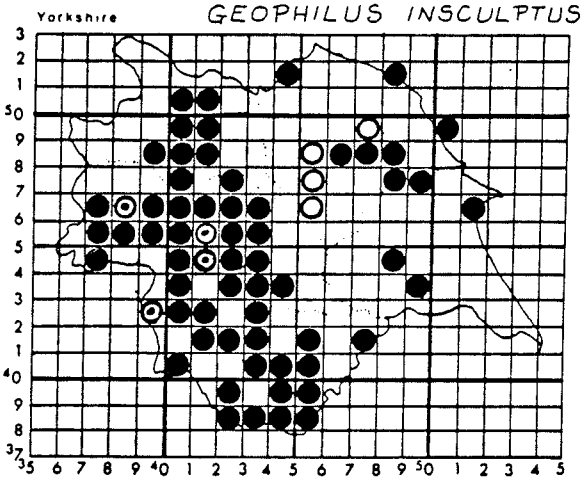
Yorkshire

GEOPHILUS ELECTRICUS



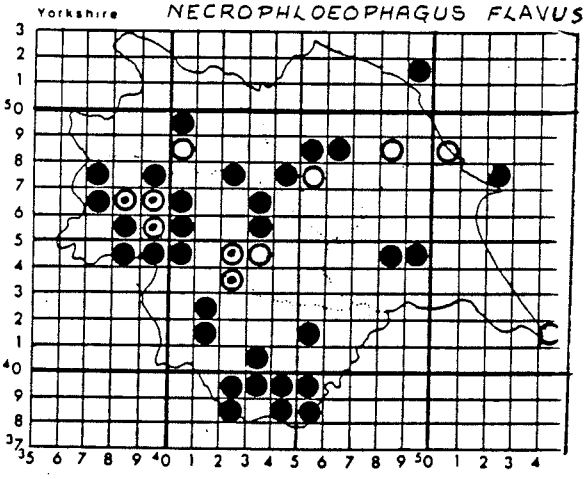
Yorkshire

GEOPHILUS INSCULPTUS



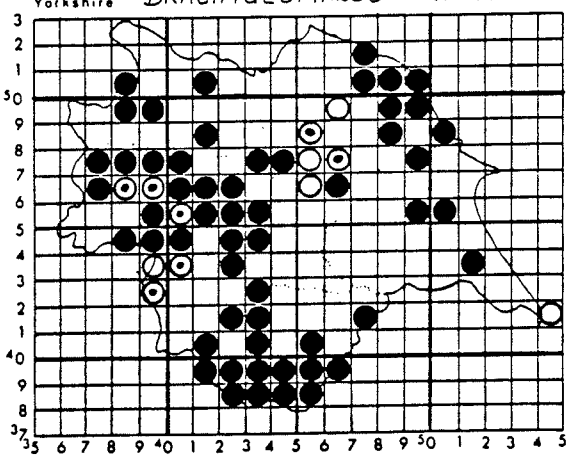
Yorkshire

NECROPHLOEOPHAGUS FLAVUS



Yorkshire

BRACHYGEOPHILUS TRUNCORUM



Geophilus carpophagus (Leach, 1814)

The majority of records came from woodland, moorland and hedge bottoms. It would appear to be somewhat thin on the ground in the arable south east of the county (V.C. 61) otherwise there is plenty of evidence to suggest it is generally widespread and common. (58)

Geophilus electricus (Linne, 1758)

Not particularly common but widely distributed - mainly synthantropic sites. Too large and distinctive to have been easily overlooked. (12)

Geophilus insculptus (Attems, 1895)

Every promise of being shown to be ubiquitous. Deciduous woodland, roadside verges. (66)

Necrophloeophagus flavus (De Geer, 1778)

Every promise of being shown to be ubiquitous. Woodland, waste ground, roadside verges, gardens. (42)

Brachygeophilus truncorum (Bergspe & Meinert, 1866)

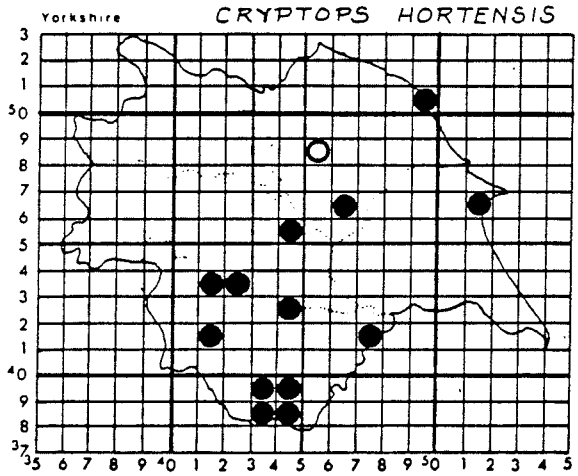
Most frequently found in cavities in rotting logs, sometimes under stones in woods and on moorland. Widely distributed and common. (67)

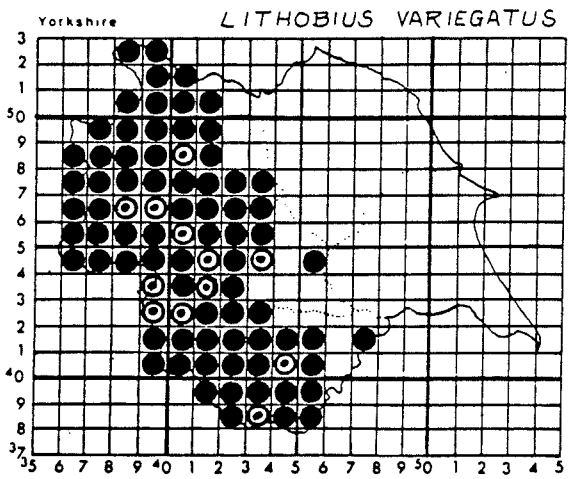
Cryptops hortensis (Leach, 1814)

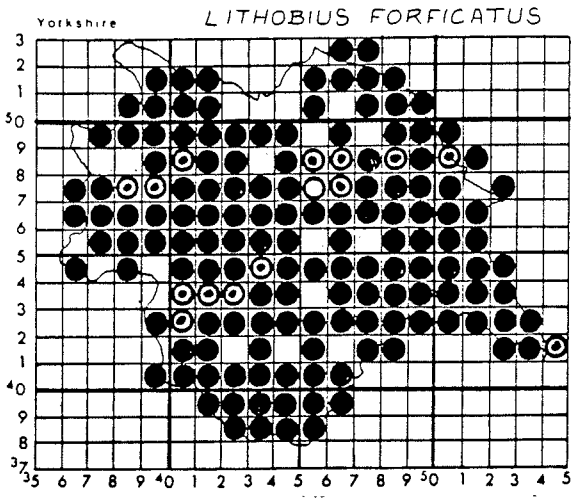
So far it has turned up in woodland and synanthropic sites in the south and south west. Perhaps a limited distribution in the county - not that common. (14)

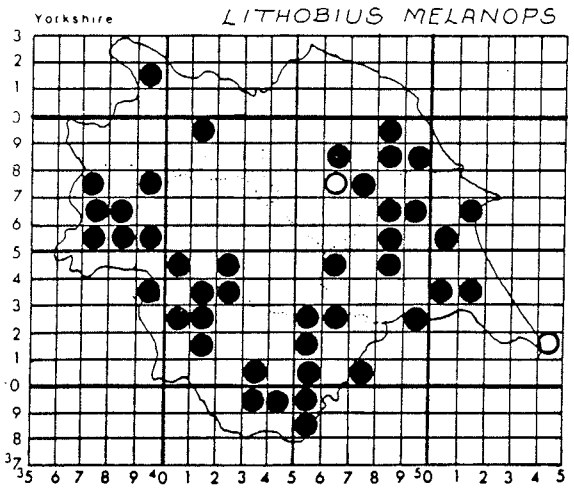
Lithobius variegatus (Leach, 1813)

Its long recognised absence from the east of the county is dramatically illustrated by the distribution map. Ubiquitous and very common throughout the rest of the county where it is often found in the company of both Lithobius forficatus and Lithobius crassipes. (85)






Yorkshire
LITHOBIUS FORFICATUS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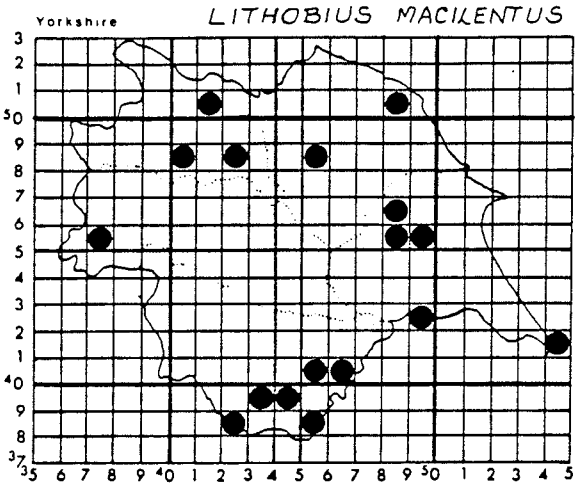
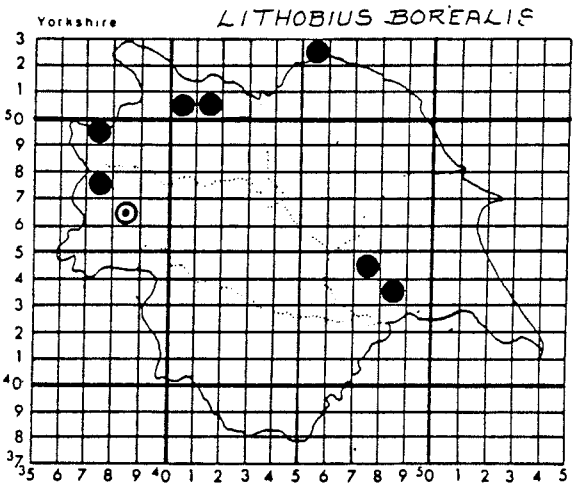

Yorkshire
LITHOBIUS MACILENTUS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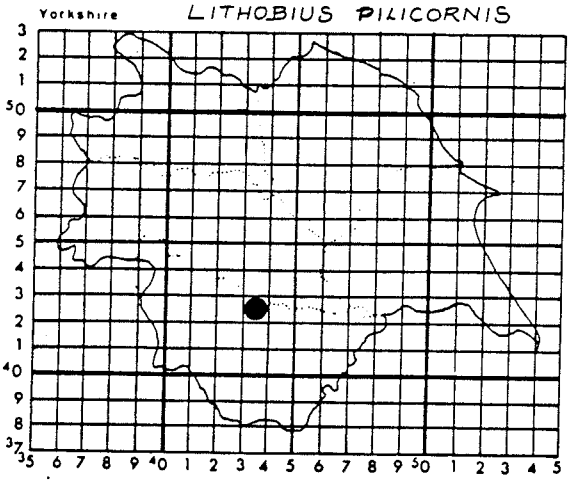
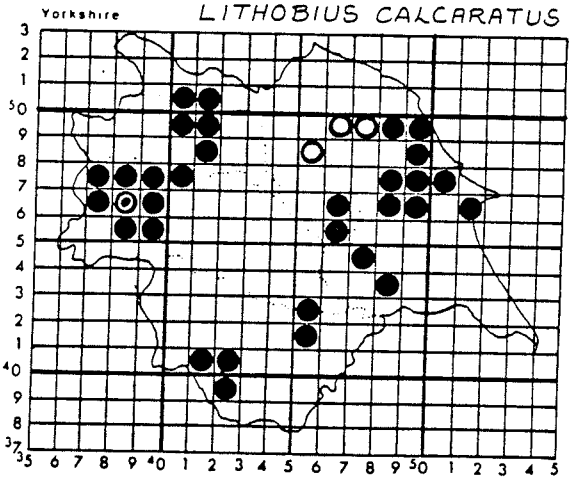
LITHOBIUS BOREALIS


