

YORKSHIRE CENTIPEDES

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INTRODUCTION

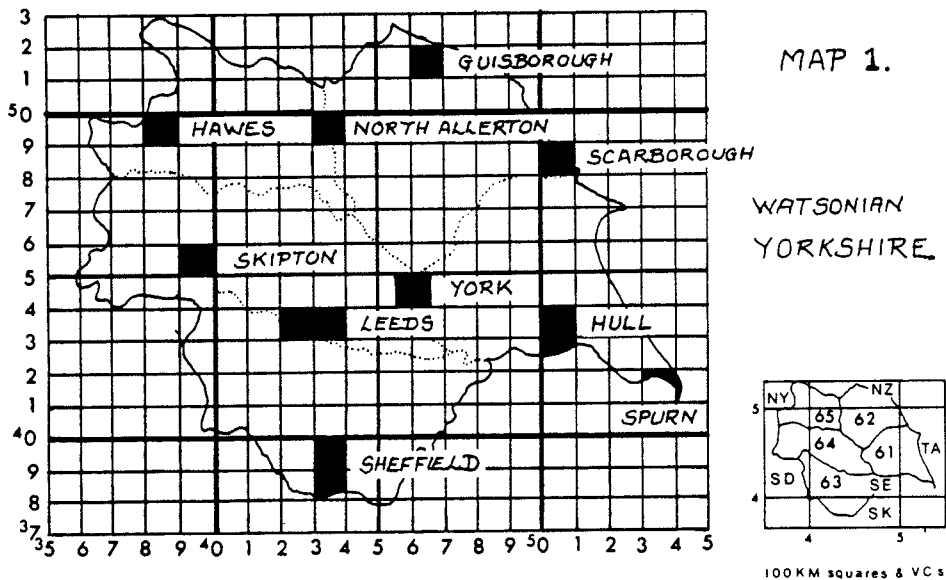
The substance of this paper is treated similarly to that of a previous paper on Yorkshire millipedes (Richardson, 1990). The aim is to bring up to date our knowledge of the centipede fauna of Yorkshire and by doing so remove the necessity for future researchers having to repeat the groundwork. To this 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

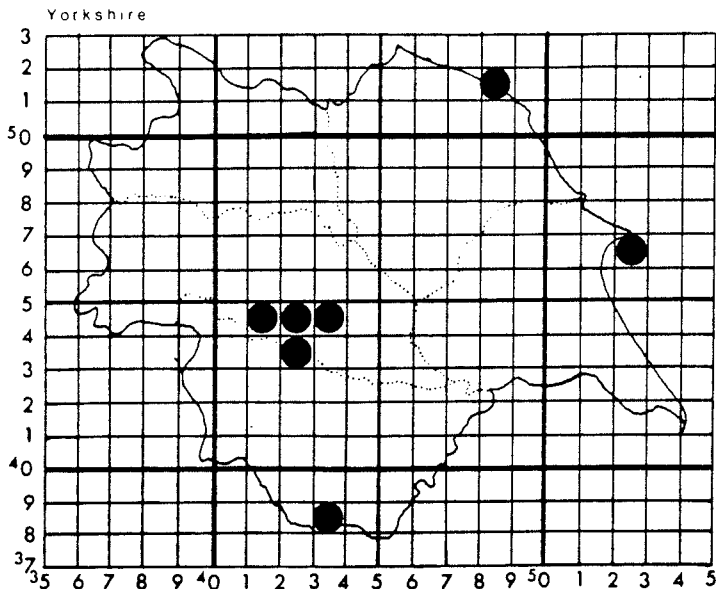
The first reference to the myriapoda of Yorkshire comes in the form of an appeal by H Franklin Parsons which appeared in The Naturalist under the heading "NEGLECTED ORDERS" (Parsons, 1878).

".....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?....."

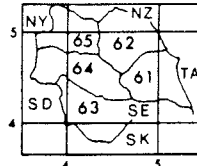
No one took up the challenge, not even Dr Parsons himself. The latter is understandable his address was Whitehall, London. What a pity he did not reside in Yorkshire, for one thing he was an active microscopist, member of the Postal Microscopical Society and their President from 1879-80 (Allen, 1882).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



MAP 2
RECORDS
1910 to 1935.

