

## ADDITIONAL DATA ON SEGMENT NUMBER IN SOME BRITISH GEOPHILOMORPHA

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### INTRODUCTION

Arthur and Blackburn (1999) reported on the variation in segment number in *Brachygeophilus truncorum* (Bergsöe & Meinert) and *Geophilus insculptus* Attems populations from Northumberland and Durham noting that whereas different species may show different patterns, the same species may show different patterns in different places. Data on these species from other localities in England are presented here together with data for *Geophilus fucorum seurati* Brolemann which shows an unusual pattern of variation in segment number.

### RESULTS

#### *Brachygeophilus truncorum*

Table 1 presents data for 43 specimens collected from three localities in West Yorkshire in 1959, 1960 and 1961 and 30 specimens collected from 13 localities in West Somerset between 1983 and 1987 and 21 specimens from Slapton Wood in Devon collected on 8.iv.1960. Arthur and Blackburn's (1999) data for Northumberland and Durham are also shown.

TABLE 1

#### NUMBER OF LEG-BEARING SEGMENTS IN *BRACHYGEOPHILUS TRUNCORUM* FROM FOUR AREAS OF ENGLAND.

Site	Males				Females			
	35	37	39	41	35	37	39	41
Northumberland and Durham	1	26	0	0	0	2	45	0
West Yorkshire	0	11	1	0	0	1	29	1
West Somerset	1	7	4	0	0	0	16	2
Slapton, Devon	0	0	10	0	0	0	0	11

The data for Northumberland and Durham, West Yorkshire and West Somerset are similar, the most common segment number being 37 in males and 39 in females but in the Devon population it is higher being 39 in males and 41 in females.

### *Geophilus insculptus*

Table 2 shows the data for 35 *G. insculptus* collected from Woods in Shipley Glen, near Bradford, Yorkshire between 22 March 1960 and 24 January 1961. The data for *G. insculptus* given by Arthur and Blackburn (1999) for Northumberland and Durham are also shown. The figures for the two areas are very similar.

**TABLE 2**

**NUMBER OF LEG-BEARING SEGMENTS IN *GEOPHILUS INSCULPTUS* FROM NORTHERN ENGLAND.**

Site	Males				Females			
	47	49	51	53	47	49	51	53
Shipley Glen, Yorkshire	2	9	0	0	0	2	20	2
Northumberland and Durham	5	15	1	0	0	0	23	1

### *Geophilus fucorum seurati*

Blower (1961) recorded *Geophilus fucorum seurati* from Llandudno, North Wales and the Isle of Man giving the number of leg-bearing segments as 51 to 53 in males and 55 in females. Eason (1964) gave figures of 51 to 53 for males and 51 to 57 for females. Lewis (1962) recorded the segment number of 14 specimens of the species from Kent, Sussex and Devon (Table 3) but failed to comment on the unusual nature of the data: the females having four more segments than the males i.e. 57 as opposed to 53. The usual difference in those geophilomorphs in which there is sexual dimorphism in segment number is two. Also there was no variation in leg number within the sexes. The sample was, however, very small.

Recently it has been possible to examine 11 specimens from, Ireland (frequent under stones on estuarine sandy mud, Dungarvan Harbour 16.8.1998, coll and det by Martin Crawley) which were sent to me by Tony Barber and 16 specimens which Tony Barber collected in Devon. Their segment numbers are recorded in Table 3.

In the specimens from Ireland and the southwest of England the commonest segment number is 53 in males and 57 in females although two males have 55 segments, three females 55 and one 59.

## DISCUSSION

Arthur and Blackburn (1999) discussed the possible causes of the variation in leg number between geophilomorph populations and pointed out that a concerted experimental approach was required to explain the cause of these differences. Further, Kettle and Arthur (in press) show that there is a latitudinal cline in segment

number in *Strigamia maritima* (Leach) between Shingle Street, Suffolk (Southeast England), and John O'Groats (Northeast Scotland), the populations showing fewer segments with increasing distance north. They suggest that this cline is caused by climatic selection, climatically-based phenotypic plasticity, or a mixture of the two. The higher numbers of segments in the Devon population of *Brachygeophilus truncorum* here reported may be a further example of such a cline. Further sampling will show whether this is so or whether it is a characteristic of this local population.

Larger samples of populations of *G. fucorum seurati* would provide further data on the fact that female *G. fucorum seurati* generally have four rather than two more segments than males. They would also show whether or not there are local population differences as may be suggested by the collection of a male with 55 and a female with 59 leg-bearing segments from Thurlstone Sands, Devon.

**TABLE 3**

**NUMBER OF LEG-BEARING SEGMENTS IN *GEOPHILUS FUCORUM SEURATI* FROM SOUTH AND SOUTH-WEST ENGLAND AND IRELAND.**

Site	Males				Females			
	53	55	57	59	53	55	57	59
Whitstable, Kent	0	0	0	0	0	0	1	0
Cuckmere, Sussex	4	0	0	0	0	0	1	0
Plymouth, Devon	1	0	0	0	0	0	7	0
Thurlstone Sands, Devon	0	1	0	0	0	0	0	1
Plym estuary, Devon	3	0	0	0	0	0	0	0
Warleigh shop, Devon	0	0	0	0	0	0	0	0
Stoke Gabriel, Devon	1	0	0	0	0	0	0	0
Stoke beach nr Noss Mayo, Dvn	0	1	0	0	0	0	0	0
Kingsbridge, Devon	0	0	0	0	0	0	1	0
Frogmore Creek, Devon	0	0	0	0	0	0	1	0
Brixham, Devon	1	0	0	0	0	0	0	0
Cofflete Creek, Devon	0	0	0	0	0	1	0	0
Antony shore, Cornwall	2	0	0	0	0	0	2	0
Dungarvan, Ireland	4	0	0	0	0	2	5	0

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