Yorkshire
LITHOBIUS PILICORNIS


Yorkshire
LITHOBIUS CALCARATUS

Lithobius forficatus (Linne, 1758)

The distribution map tells its own story. Extremely common in rural, sub-urban and urban situations. (155)

Lithobius melanops (Newport, 1845)

Relatively common and widely distributed. Majority of records from deciduous woodland. (44)

Lithobius macilentus (L Koch, 1862)

Limestone and chalk grassland, woodland. Scattered sites across the whole of the county. A 1970-89 addition to the county list. First record J E Addey, Squirrel, Castle Plantation 43(SK) 40-95-. 1977 (17)

Lithobius borealis (Meinert, 1868)

Insufficient sightings to enable any concrete conclusions being drawn. Not common. (8)

Lithobius pilicornis (Newport, 1844)

One record only from under a piece of timber in a railway cutting in Wakefield. Whether or not his will turn up in other urban synthantropic sites will have to be seen, it is far too large and distinctive to be overlooked. A N Keay, 44(SE) 32-21-. 06/08/1986. (1)

Lithobius calcaratus (C L Koch, 1844)

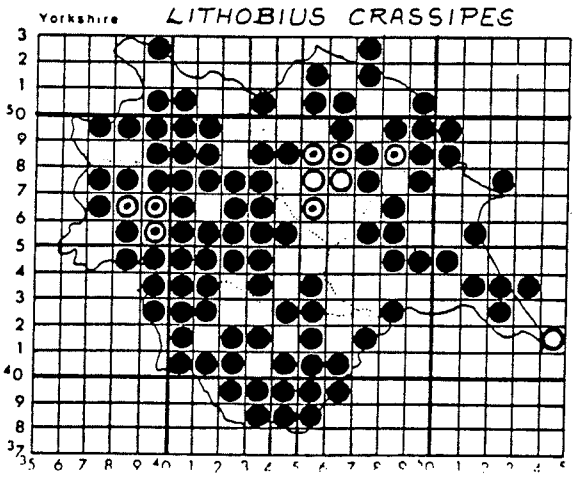
There seems to be a tendency for it to occupy the higher regions of the county - the northern Pennines and the North Yorkshire Wolds. More common on acid moorlands. Never found in large numbers but widely distributed in the areas in which it has been found. (35)

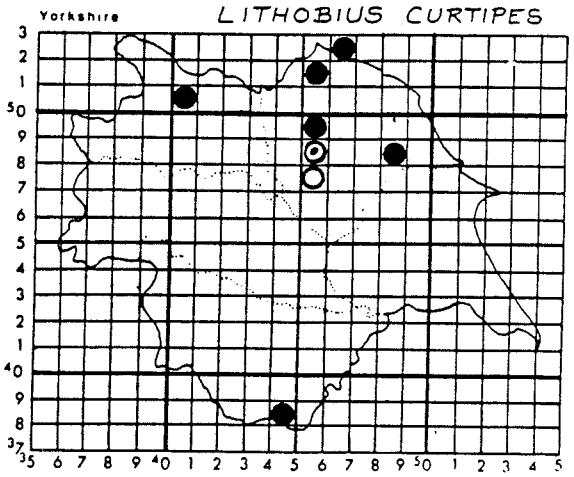
Lithobius crassipes (C Koch, 1862)

Very common - ubiquitous. Only a matter of time before it is shown to exist in every 10km square. (103)

Lithobius curtipes (C L Koch, 1847)

Uncommon, mainly from the north east of the county. (8)



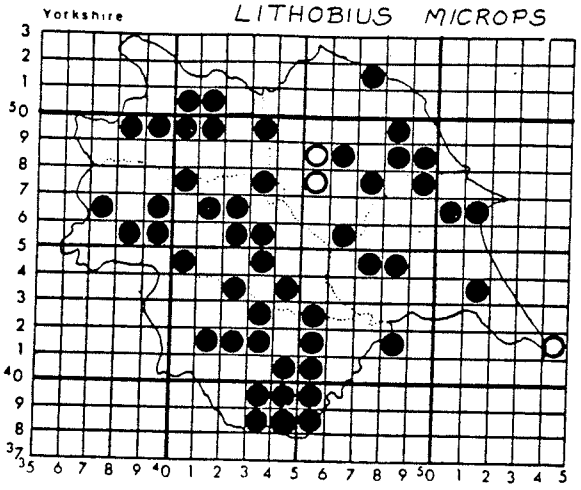


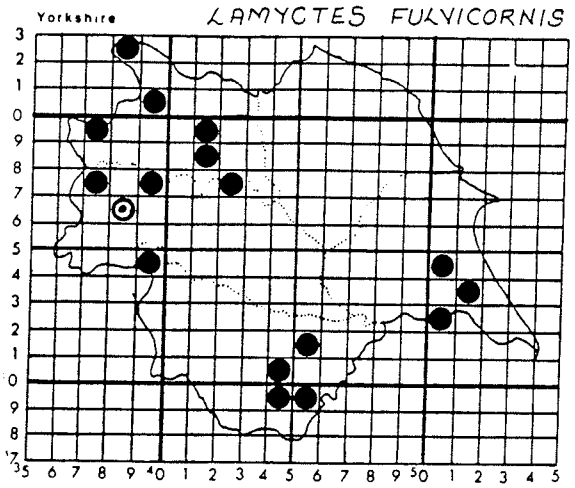
Lithobius microps (Meinert, 1868)

Every possibility of having a ubiquitous distribution. Not readily seen because of its small size. (52)

Lamyctes fulvicornis (Meinert, 1868)

This species has only turned up in very small numbers at a time. It is difficult to believe it has been overlooked its very dark colour, extreme agility and single ocellus on each side of the head being most distinctive. The paucity of sightings in V.C. 62 (North East Yorks) may or may not be a measure of its existence in the Yorkshire Wolds - only time will prove this otherwise. All the records have been from moorlands. (17)





RECORDS

All records have been made in accordance with the guidelines set out in 'Instructions to Collectors' issued to members of the British Isopod and Myriapod Survey Schemes. Emphasis has been placed on accurate identification and doubtfuls have been submitted to experts for confirmation. Copies of all records have been transferred to Biological Records Centre record cards.

RECORDERS

The following have contributed to the survey:

Yorkshire Naturalists' Union members (21)

J E Addey	D I Crawshaw	R Crossley	M L Denton
W A Ely	C Frost	G D Fussey	S P Garland
C A Howes	P Kendall	P Lee	L Lloyd-Evans
D Maude	A Norris	J Payne	D T Richardson
P Skidmore	C J Smith	F B Stubbs	A T Sutherland
M Wardaugh			

British Myriapod Group members (19)

K Alexander	J S Armitage	A D Barber	J G Blower
A Brackenbury	S R Davey	M Fogan	D Guntrip
E G Hancock	P T Harding	A N Keay	R D Kime
P H Langton	J K Lewis	D Owen	N Pearson
A J Rundle	K Shaw	K Speck	

Messrs W A Ely, P Lee and D T Richardson collectively provided 1408 (66% of the records).

VOUCHER SPECIMENS

The personal collection of the writer consisting of 900+ tubes of, in the main, Yorkshire material in 70% alcohol collected between 1973 and 1985 have been passed to Leeds City Museum along with relevant log books. Access is by arrangement with the museum authorities, This is the only up-to-date collection of Yorkshire centipedes.

ACKNOWLEDGEMENTS

To my colleagues in both the Y.N.U and B.M.G, particularly Bill Ely and Paul Lee, without whose enthusiastic co-operation this would not have been possible, and to all those who had their arms twisted or volunteered to help.

A D Barber, E H Eason, J Gordon Blower, and Colin Fairhurst for encouragement and assistance with identification of specimens.

Paul Harding for freely giving access to data stored at the Biological Records Centre.

The Executive of the Yorkshire Naturalists' Union for support in many ways.

THE FUTURE

It is hoped that the message behind this venture does not fall on deaf ears as happened so often in the past.

Examination of the distribution maps show there are many gaps to fill in, unusual distribution patterns asking for an explanation or simply wiping out as squares are filled in. As the majority of the work was carried out in rural areas a golden opportunity exists to investigate the, in some cases extensive, urban conurbations which are dotted across the county and if the theories on global warming are proved correct be on the lookout for more exotic species currently lurking in the more southern counties.

A challenge no one has satisfactorily answered the question of the distribution of Lithobius variegatus in the county - there could be a Ph.D. round the corner for someone having the right approach. The ground work has been done, the field is now wide open.

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Bulletin of the British Myriapod Group 9 (1993)

DISPLACEMENT OF THE MALE SECONDARY SEXUAL CHARACTERS IN LITHOBIUS CALCARATUS C L KOCH AND OTHER SPECIES OF LITHOBIUS

E H Eason, Bourton Far Hill, Moreton-in-Marsh, Gloucestershire

Matic (1961) described a new species of Lithobius from Italy, L. lanzai based on a single male of L. calcaratus with the right 15th and left 14th legs missing but a femoral wart on the right 14th leg (Fig 1). Matic believed this to represent a new species characterised by femoral warts on both 14th and 15th legs and failed to recognise it as a damaged specimen of L. calcaratus which normally has warts only on the 15th. Among the 22 male type specimens of L. calcaratus (Eason 1972: 109) was one with both 15th and the left 14th legs missing but with a femoral wart on the right 14th (Fig 2). A regenerated 15th leg is sometimes found in males of L. calcaratus without any modification of the corresponding 14th, so it seems that if the 15th is lost, probably at an early stage of post-larval development, it is regenerated but at a later stage or under certain other circumstances, instead of regeneration the wart appears on the corresponding 14th leg. Most specimens found without one or both 15th legs have no modification of the corresponding 14th, presumably because the leg was lost too late in the course of development for the animal to be able to acquire a 14th femoral wart or because it was collected before it had time to do so.