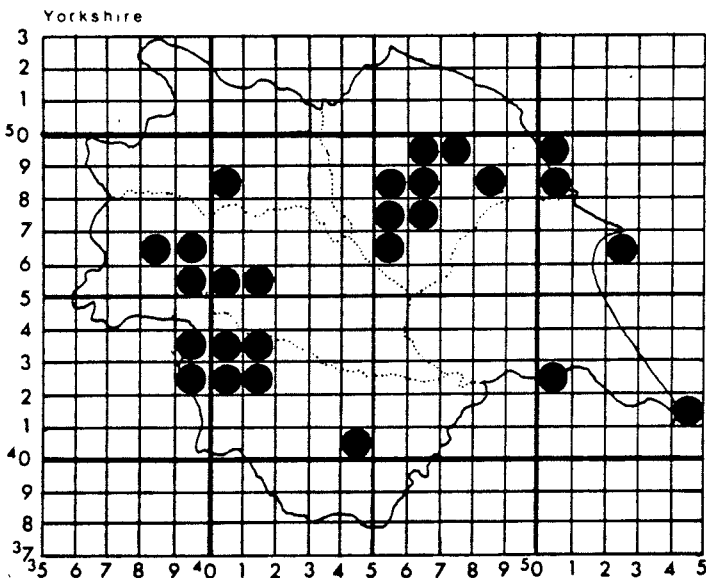


100KM squares & VC's

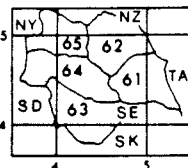
Bagnall (1918, 1935); Blower (1955); Brade-Birks (1917); Brölemann (1896, 1930); Evans (1910); Falconer (1911); Thompson (1921); Turk (1947).

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.



MAP 3
RECORDS
1947 to 1969.



100KM squares & VC's

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

Table 1.

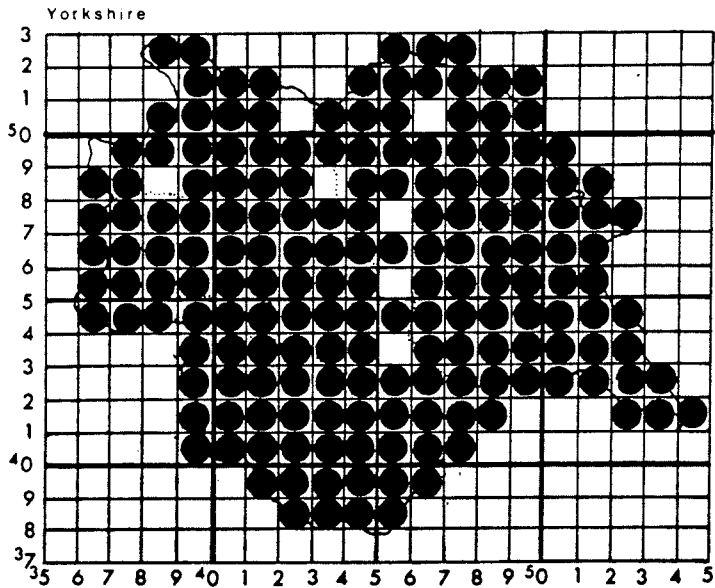
YEAR(S)	19--	10	11	13	17	21	34	35	47	48	49	50	51	52	53	54	55	59	60	61	68	69	70 to 89	
<i>Haplophilus subterraneus</i>		1										2	1		1				1			2		56
<i>Hydrochendyla submarina</i>									1															0
<i>Schendyla nemorensis</i>													1											14
<i>Strigamia crassipes</i>																								1
<i>accuminata</i>																3		2		1			1	41
<i>maritima</i>													1											3
<i>Clinopodes linearis</i>								1																1
<i>Geophilus cataphagus</i>		1								1			4	2								4		110
<i>electricus</i>				1																				13
<i>insculptus</i>							1			1	2	3	3		3						1			133
<i>Necrophloeophagus flavus</i>		3				2					4	2			4						1			67
<i>Brachygeophilus truncorum</i>											1	5	2		2	1					5			135
<i>Cryptops hortensis</i>													1	1										22
<i>Lithobius variegatus</i>		1	1		1							1				4					6		1	405
<i>porficatus</i>			3		1							4	5	8		1		1	5					352
<i>melanops</i>													1	1										66
<i>macilentus</i>																								27
<i>borealis</i>																					1			8
<i>bilicornis</i>																								1
<i>calcaratus</i>													2	1		1								33
<i>crassipes</i>												3	5	8	1	3					1			293
<i>curtipes</i>														4										8
<i>miclops</i>											1	1				1								95
<i>Lomyctes fulvicornis</i>																					1			22
TOTAL RECORDS		3	7	1	1	3	1	1	1	1	1	18	20	32	2	24	1	3	24	1	3	1		2126
							17									142								

Table 2.

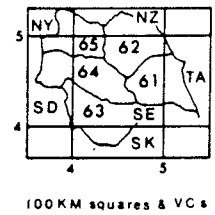
	1910 1935	1947 1989	1970 1989	TOTAL	No. of 10km squares	FIRST RECORD(S)
<i>Haplophilus subterraneus</i>	1	7	56	64	37	EVANS 1910 Sheffield district 43/38
<i>Hydrochendyla submarina</i>	0	1	0	1	1	J.E. SMITH - 8.1947 Cloughton Wyke 54/09
<i>Schendyla nemorensis</i>	0	1	14	15	14	J.G. BLOWER 7.4.1951 Easingwold 44/56
<i>Strigamia crassipes</i>	0	0	1	1	1	A.J. RUNDLE 20.9.1975 Thorne 44/71
<i>accuminata</i>	0	7	41	48	30	P.D. GABBUTT - 8.1954 Maltham 34/86; J.G. BLOWER: Oldstead 44/59
<i>maritima</i>	0	1	3	4	2	J.G. BLOWER 1951 Spurn 54/41
<i>Clinopodes linearis</i>	1	0	1	2	2	R.S. BAGNALL 1935 Sewerby 54/26
<i>Geophilus cataphagus</i>	1	11	110	122	58	EVANS 1910 Sheffield district 43/38.
<i>electricus</i>	1	0	13	14	12	R.S. BAGNALL 1913 Whitby 43/81
<i>insculptus</i>	1	13	133	147	67	R.S. BAGNALL 1934 Sewerby 54/26
<i>Necrophloeophagus flavus</i>	3	11	67	83	42	W. FALCONER 1911 Leeds: Woodhall; Harewood; E. Keswick 44/34
<i>Brachygeophilus truncorum</i>	0	16	135	151	67	J.G. BLOWER 31.12.1950 Rievaulx 44/58
<i>Cryptops hortensis</i>	0	2	22	24	14	J.G. BLOWER 9.4.1951 Duncombe Park 44/58
<i>Lithobius variegatus</i>	3	12	405	420	85	EVANS 1910 Sheffield district 43/38
<i>porficatus</i>	4	24	352	380	156	W. FALCONER 1911 Leeds: Woodhall; Harewood; E. Keswick 44/34
<i>melanops</i>	0	2	66	68	44	J.G. BLOWER 16.8.1951 Oswaldkirk 44/67
<i>macilentus</i>	0	0	27	27	17	J.E. ADDEY 19.4.1977 Squirrel Castle Plantation 43/49 1977
<i>borealis</i>	0	1	8	9	8	P.M. BUTLER - 6.1954 Maltham 34/86
<i>bilicornis</i>	0	0	1	1	1	A.N. KEAY 6.8.1986 Wakefield 44/39
<i>calcaratus</i>	0	4	33	37	33	M.T. SEWELL 7.4.1951 Fairdale 44/69; Hutton-le-Mole 44/79
<i>crassipes</i>	0	21	293	314	103	J.G. BLOWER 10.8.1950 Rievaulx 44/58; Spixton 44/68
<i>curtipes</i>	0	4	8	12	8	J.G. BLOWER 2.9.1952 Oulston 44/37; Oldstead 44/58
<i>miclops</i>	0	3	95	98	52	J.G. BLOWER 1950 Spurn 54/41
<i>Lomyctes fulvicornis</i>	0	1	22	23	17	P.D. GABBUTT - 8.1954 Maltham Tain 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 county's 188 10km squares were visited and a total of 2126 records amassed and documented. (Tables 1 and 2: Map 4) 38 recorders



MAP 4
RECORDS
1970 to 1989.