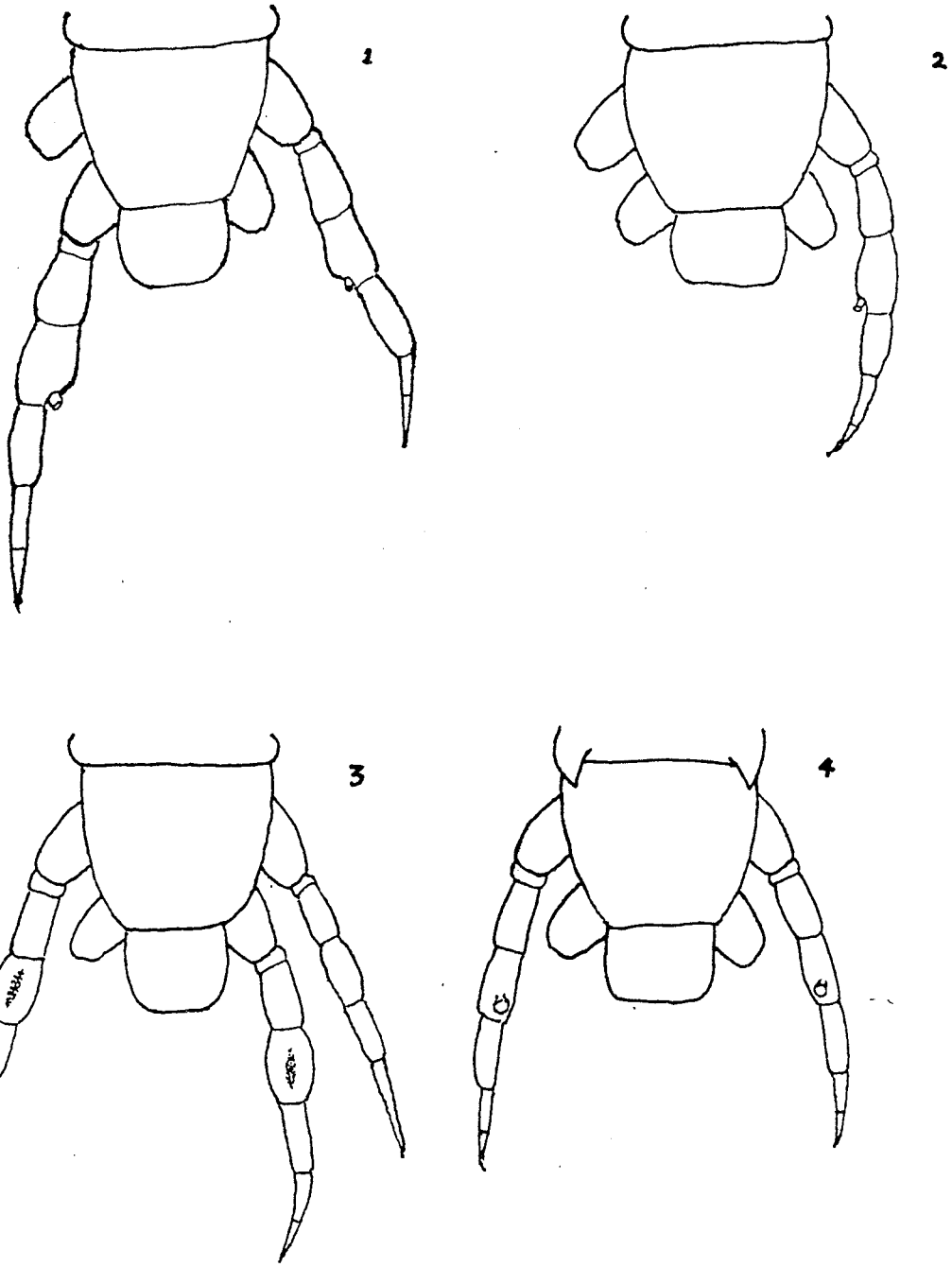
A similar phenomenon seems to occur in Lithobius martensi: Eason from Nepal which has a broad dorsal sulcus on the male 15th femur (Eason 1989). Among the 35 male type specimens of this species one, as well as having the usual sulcus on the right 15th femur, has a similar sulcus on the left 14th, the left 15th leg being missing (Fig 3). However, males of L. martensi sometimes have a very faint 14th dorsal femoral sulcus in intact specimens so that this anterior displacement of the secondary sex character is less obvious than it is in L. calcaratus.

Chamberlin (1925) named the genus Kesubius to receive a species, K. syntheticus, from Uruguay with what he described as 'lobes' on the 14th femora which he believed to constitute a generic character. The single male on which this species was based had both 15th legs missing but in all respects resembled a male of the common Mediterranean Lithobius obscurus. Meinert in which the femoral processes, normally present on the 15th legs, had shifted to the 14th (Fig 4). This species has been introduced to many parts of the world and has been found in most of the maritime states of South America including Uruguay (Eason 1992). Since indigenous Lithobiidae are almost unknown in South America it is likely, if not certain, that K. syntheticus was based on a damaged male of L. obscurus (Eason 1974: 19) which had undergone the same anterior displacement of the sex characters as in L. calcaratus.

A number of interesting questions now arise:

What happens when both 14th and 15th legs are lost on the same side? Does the character then appear on the 13th?

Does the same displacement occur in species such as Lithobius curtipes C L Koch in which the male sex character is found, not on the femur but on the tibia?



Figs 1-4 14th and intermediate tergites of male with 14th and 15th legs, dorsal view, semi-diagrammatic.

1. Lithobius lanzai Matic = calcaratus C L Koch, after Matic (1961)

2. Lithobius calcaratus C L Koch, one of Koch's type specimens

3. Lithobius martensi Eason, a type specimen

4. Kesubius syntheticus Chamberlin = Lithobius obscurus Meinert, from Chamberlin's (1925) description

In species such as Lithobius muticus C L Koch in which the character is found on the 14th leg, would loss of this leg result in the character appearing on the 13th or 15th?

What happens if one of the posterior legs is lost in a species in which male sex characters occur normally on the 14th and 15th legs, or in the few such as the common European Lithobius mutablilis L Koch in which they occur on the 13th, 14th and 15th?

Are there any factors, other than the stage of development at which the 15th legs are lost, which influence this phenomenon?

Detachment of legs in Lithobius usually occurs between the coxa and trochanter. Loss of the character by detachment at other articulations is likely to have the same effect although this has never been observed.

Most candidates for this phenomenon are foreign species but anyone in Britain with a large collection of Lithobius calcaratus could look through the specimens to see if there are any which have undergone anterior displacement of the sex characters, and similarly with L. curtipes and L. muticus. Breeding experiments involving the detachment of legs in the different stadia would produce interesting results.

Lewis (1981) suggested that male secondary sex characters in the Lithobiidae are associated with sex pheromones and they must certainly have some sexual function, probably enabling the female to recognise a male of the same species. However this may be they must be of vital importance for the animal to be so determined to keep them on both sides despite loosing the leg on which they are normally borne. Their appearance on an abnormal leg must take place at a time of moulting and is presumably under some sort of hormonal influence. I have discussed this phenomenon with several European myriapodologists, some of whom say they have also noticed it, but nothing has been published about it as far as I know.

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THE VICE-COUNTY DISTRIBUTION OF MILLIPEDES IN THE BRITISH ISLES

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This paper constitutes an update of the knowledge about millipede distribution gleaned from the Millipede Recording Scheme. It is accurate up to the end of January 1993. Additions to the list will be recorded in the Newsletter as usual.

The data recorded here differs in a few ways from that previously recorded by the British Myriapod Group (1988). For a start the two millipedes Oxidus gracilis and Prosopodesmus panporus have been omitted as they cannot live, or at least breed, out of doors. Glomeris marginata has been deleted from vice-county 105 as it appears to have been recorded in error. Haplopodoiulus spathifer is added to the table having been found in vice-county 51. The new Anthogona sp. will be published soon and then that species will also need adding to vice-county 3.

There remain only the Irish records. A quick look at the 1988 list will show many differences from this one. After much work trying to sort out the Irish millipedes it was decided to list only those that we could prove at present (Doogue, Fairhurst, Harding and Jones, in press). We await the reassessment and republication of the Peterson (1975) records which will no doubt add many vice-countries to the list. Since 1988 there have been added to the list Brachychaeteuma melanops, Chordeuma proximum, Cylindroiulus londinensis, C. parisorum, C. culnerarisu, Leptoiulus belgicus, Melogona gallica and Stygioglomeris crinita. In the meantime there is plenty to be done collecting in Ireland.

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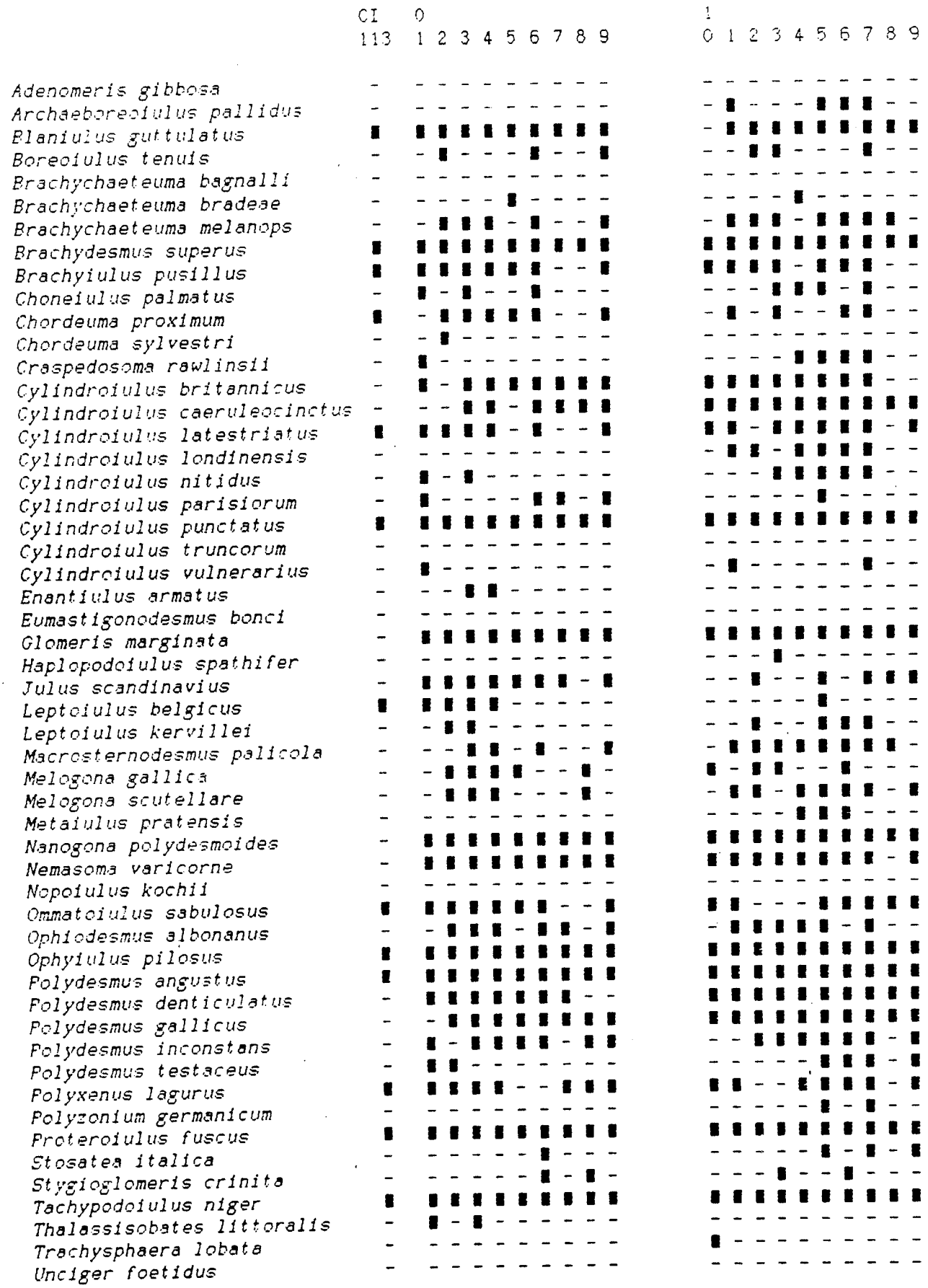
VICE-COUNTY DISTRIBUTION OF MILLIPEDES