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

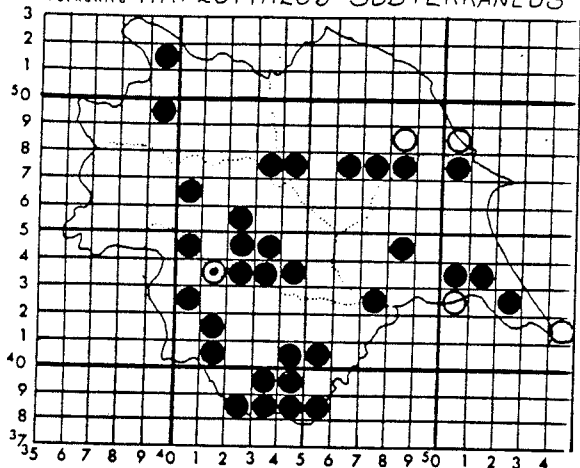
Pre 1970 confirmed during the 1970-89 survey

Pre 1970 not confirmed during the 1970-89 survey

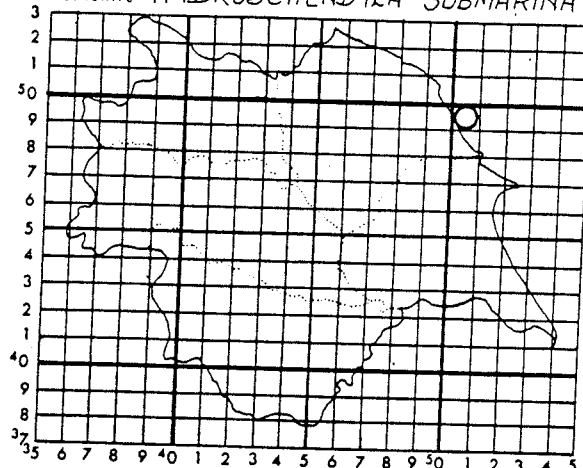
Haplophilus subterraneus (Shaw, 1789)