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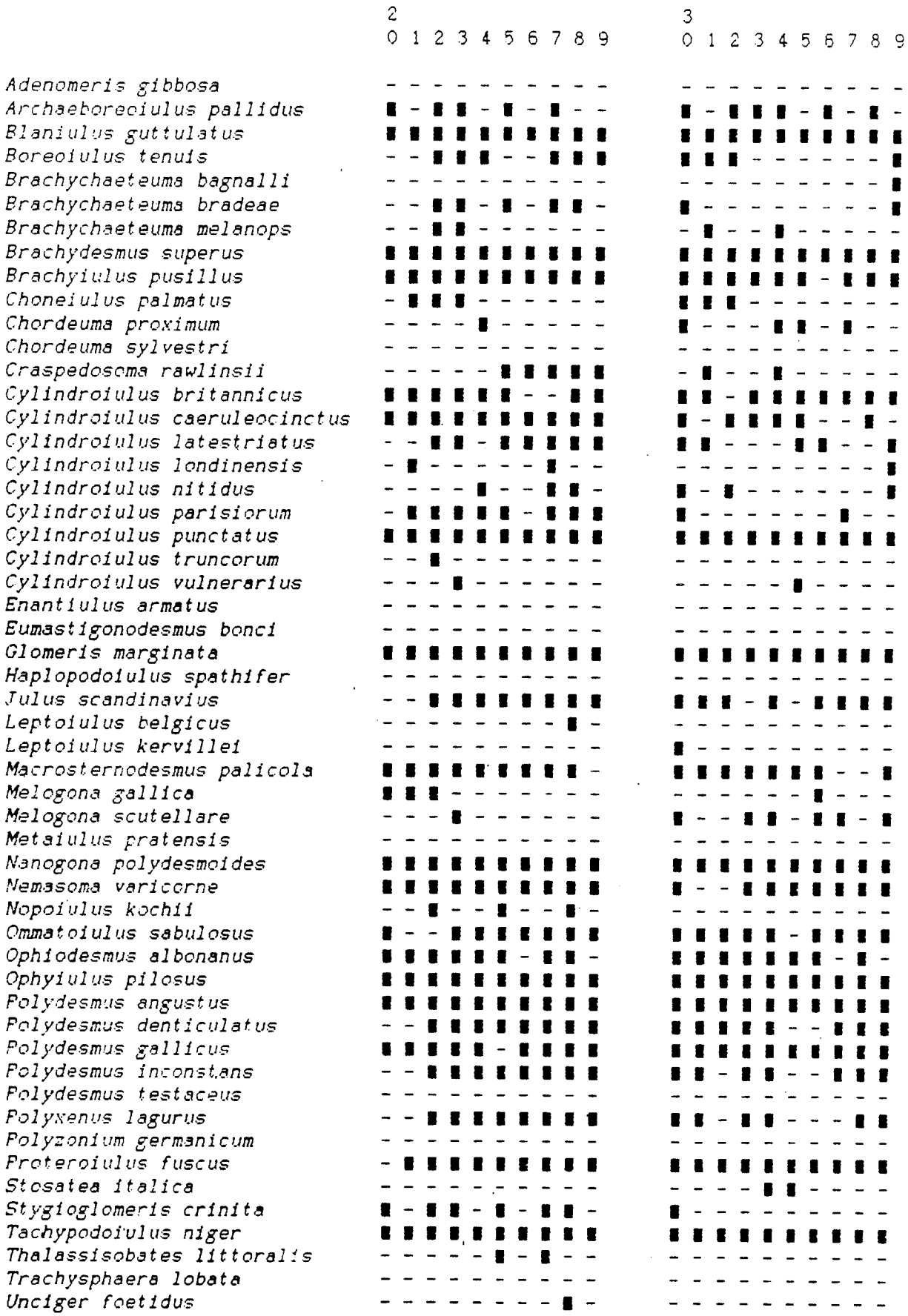

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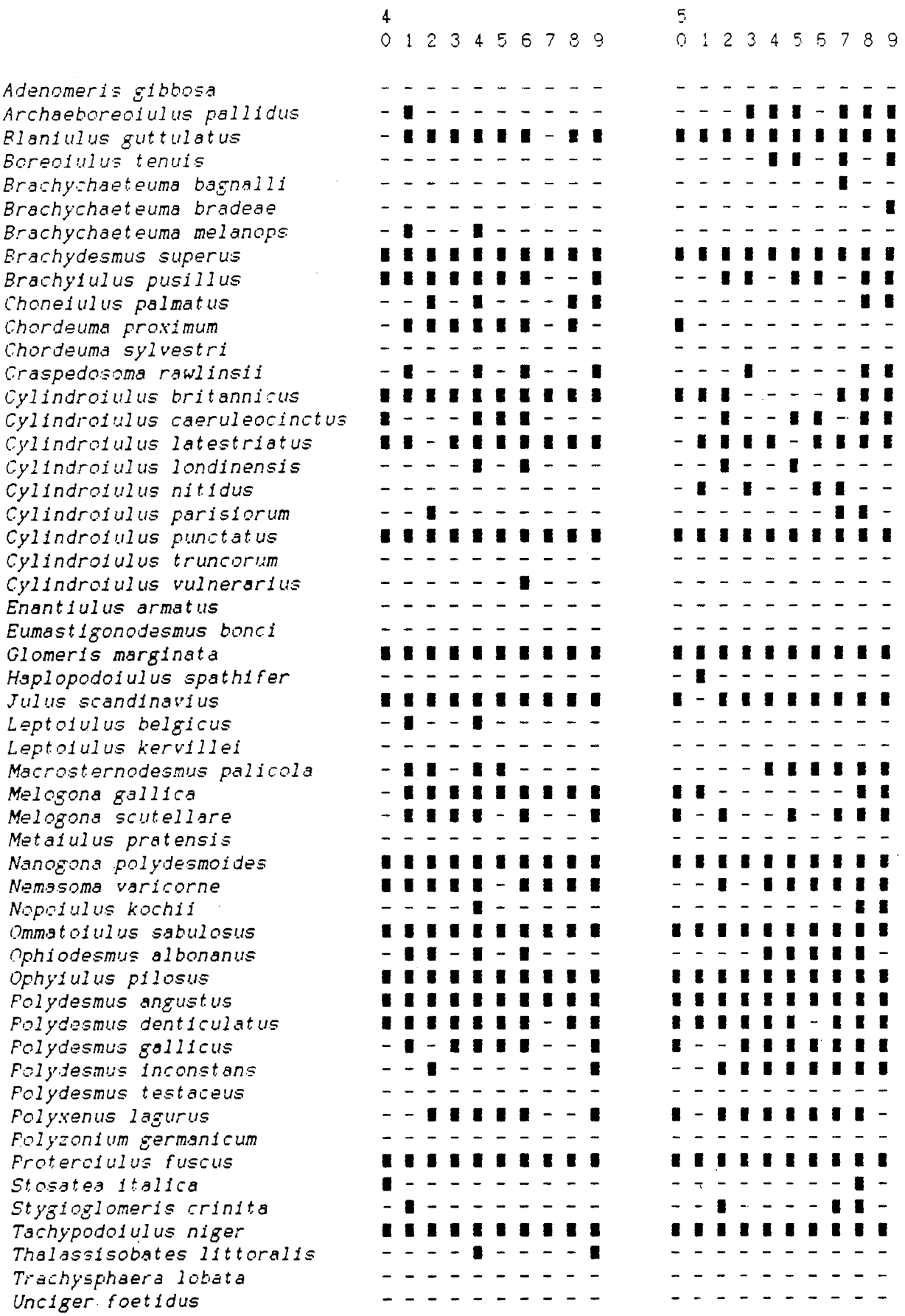

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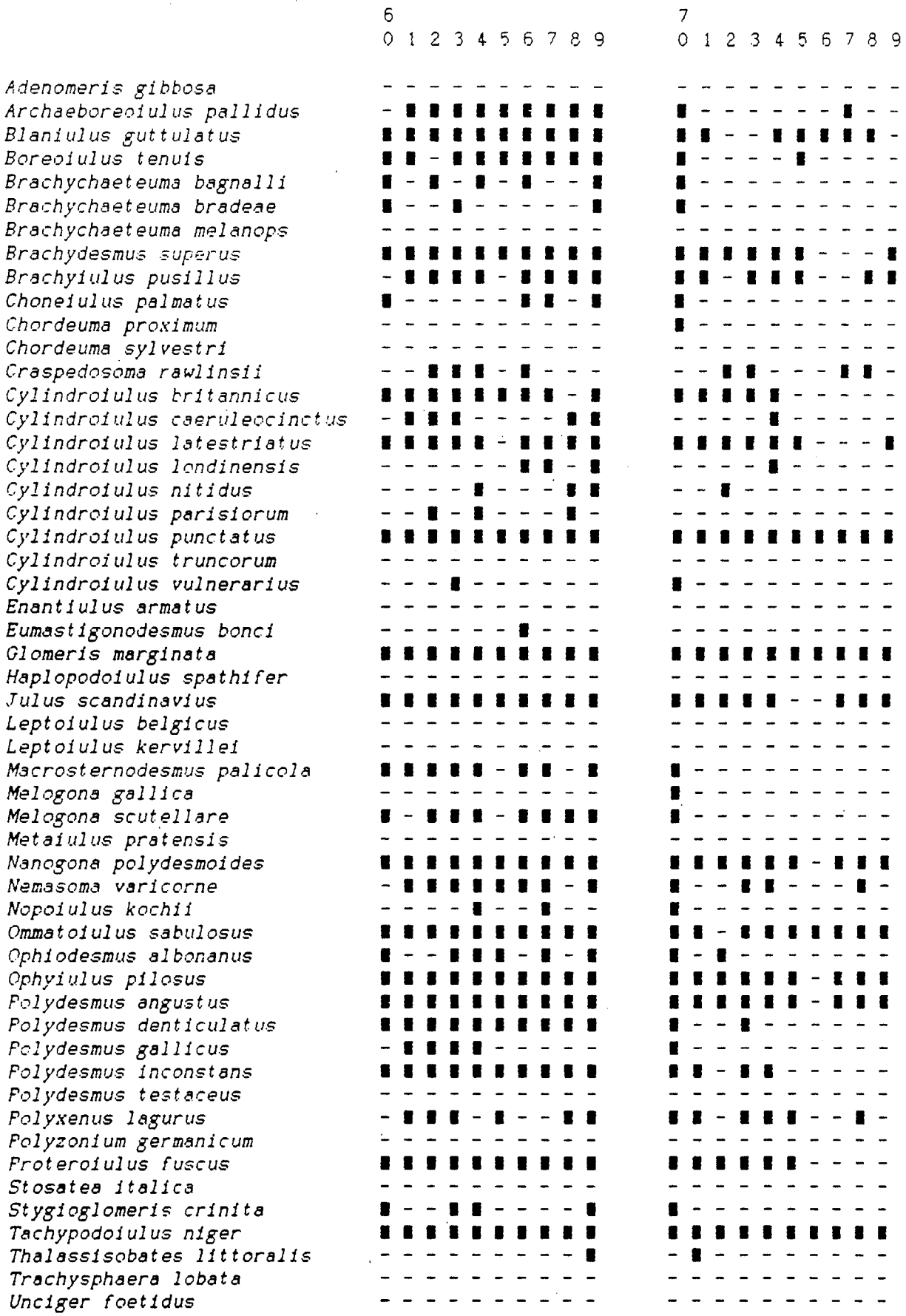