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

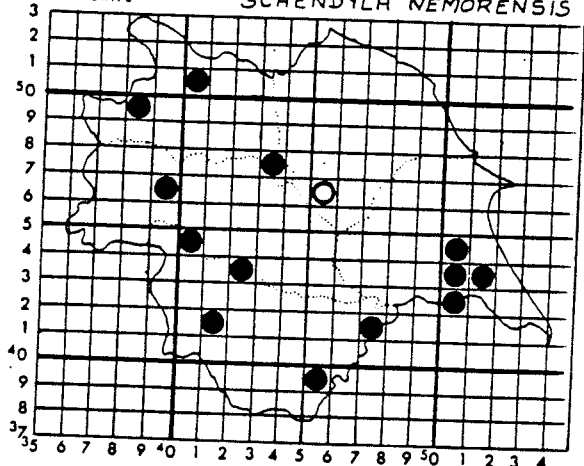
Yorkshire *HAPLOPHILUS SUBTERRANEUS*



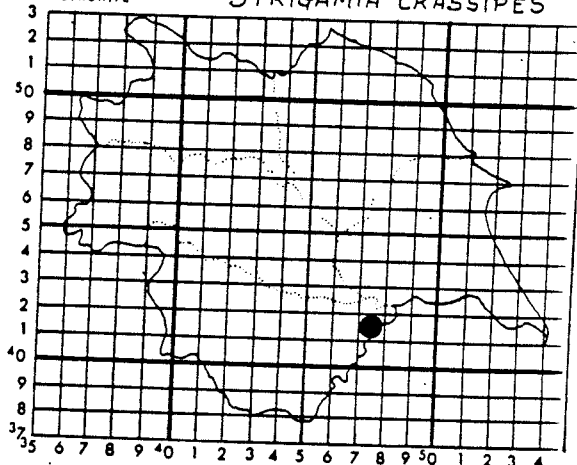
Yorkshire *HYDROSCHEIDYLA SUBMARINA*



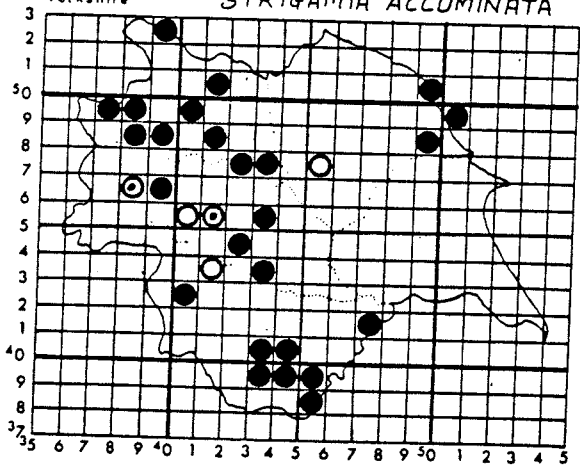
Yorkshire *SCHENDYLA NEMORENSIS*



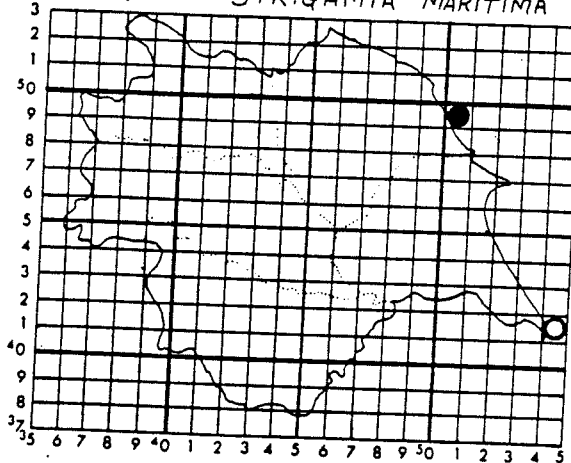
Yorkshire *STRIGAMIA CRASSIPES*



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)

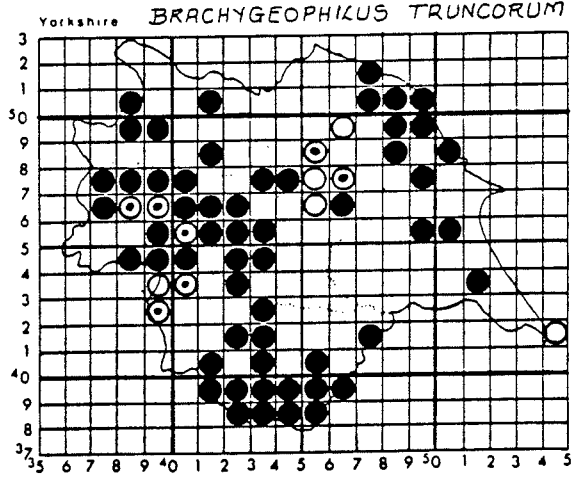
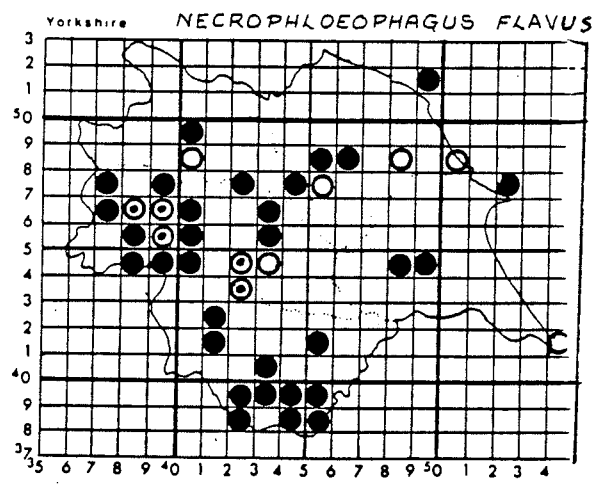
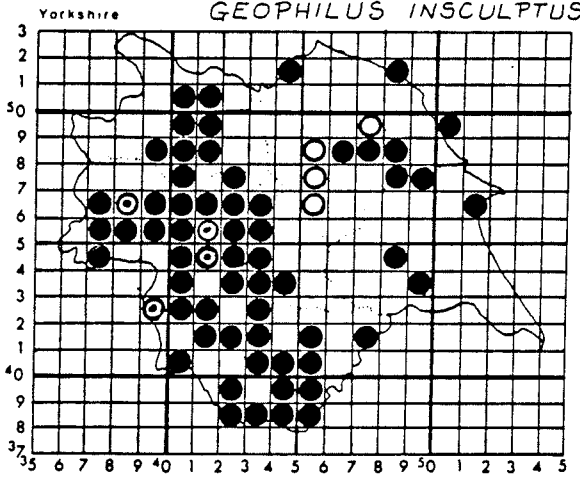
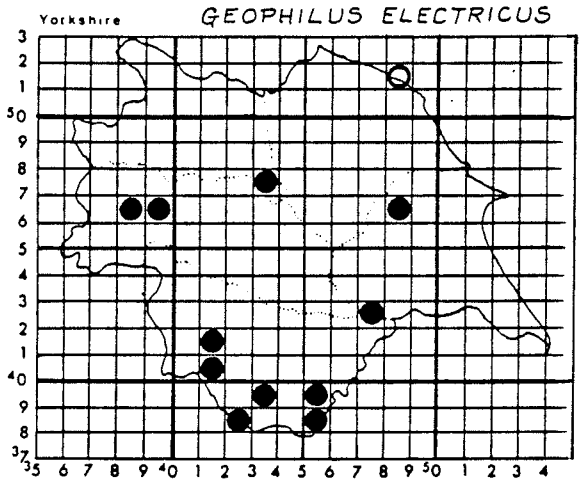
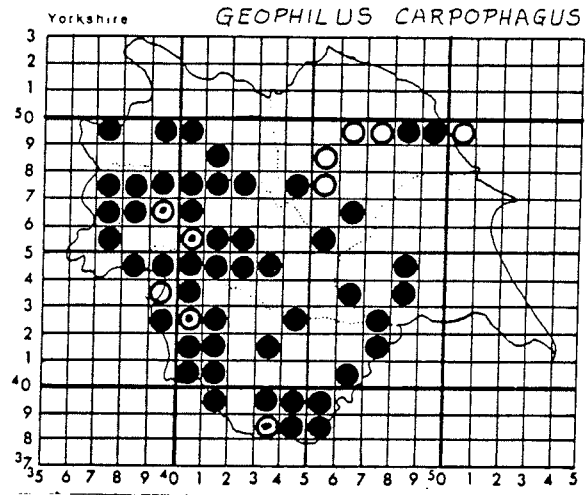
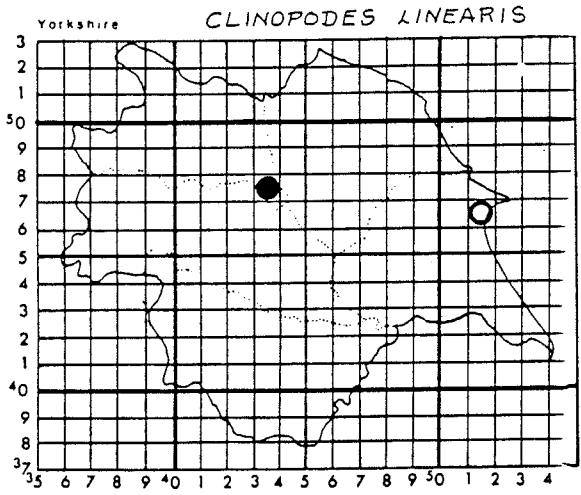
Most of the records have been from woodland and this may be one explanation for the paucity of records from the arable south east of the county - on the other hand we might well have not looked hard enough. (30)

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)



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 synanthropic 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)

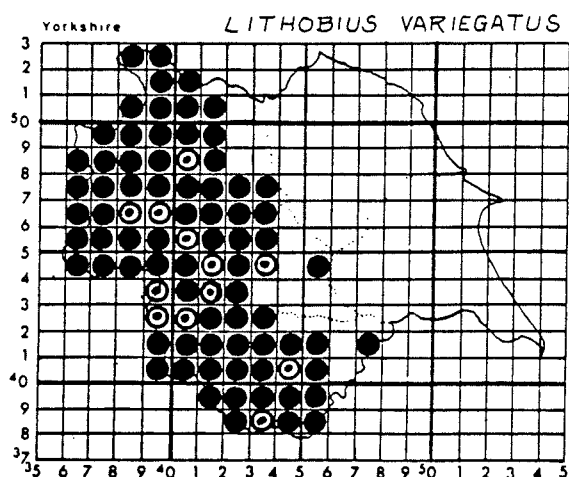
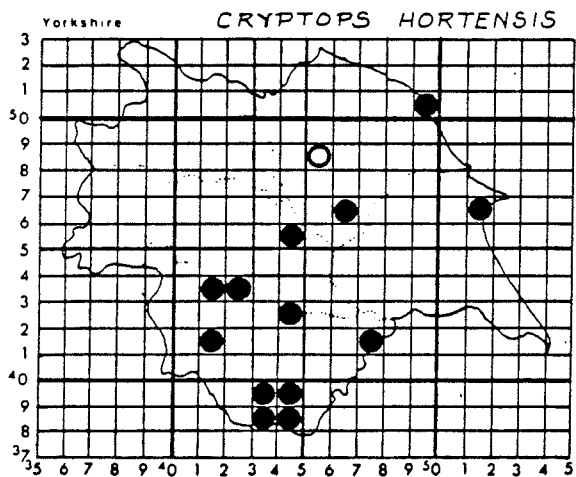
Most frequently found in cavities in rotting logs, sometimes under stones in woods and on moorland. Widely distributed and common. (67)