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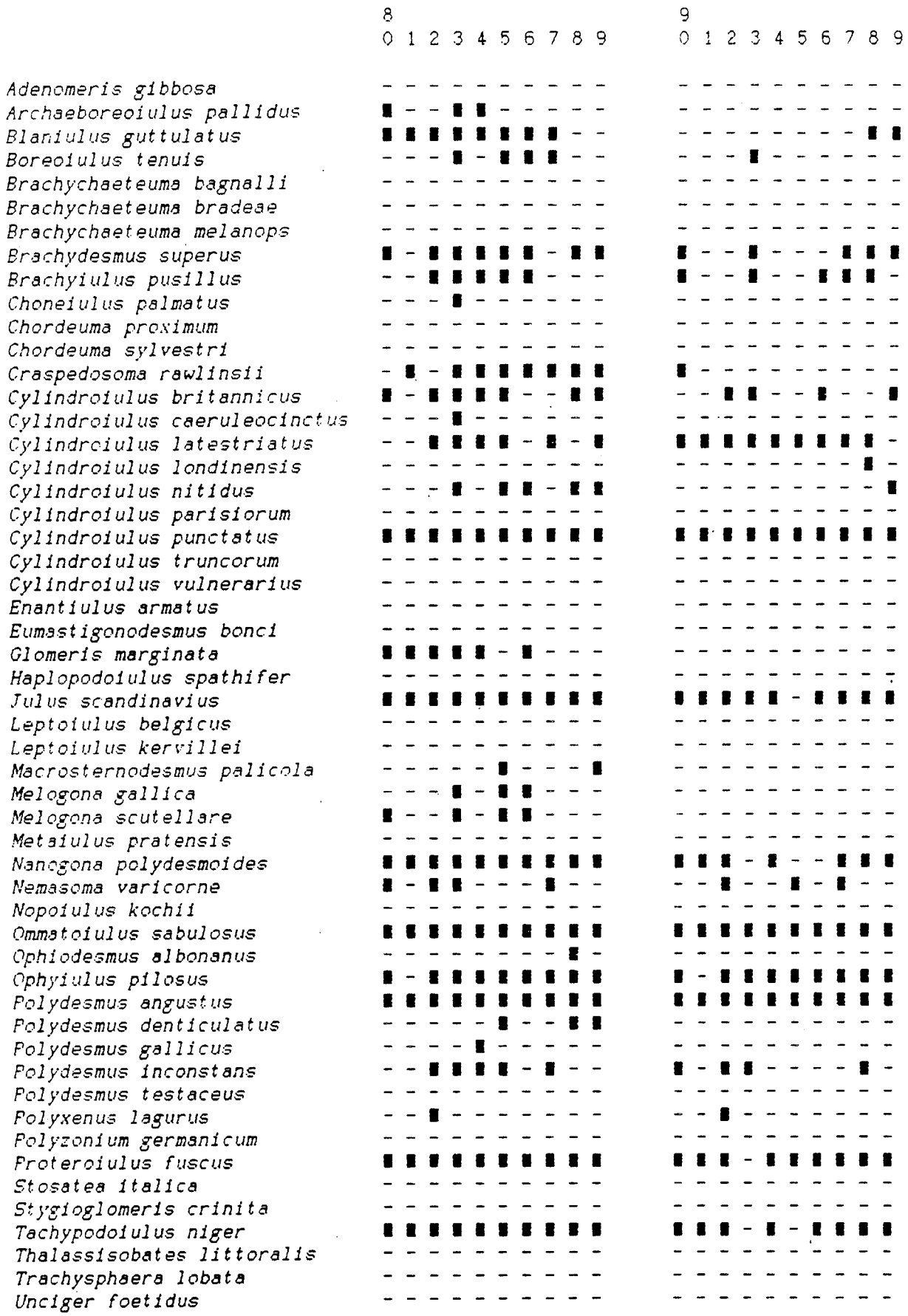

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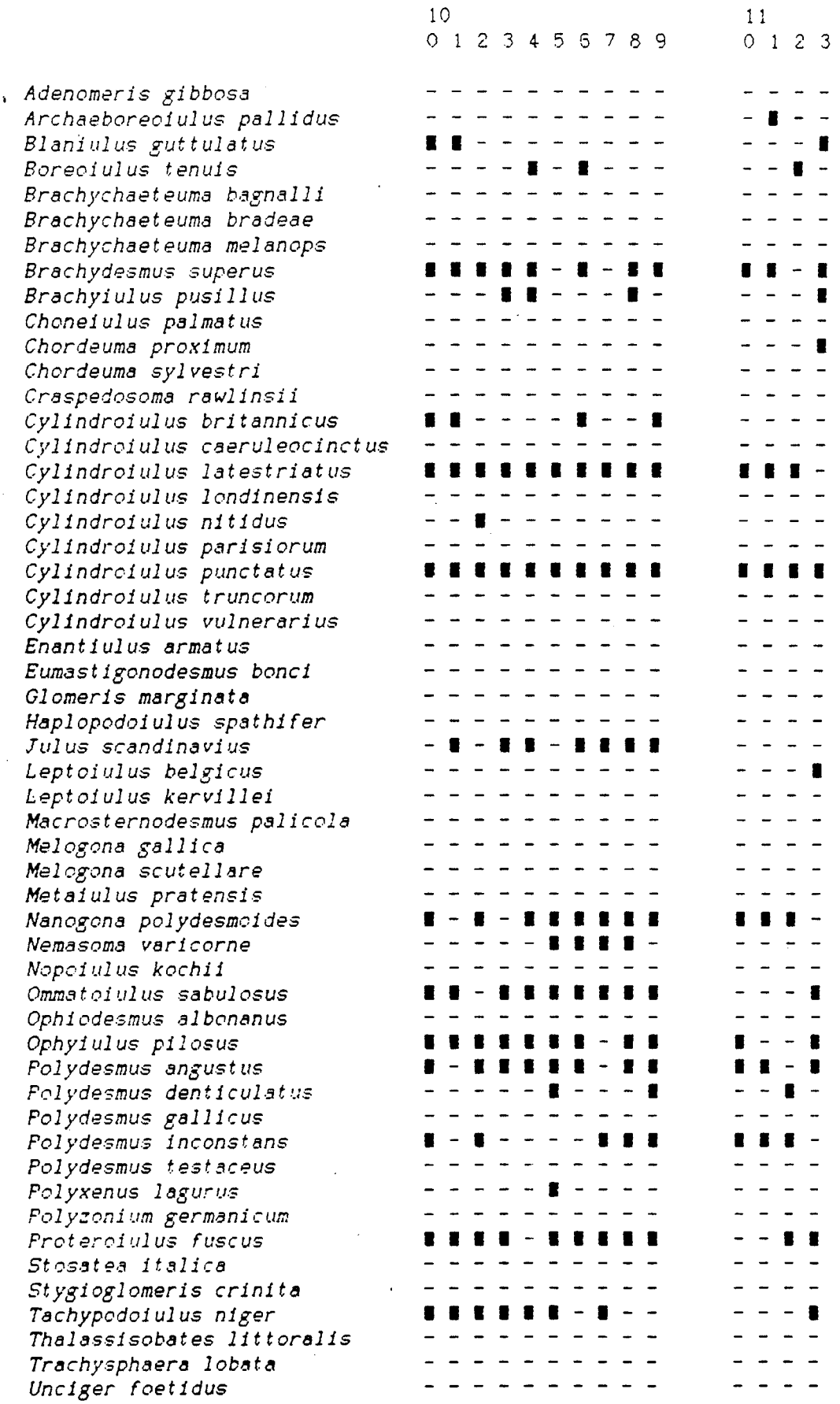
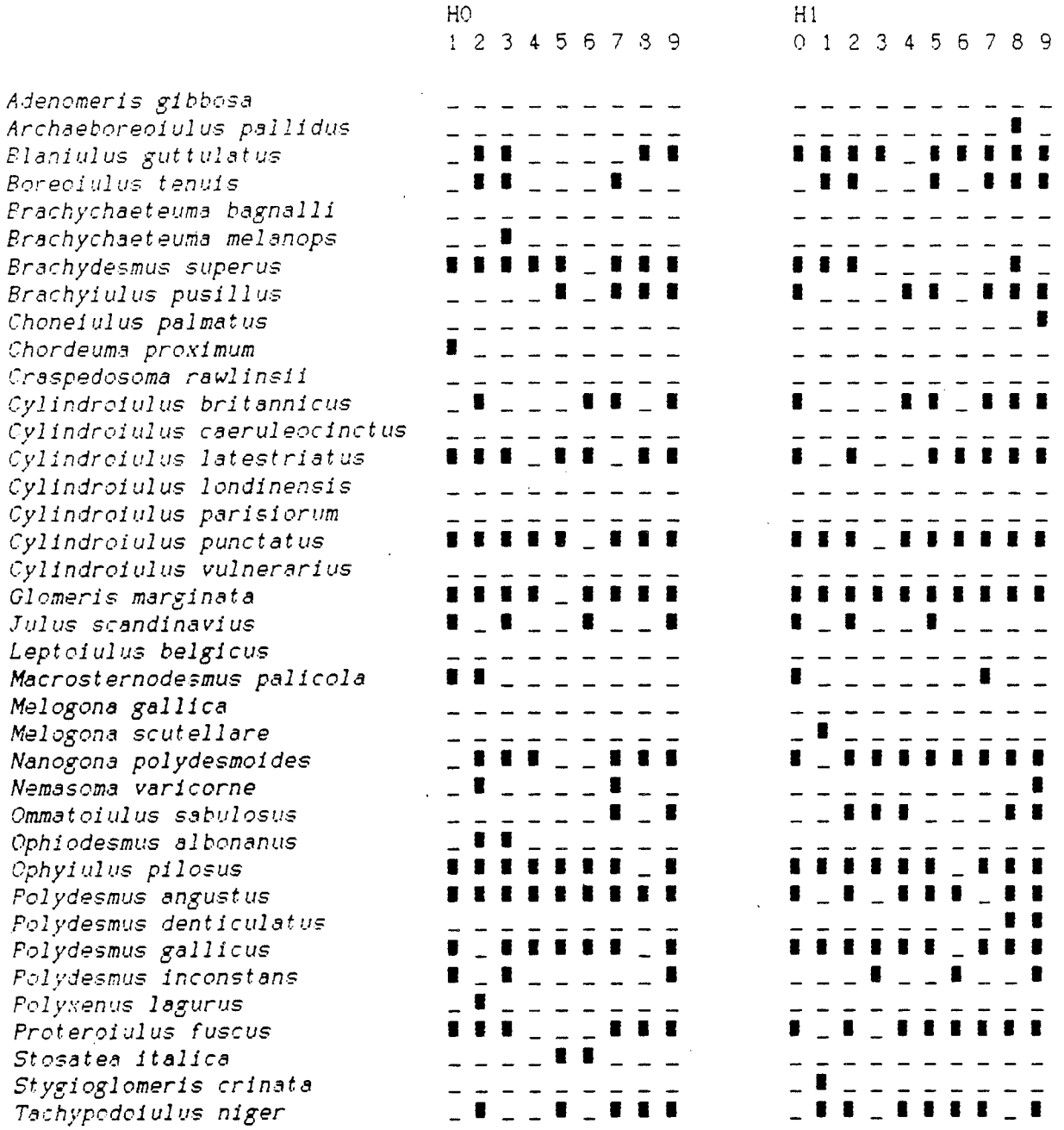