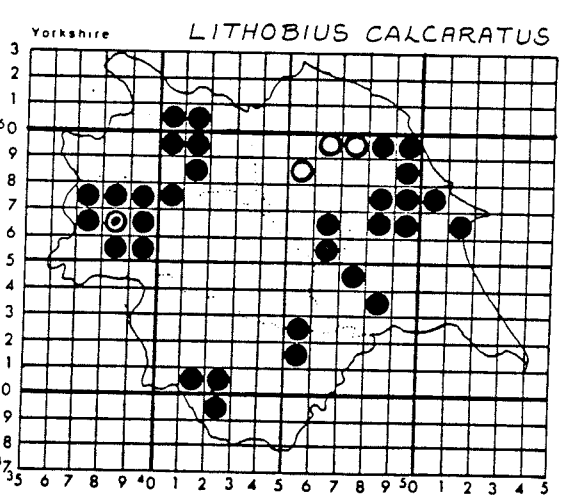
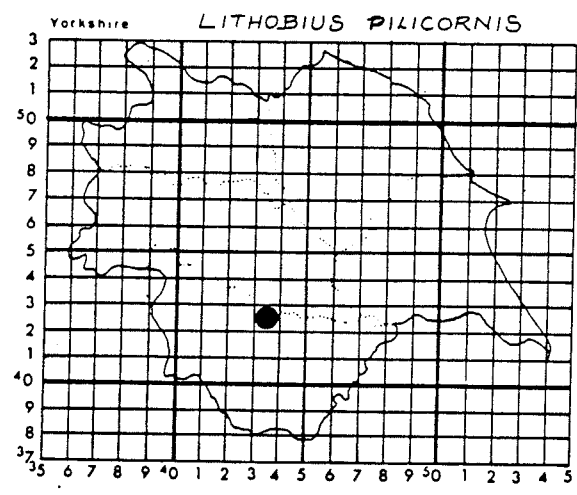
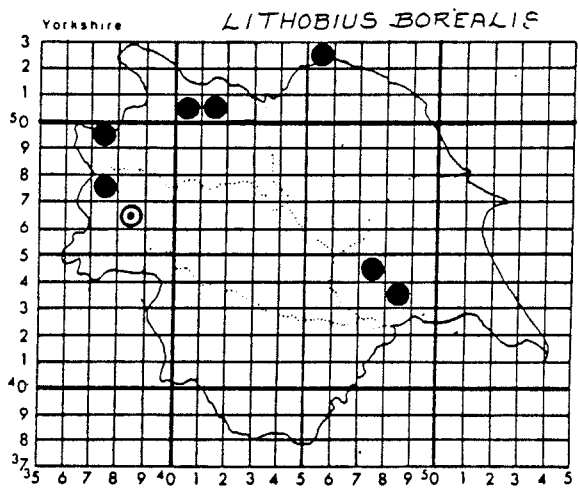
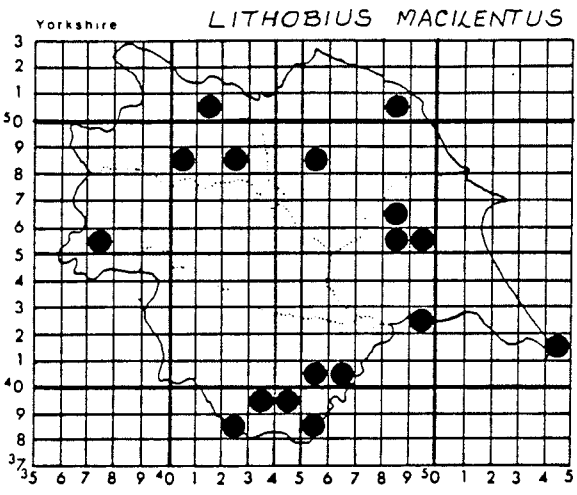
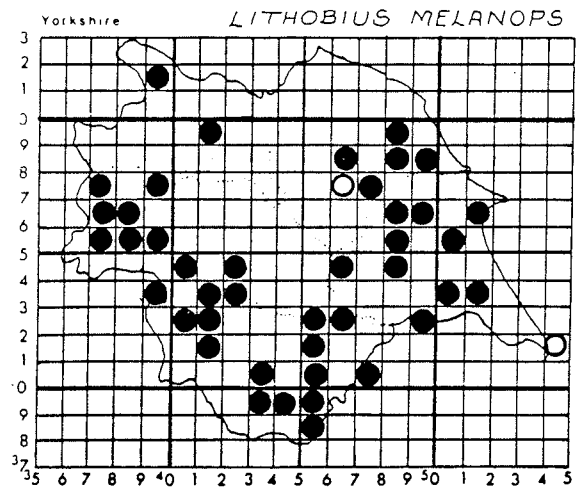
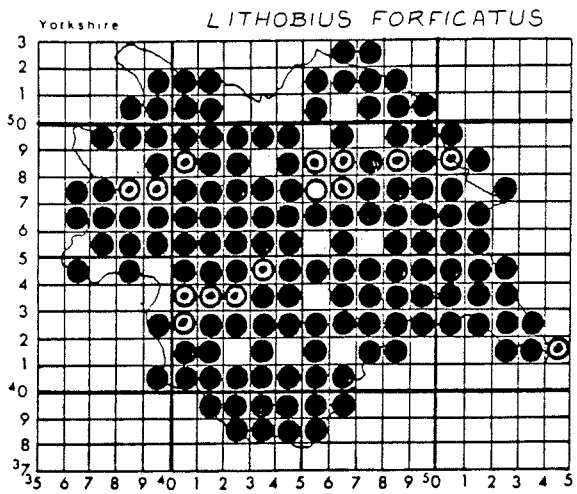
Cryptops hortensis (Leach, 1814)