VICE-COUNTY DISTRIBUTION OF MILLIPEDES

IRELAND



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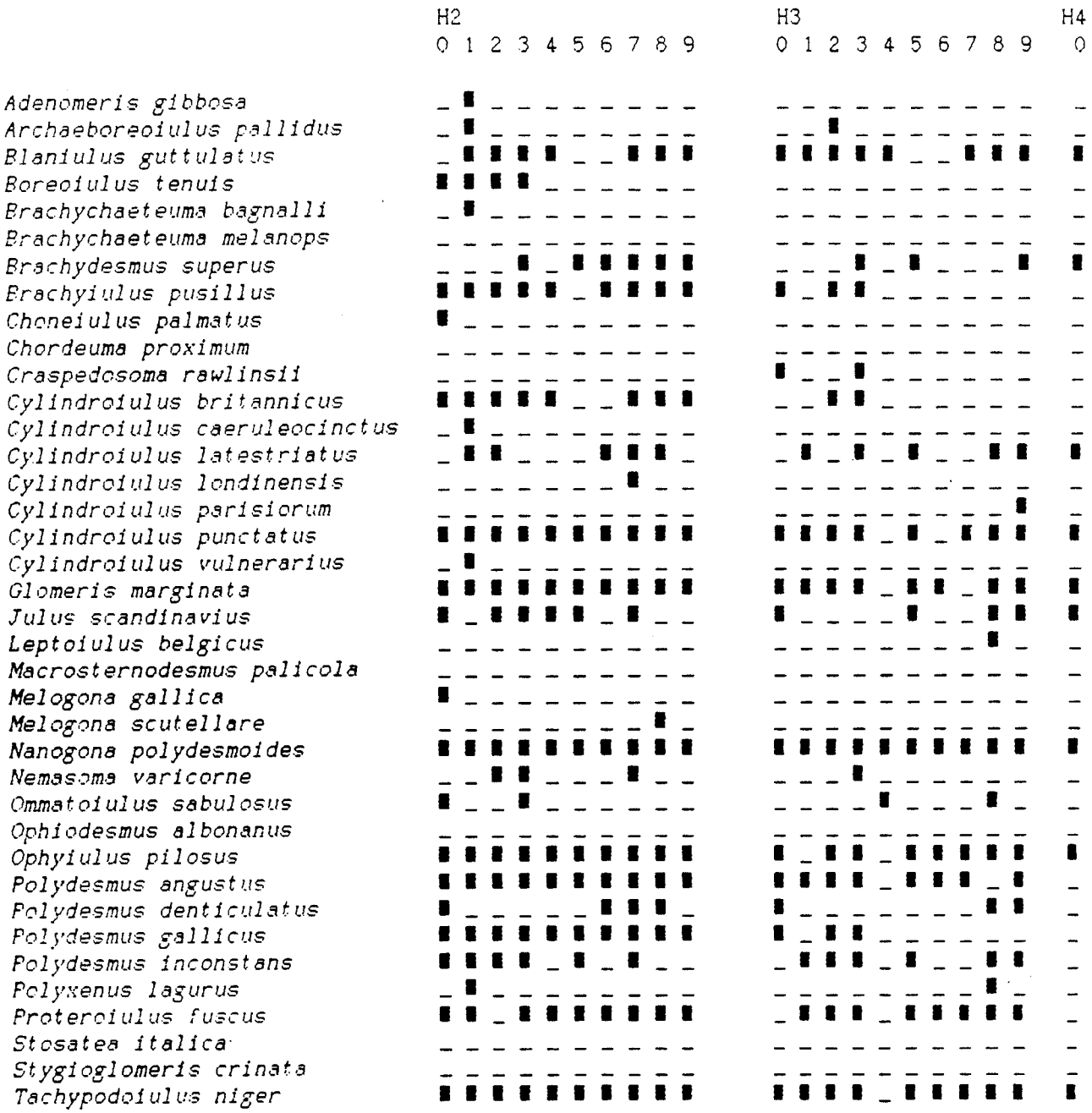

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VICE COUNTY LISTS FOR CENTIPEDES - SEPTEMBER 1992

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Current vice-county lists for British and Irish centipedes are presented. The vice-county numbers are as in Harding and Sutton (1985).

These lists are not claimed to be complete but are an updated version of the lists contained in the 1989 Bulletin of the British Myriapod Group. I would welcome any corrections/additions to help to maintain our records.

Comments on the Vice-County Lists:

1. These lists do not include records which are not yet on record cards or specimens not yet identified.

2. There are clearly areas of poor recording - why not take a holiday and visit these areas?

3. We need to look for coastal species in all coastal Vice-Counties.

4. There is a definite need for many more suburban/urban records.

Key to Lists

* Recorded

\+ Recorded only from glass houses

\- Not recorded

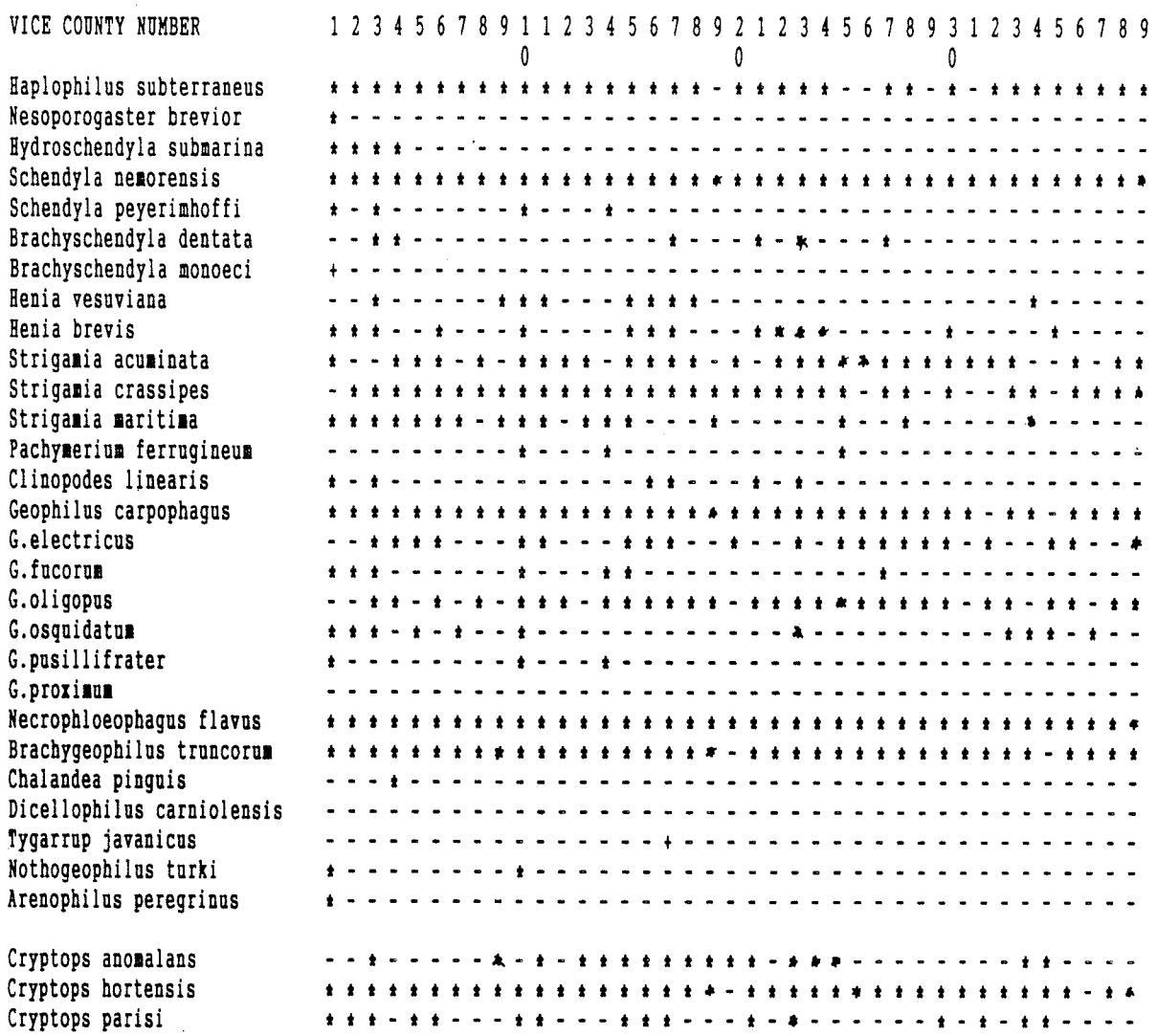
NUMBERS OF CHILOPOD SPECIES BY VICE COUNTIES (IRELAND)

V.C.NUMBER	NUMBER OF SPECIES
H1	15
H2	11
H3	14
H4	13
H5	11
H6	13
H7	6
H8	8
H9	9
H10	4
H11	4
H12	7
H13	7
H14	1
H15	1
H16	6
H17	3
H18	9
H19	7
H20	7
H21	12
H22	6
H23	11
H24	6
H25	1
H26	1
H27	9
H28	10
H29	9
H30	5
H31	8
H32	7
H33	3
H34	5
H35	8
H36	3
H37	11
H38	11
H39	12
H40	7

NUMBERS OF CHILOPOD SPECIES BY VICE COUNTIES

V.C.NUMBER	NUMBER OF SPECIES	V.C.NUMBER	NUMBER OF SPECIES
1	28	57	16
2	21	58	20
3	29	59	17
4	21	60	18
5	20	61	17
6	21	62	18
7	16	63	20
8	15	64	17
9	18	65	18
10	30	66	13
11	26	67	18
12	18	68	14
13	19	69	19
14	24	70	18
15	30	71	18
16	23	72	7
17	29	73	11
18	16	74	10
19	15	75	8
20	13	76	0
21	16	77	4
22	20	78	9
23	24	79	9
24	19	80	9
25	21	81	7
26	14	82	14
27	20	83	21
28	19	84	14
29	12	85	13
30	22	86	7
31	15	87	14
32	14	88	7
33	20	89	5
34	18	90	4
35	14	91	0
36	16	92	4
37	13	93	1
38	15	94	0
39	20	95	4
40	10	96	4
41	24	97	6
42	21	98	9
43	20	99	10
44	25	100	8
45	20	101	2
46	21	102	4
47	12	103	1
48	14	104	11
49	20	105	10
50	10	106	1
51	10	107	4
52	19	108	1
53	15	109	1
54	14	110	9
55	17	111	4
56	16	112	9
		113	11

VICE COUNTY DISTRIBUTION OF BRITISH CENTIPEDES.



Vice County Number	40	1	2	3	4	5	6	7	8	9	50	1	2	3	4	5	6	7	8	9	60	1	2	3	4	5	6	7	8	9	70	1	2	3	4	5	6	7	8	9
Haplophilus subterraneus	-	*	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	-	*	*	*	-	-	*	*	-	-	-	-
Hydroschendyla submarina	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Schendyla nemorensis	-	*	*	*	*	*	*	-	*	*	*	-	*	*	*	*	*	-	*	*	*	*	*	*	-	*	*	*	-	*	*	*	-	-	-	-	-	-	-	-
Schendyla peyerimhoffi	-	*	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-	-	-	-
Henia brevis	-	-	*	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Strigamia acuminata	*	*	*	*	*	*	*	*	*	*	-	*	-	*	*	*	*	*	*	*	*	-	*	*	*	*	-	-	-	*	-	-	-	-	-	-	-	-	-	-
Strigamia crassipes	-	*	*	*	*	-	*	-	-	-	-	-	-	*	-	-	*	-	*	-	-	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Strigamia maritima	-	*	-	-	*	*	*	-	-	*	-	*	*	-	-	-	-	-	*	-	*	*	*	-	-	-	-	*	*	*	*	*	-	-	-	-	-	-	-	-
Clinopodes linearis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	*	-	-	-	*	*	*	-	-	-	-	-	-	-	-	-	-	-	-
Geophilus carpophagus	*	*	*	*	*	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	*	*	*	*	*	*	-	*	*	*	*	*	-	*	*	*	-	-	*	*
G.electricus	-	*	*	*	-	-	*	-	*	*	-	-	*	*	-	*	*	*	*	-	*	-	-	*	*	*	-	-	-	*	-	*	-	-	-	-	-	-	*	-
G.fucorum	-	*	-	-	-	-	-	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	*	-	-	-	-	-	-	-	-
G.oligopus	-	*	*	*	*	*	*	*	-	*	-	-	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	-	-	-	*	*	-
G.osquidatum	-	*	*	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Necrophloeophagus flavus	-	*	*	*	*	*	*	-	-	*	-	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	-	*	*	*	*	*	*	*	*	*	-	*	*	*
Brachygeophilus truncorum	*	*	*	*	*	*	*	*	*	*	-	-	*	-	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	-	-	-	-	*	*
Dicellophilus carniolensis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-
Cryptops anomalans	-	-	-	*	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cryptops hortensis	*	*	*	*	*	*	*	-	*	*	-	-	*	*	-	*	*	*	*	*	*	-	*	*	*	-	-	*	-	*	*	*	-	-	*	*	-	-	-	-
Cryptops parisi	-	*	-	-	*	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Vice County Number	80	1	2	3	4	5	6	7	8	9	90	1	2	3	4	5	6	7	8	9	100	1	2	3	4	5	6	7	8	9	110	1	2	3
Haplophilus subterraneus	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-	-	-	-	*
Hydroschendyla submarina	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*
Schendyla nemorensis	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-	-	-	-	*	-	-	-	*	-	*	-	*	*
Strigamia crassipes	-	-	*	-	*	*	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Strigamia maritima	-	*	*	*	*	*	*	*	-	-	-	-	-	-	-	-	-	-	*	-	*	*	-	-	*	-	*	-	*	-	*	*	*	*
Clinopodes linearis	-	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geophilus carpophagus	*	*	*	*	*	*	-	*	*	*	-	-	-	-	-	-	-	-	*	*	-	-	-	*	*	*	-	-	*	-	*	-	-	*
Geophilus electricus	-	-	-	*	*	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Geophilus osquidatum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*
Geophilus oligopus	*	-	*	*	*	*	*	*	-	*	*	-	-	-	-	-	-	*	*	*	*	-	-	-	*	*	*	-	*	-	-	-	*	-
Geophilus proximus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*	-
Necrophloeophagus flavus	*	-	*	*	*	*	*	*	-	-	*	-	-	-	-	-	-	*	-	*	*	-	-	-	*	*	-	-	-	-	-	-	-	-
Brachygeophilus truncorum	*	-	*	*	*	*	*	*	*	*	-	-	*	-	-	*	*	*	*	*	*	-	-	-	*	*	*	*	*	-	*	-	*	-
Cryptops hortensis	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*
Cryptops parisi	-	-	-	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scutigera coleoptrata	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	*