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)





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 this will turn up in other urban synanthropic 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)

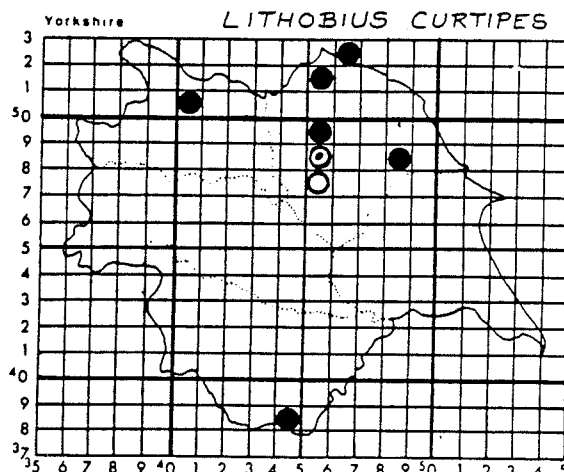
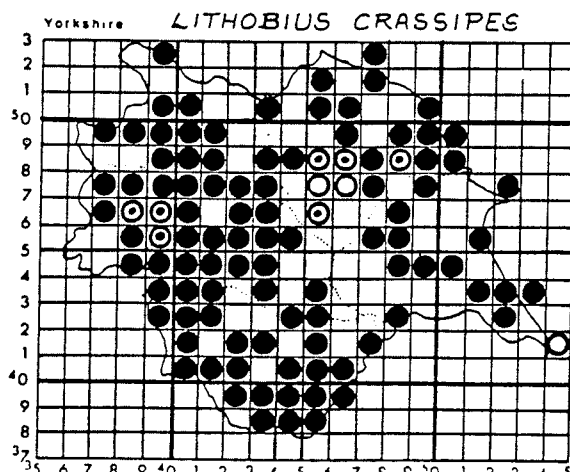
There seems to be a tendency for it to occupy the higher regions of the county - the northern Pennines and the North Yorkshire Wolds. More common on acid moorlands. Never found in large numbers but widely distributed in the areas in which it has been found. (35)

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)



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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