Vice County Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
Lithobius variegatus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	+	-	+	+	+	+	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
L.peregrinus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L.forficatus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
L.piceus	-	-	-	-	-	-	-	-	-	+	+	+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L.melanops	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
L.macilentus	-	-	-	-	-	-	+	+	+	-	+	-	-	+	-	+	-	+	+	-	-	+	+	-	-	-	-	+	+	-	+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L.tricuspis	-	-	+	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L.borealis	+	+	+	+	+	+	+	-	-	+	+	+	-	+	+	+	+	-	-	-	-	+	+	+	-	+	+	-	-	+	+	+	-	+	+	-	+	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
L.lapidicola (pusillus)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L.pilicornis	+	+	+	-	-	-	-	-	+	+	-	-	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L.calcaratus	+	+	+	+	+	-	-	-	+	-	+	+	+	-	+	-	+	+	+	-	-	+	-	+	+	+	+	-	+	+	+	+	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
L.muticus	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	-	-	-	+	+	+	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
L.crassipes	+	-	-	-	+	+	+	-	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
L.curtipes	-	-	-	-	-	+	-	+	-	-	+	-	-	+	-	+	+	-	-	-	+	-	-	-	+	-	-	-	+	-	-	+	+	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
L.microps	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
L.tenebrosus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lamyctes fulvicornis	-	+	+	+	+	+	-	-	-	+	+	-	-	+	+	+	+	-	-	-	-	-	-	-	+	+	+	+	-	+	+	+	-	+	+	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Vice County Number	40	1	2	3	4	5	6	7	8	9	50	1	2	3	4	5	6	7	8	9	60	1	2	3	4	5	6	7	8	9	70	1	2	3	4	5	6	7	8	9
Lithobius variegatus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	-	+	+	+	+	-	+	-
L.forficatus	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+
L.piceus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-
L.melanops	-	+	+	+	+	+	+	-	-	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	-	-	-	-	-
L.macilentus	-	-	+	+	+	+	-	+	-	+	+	-	-	+	+	-	+	-	+	-	-	+	+	+	+	+	+	-	-	+	+	+	+	-	-	-	-	-	-	+	-
L.tricuspis	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L.borealis	+	+	+	+	+	+	+	+	+	+	+	-	+	-	-	-	-	+	+	-	+	+	-	+	+	-	+	+	+	+	+	+	+	+	+	+	-	-	-	+	-
L.pilicornis	-	+	-	-	+	+	-	-	-	-	-	+	-	-	-	-	+	-	-	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L.calcaratus	+	+	+	-	+	+	+	-	*	*	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	-	-	+	-	-	-	-	-	-	-	+
L.muticus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L.crassipes	-	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	+	+
L.curtipes	-	-	+	+	+	-	-	+	-	-	-	-	+	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L.microps	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
L.tenebrosus	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lamyctes fulvicornis	+	+	+	-	+	+	-	-	+	+	-	*	+	+	+	+	+	+	+	+	-	+	+	+	+	-	+	+	+	-	+	+	+	-	+	+	+	-	-	+	+

Vice County Number	8 1 2 3 4 5 6 7 8 9 9 1 2 3 4 5 6 7 8 9 1 1 2 3 4 5 6 7 8 9 1 1 2 3
	0 0 0 1
	0 0
Lithobius variegatus	- + + - - - - + - - - - - - - - - + + + + + + - + - - - - - + - - +
L.forficatus	+ + + + + + + + + + + - + + - + + + + + + - + - + + - + + + + + + +
Lamyctes africana	- - - + -
L.melanops	+ + + + + + + + + - - - + - - - + + + + + + - + - + + - - + - - - + -
L.macilentus	+ - - + - - - - + -
L.borealis	- - - - - - - - + - - - - - - - - - + + - - + - + + + - - + - + - + -
L.pilicornis	- +
L.calcaratus	- + + + - + - + - - - - - - - - - - + - - - - - - - - - - - - - - -
L.muticus	- - - + -
L.crassipes	+ + + + + + + + + + + - + - - + + - - + - - - - - + + + + - + + - -
L.lapidicola	- - - - + -
L.microps	- - + + + + - + -
Lamyctes fulvicornis	+ - + + + + - + + - - - - - - + - - - + - - - + + - + + - + + + + -

IRISH VICE COUNTY RECORDS

Vice County Number	1 2 3 4 5 6 7 8 9 1 1 2 3 4 5 6 7 8 9 2 1 2 3 4 5 6 7 8 9 3 1 2 3 4 5 6 7 8 9 4
	0 0 0 0
Haplophilus subterraneus	+ - + + + + - + - - - - - - - + - - - + + + + - - + - - + + + + - - - + - - -
Hydroschendyla submarina	- - - - - - - - - - - - - - - - + -
Schendyla nemorensis	+ - + + + + - - + - - + - - - - - + - + + - + - - - + - - - - - - - + - + + +
Strigamia crassipes	+ - - + - + - - - - - - + - - - - - + - - - - - - - - - - - - - - - + - - -
Strigamia maritima	+ - + + + + - - + - - + - - - - - - + - - - - - + - - - + - - - + + - - + + -
Geophilus carpophagus	+ - - - - - - - - - - - - - - - + + - - + - - - - - + + + - - - - - + - + + +
G.electricus	+ + + + + + - - + - - + - - - - - + + - - + - - - + - + - - - - - - - - - -
G.fucorum	- - - - - - - - - + -
G.oligopus	+ + - - - + + + - - - - - - - - - - + + + + + - - - + + + + + - - - - - + - +
G.osquidatum	- - - + -
Necrophloeophagus flavus	+ + + - + + + + + - - + + - - + - + + + + + + + - + - + + + + + - - - - + - - -
Brachygeophilus truncorum	+ + + - - + - + - + - - - - - - - - + - - - + + + - - + + + + + + - - - - - + + -
Henia brevis	- + -
Strigamia acuminata	- - + -
Cryptops hortensis	+ + + + - + - - + - + - - - - - - - - + - - - - - - - - - - - - - - + + -
Cryptops parisi	- - - + + -
Lithobius variegatus	+ + + + + + + + + + + + + - + + - + - + + - + + - - + + + + - + - + + + + + +
L.forficatus	+ + + + + + + + + + + + + - + + + + + + + + - - + + + - + + + + + + + + +
L.melanops	+ + + + + + + + + - - - + - - + - + + + + + + - - - + + - - + - - + + - + + + +
L.borealis	+ + + - - - - - - - - - - - - - - - - + - - - - - - - + + + - - - + - + + + + -
L.crassipes	- + + - - - - + - - + +
L.microps	- + + + + + + + - + + + + - - - + + - + + + + + - - + + - - - - - + - + + + -
Lamyctes fulvicornis	+ - + + + - - - - - - + - - - + - - + - + - - - + - - - - - - - + - - - + -

MISCELLANEA

Some notes on Cryptops anomalans Newport

Cryptops anomalans is the commonest chilopod species in my garden at Woodmansterne, Surrey (Grid ref; 51277604) and can be found in virtually every microhabit in the garden. So far I have been unable to discover this species inside a building (house, garage or garden shed) and in this C.anomalans differs from Lithobius forficatus which often ventures inside of buildings. The commonest habit for this species is in the soil by day but C.anomalans can be frequently found running over the ground surface by night, presumably in pursuit of items of prey.
I have observed C.anomalans eating the following:

Earthworms (species unknown)
Earwig (Forficula auricularia)
Centipedes (Henia vesuviana, Haplophilus subterraneus, Necrophloeophagus flavus)
Millipede (Cylindroiulus caeruleocinctus)
Diplura (species unknown)

In most cases the prey is grasped in the forcipules and devoured whilst still struggling. It was particularly noticeable that the "glue" produced from the sternal pores of Henia vesuviana had little or no effect on the C.anomalans. The specimen of C.caeruleocinctus was dead or paralysed and had been torn open posteriorly between two segments. There was no evidence of ozadene secretion as a defence against the attack by the C.anomalans which may indicate that the C.caeruleocinctus was already dead when found by the C.anomalans. The earwig had had its cephalus removed, leaving the contents of the abdomen free to be eaten.

C.anomalans is often large and specimens of 70 mm are not unusual. It has an aggressive habit and is capable of inflicting a painful bite on man when handled. The area around the site of such a bite swells and there is some considerable local pain (similar to a wasp sting) which disappears after a period of about one or two hours. The bite site remains swollen for several hours.

Adults specimens of C.anomalans have been available from April (when I first moved to Woodmansterne) and are still present in September. There does not seem to have been any diminution of their numbers throughout the dry summer months. Juvenile specimens first appeared in early August but I have no knowledge of their stadia.

An unusual colour form for Cylindroiulus caeruleocinctus (Wood)

C.caeruleocinctus is described as being brown-black and as having a metallic 'sheen' caused partly by air included in the interring joints (Blower 1985).
On 14th September 1992 I discovered a large male specimen of this species under leaf/twig litter in a domestic garden at Woodmansterne, Surrey (Grid Ref: 51277604) which, in daylight, appeared to be burnished copper in colour.
Under microscopic examination the specimen had a red pigmentation and a distinct metallic sheen, causing the burnished copper appearance.

Scutigera coleoptrata in Hampshire and Suffolk

Mrs Heather Tait of Alton, Hants sends us a record of Scutigera coleoptrata found in her kitchen sink and identified by a friend from the Forestry Commission. This was shortly after she had been presented with a flower arrangement and a bouquet. Informed by Mr Carter that it was uncommon in Britain but occurred in the Channel Islands she remembered the flowers but does not know where they actually came from. We also find in our records a report of this species, collected R. Aggio determined S. Went and A. Beaumont, from Bishops Walk, Lowestoft, 19th March 1988 (Trans. Suffolk Nat. Soc. 24:40) (Information from Paul Lee)
Eds.

A Few Centipede Records from Northern Ireland

Few records of chilopods from Northern Ireland have been made since the 1920's or earlier. Keith Alexander sent specimens as under last autumn:

Schendyla nemorensis	Murlough (Down) Murlough Bay (Antrim)
Strigamia maritima	Bally keel (Antrim)
Geophilus carpophagus	Murlough (Down)
Brachygeophilus truncarum	Cram Estate (Fermanagh) Murlough (down), Craigagh (Antrim)
Lithobius melanops	Coney Is (Armagh), Giants Causeway (Antrim)
Lithobius borealis	Slieve Donard (Down), Murlough (Down), Orlock (Down), Craigagh (Antrim, Cushleake (Antrim), Ardmalin (Donegal)

These have all previously been recorded from the province. Our thanks to Keith for the specimens.

The Biology of Millipedes, S.J. Hopkin and H.J. Read

Steve and Helen's book was published last summer and is available from bookshops or Cash with Order Department, Oxford University Press, Freepost NH4051, Corby, Northants NN18 9BR. (See separate advertisement).

The Status of Lithobius micropodus Matic

Amongst material collected by Charles Rawcliffe from the Royal Botanic Garden, Edinburgh were specimens which wer tentatively identified by E.H. Eason as Lithobbius micropodus Matic = L.microps and referred to in my 1992 account (Ber. nat. - med. Verein Innsbruck Suppl. 10: 339-352).

Dr Eason has now examined a number of specimens of this species and informs me that he is now convinced that our Edinburgh specimens were almost certainly immature Lithobius lapidicola, a species also recorded from the glasshouses there. L.micropodus is quite characteristic and I.Kos (Slovenia) is to publish a description . The description of L.microps microps by J. Kaczmarck (Pareczniki Polski, 1979) shows differences in detail but these may be due to intra specific variability (E.H.E., pers. comm.).

Myriapods from Fair Isle

The following records of species from Fair Isle are based on collecting during the period 20-27th July 1992 primarily for wood lice and harvestmen and are derived from the report "Invertebrate Twitching on Fair Isle" by Jon Daws.

Chilopoda	Brachygeophilus truncorum
	Lithobius forficatus
	Lithobius melanops

All were common throughout the isle.

Diploda	Cylindroiulus latestriatus

Around most of the isle under rocks and pieces of wood.
(Determinations by ADB and REJ)

Eds pp Jon Daws

Millepattia

Et cric, et crac
Et cric, et crac
Et lepit, et lépat
Et lepit, et lépat
Et les pattes, et les pattes
Et les pattes du mill-pattes
Elles sont bien fatiguées
Comme les pattes, les mille pattes
Qui ont beaucoup marché
Toutes ces pattes, tous ce pieds
Pattes Pattes Pattes Pattes
Toutes les pattes due mille-pattes se sont mises à avancer
Comme il curt vite le mill - pattes tout le long du fosse
Où vas-tu grand mille-pattes?
- Mois j'm'en vais, moi j'm'en vais
Et toi petit mill-pattes
- Il est déjà couché

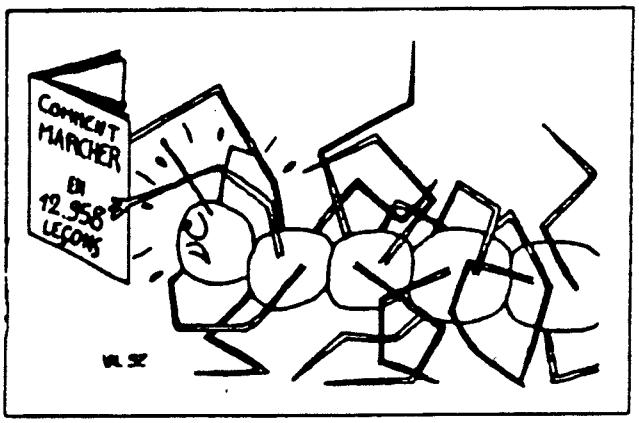
Tout ça pour vous dire que les mille-pattes sont tres gentils mais qu'il faut parfois savoir s'en metier.

With this begins no. 1 of Millepattia, published Summer 1992 as a sister publication to "Penelope" BP 5057 69245 Lyon Cedex 05. It is to be published twice yearly with annual subscription (outside France) of 50 FF.

It contains an editorial, the story of "L'aie et l'ouille" from Africa (which readers may have met before), an announcement of the 9th International Congress in July this year, an article by Jean-Marie Demange on locomotion in myriapods, a key to the identification of myriapod calsses and the orders of chilopods common in soil by Jean-Jacques Geoffrey and information on the CIM.

We wish the publishers well !

Eds.



OXFORD UNIVERSITY PRESS

The Biology of Millipedes

OXFORD SCIENCE PUBLICATIONS

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Tel: (0865) 56767 Fax: (0865) 56646

Stephen P. Hopkin, Lecturer in Zoology, University of Reading, **and Helen J. Read**, Ecologist for the Corporation of London at Burnham Beeches.

Millipedes are common components of the leaf-litter fauna of most terrestrial environments. *The Biology of Millipedes* is the first single-volume review of this important group and covers their ecology, behaviour, physiology, and evolution. This book is essential reading for terrestrial ecologists, zoologists, and students taking courses in invertebrate biology.

Introductory chapters consider millipede taxonomy and phylogeny, basic anatomy, locomotion, and ecomorphology. Later chapters review feeding and digestion, metabolism, nerves, and neurosecretion, together with all aspects of millipedes in decomposition processes, and their role as pests. The authors provide an extremely comprehensive bibliography of research papers and literature.

Contents: General introduction; Taxonomy, evolution, and zoogeography; Basic anatomy, locomotion and ecomorphology; Feeding and digestion; Metabolism, excretion, and water balance; Nervous, sensory and neurosecretory systems; Gametogenesis and fertilization; Development, moulting, and life histories; Predators, parasites, and defence; Ecology; Concluding remarks; References; Glossary; Index.

0-19-857699-4, 256 pages, 26 halftones, 64 line figures, June 1992
Hardback **£35.00**

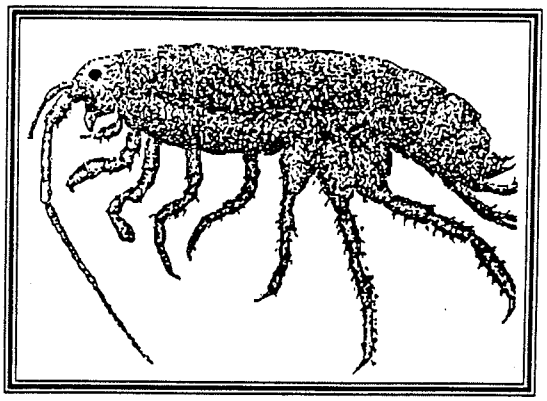
ARCITALITRUS OUR ANTIPODEAN INTERLOPER

If you have ever been to the beach a few days after a storm and turned over the piles of seaweed that have been washed on to the strandline, you will have noticed many dark shrimp like creatures leaping franticly about in a desperate attempt to escape from the light. These are members of the crustacean group the amphipoda, which go by the common name of sandhoppers. Such a sight is extremely common, but if whilst walking through a woodland you disturbed the leaflitter and observed a similar occurrence it might strike you as unusual. This would almost certainly be a sighting of the woodhopper Arcitalitrus dorrieni.

Back in 1925 Col Dorrien-Smith discovered a small shrimp like creature in leaflitter from the Abbey gardens on Tresco in the Isle of Scilly. This was well away from the aquatic or semi aquatic habitat that is normally associated with such animals. A specimen was duly sent to the Marine Biological Association Laboratories in Plymouth. There Mr Hunt identified it as an amphipod and declared it a species new to science, giving it the name Talitrus dorrieni after it's discoverer.

Then in 1936 it was located in the environs of lake Kelymore, Co Galway Ireland, living in damp leaf litter.

Fourteen years later it was reported from the pine woods that bordered the Abbey gardens on Tresco and by 1960 it had been found on most of the other islands in the Scilly's group.



The woodhopper Arcitalitrus dorrieni

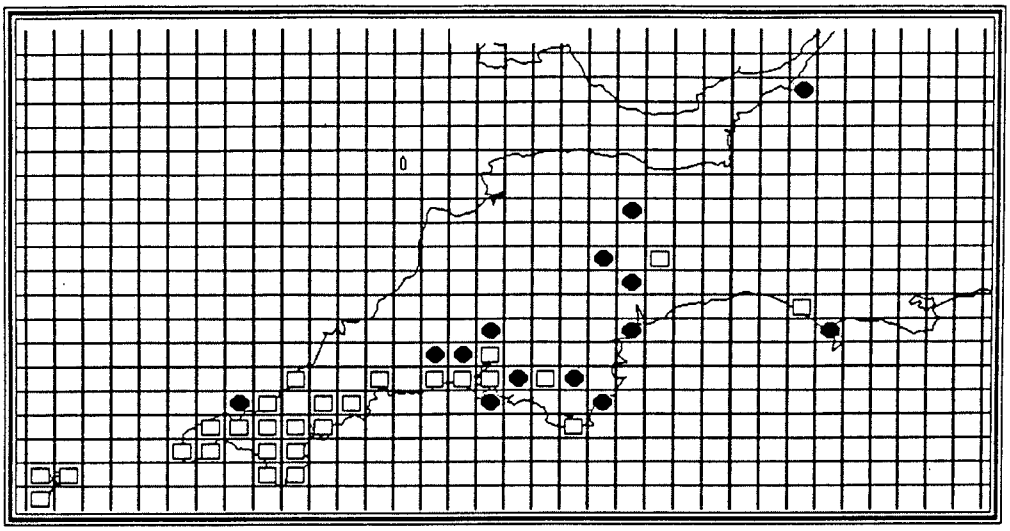
1961 saw the first mainland record from a garden in Penzance and by 1976 it had spread as far as Truro.

The next new siting was reported two years later from the Isle of Colonsay in the inner Heridies, followed two years later by the discovery of a colony in the grounds of Kew gardens on the outskirts of London.

All of these sightings were associated with gardens containing collections of sub tropical plants from New Zealand, which included tree ferns of the genus Dickensonia. Where coincidentally terrestrial amphipods are also to be found.

The inference has been drawn that the woodhoppers were introduced to these sites with the tree ferns, being transported in the soil associated with their roots or in the recesses formed by the shaggy scales on the trunks.

Since its discovery on the Cornish mainland the woodhoppers distribution has been expanding steadily eastward. The first Devon record was in 1982 from Budeshead wood on the outskirts of Plymouth. A quick survey of



The distribution of the Woodhopper in SW Britain.
Squares = pre 1992 data
Circles = 1992 data

the Plymouth area revealed it was also present in Fordpark cemetery but no further colonies were located. Two years later it was recorded from the woodland adjacent to Budeshead wood and by 1990 it was present in almost every woodland within the city boundary.

The current survey has revealed woodhopper colonies spread across South Devon into Dorset with an isolated population at Bristol.

This distribution poses the questions, what is constraining the spread of the woodhoppers and how are they transported from site to site.

It has been demonstrated that the woodhopper can move as much as 40 meters a night in Tasmania. If it's dispersal rate was the limiting factor it could be expected to be more widespread than it is, given that it has been 70 years since it was first discovered on the mainland. The other options are that the required habitat has a patchy distribution or that some climatic factor is exerting a controlling influence.

In order to answer these questions we are attempting to delimit the woodhoppers current distribution. As at the moment it is unclear if the woodhopper is absent from most of N Devon, Dorset and Somerset or merely not yet recorded.

If you encounter a colony please send in a specimen or two packed in cotton wool dampened with either methylated spirit or water then sealed in a 35mm film canister. Please enclose the following details.

The site name and address.
The site map reference.
The habitat in which it was found.
(Gardens, Parks, Woodland, etc)
The date of the first sighting.

We wish you luck in locating our antipodean interloper.
Peter Smithers and Tony Barber

Please send your samples to;
The Woodhopper Survey
Dept Biological Science
University of Plymouth
Drake Circus
Plymouth
Devon PL4 8AA