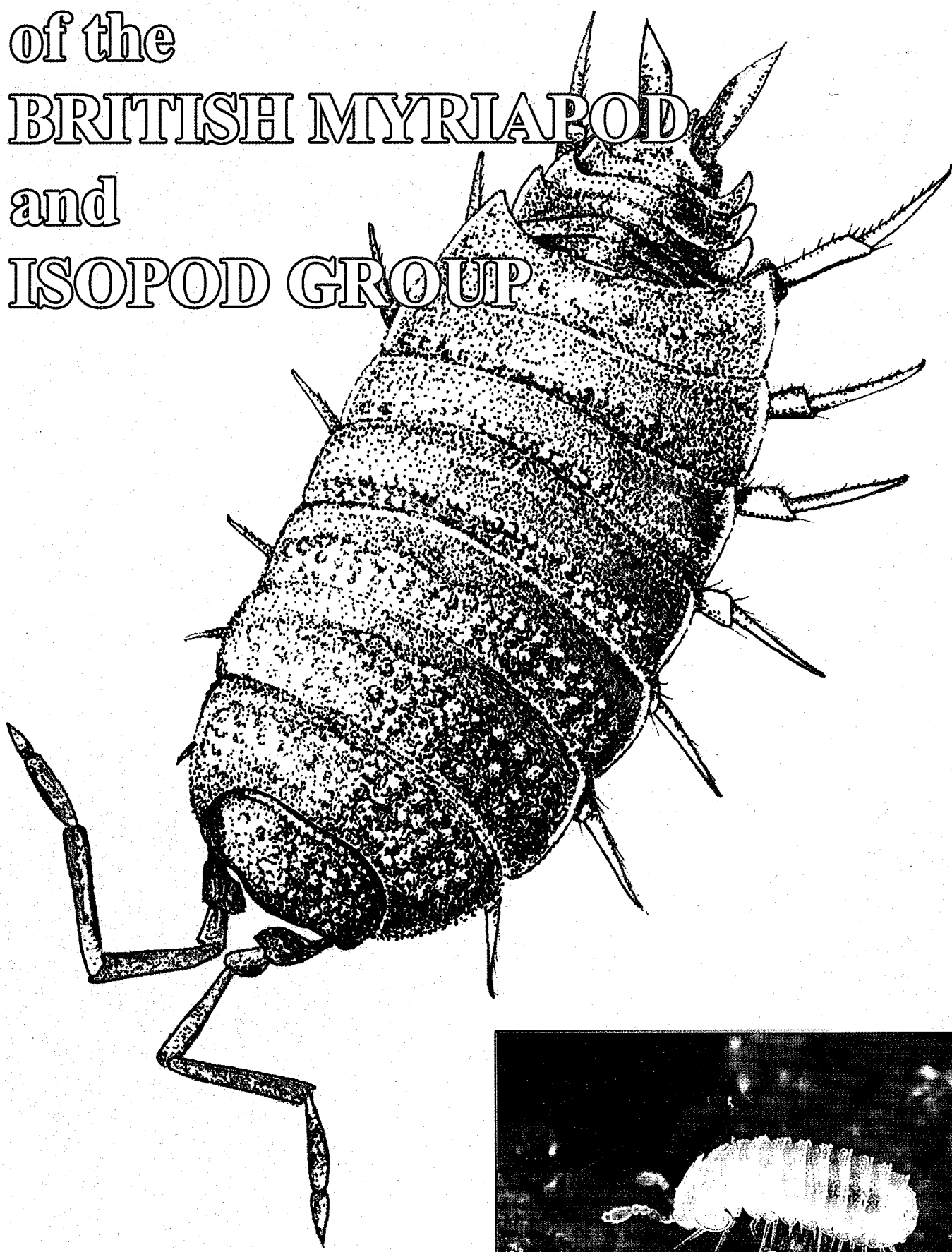
Bulletin of the BRITISH MYRIAPOD and ISOPOD GROUP



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Cover photograph of *Adenomeris gibbosa* © Steve Hopkin
Cover illustration of *Porcellionides pruinosus* © Paul Richards

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EDITORIAL

As you will have noticed, the present volume of the Bulletin is in a different format to the two previous ones and we thank Pensoft for their help in making this possible. Volume 19, the Gordon Blower & Ted Eason memorial volume, had to be of an appropriate high quality and volume 20 was produced in the same way. Unfortunately, with printing costs for a relatively low circulation publication together with the number of free copies being sent out meant a greater cost and a higher price than for previous volumes which we recognise was not a sustainable situation for the Group. Hence the present style which we hope you will find acceptable.

This volume contains welcome further studies on *Geophilus carpophagus* by Wallace Arthur and his colleagues, a report on the water slater *Asellus communis* by Paul Harding & Glyn Collis, an article by Keith Alexander on the bristly millipede, *Polyxenus* and an account of the myriapods of the Channel Islands. We also include an updated index to BMG/BMIG Bulletins (the last was in 1997) and reports on field meetings.

These latter include a report of species found during the 1994 visit to Hungary where members of the then BMG led by Zoltán Korsós of Budapest collected at various locations in that country (often with names unpronounceable to the British contingent) and saw, amongst other interesting species, the impressive polydesmid, *Polydesmus collaris* and the attractive glomerid, *Glomeris hexasticha*. Unfortunately the centipedes, and in particular the lithobiids, have proved to be more intractable to us than the millipedes so we shall have to wait for a later volume for an account of those.

The 2004 meeting in Buckinghamshire produced one new species for England (*Adenomeris gibbosa*) and John Harper reports on this. In 2005, at the Durham meeting organised by Val Standen, we visited a number of R.S.Bagnall's localities but failed to find either *Lithobius piceus britannicus* or *Lithobius nigrifrons*.

Finally, apologies to everyone who was expecting Volume 21 to appear in 2005 but we felt that there really was not enough appropriate material ready at the time we needed to go to press. Committed as we are to producing a volume more or less annually, we decided to delay until 2006. Obviously we depend upon having enough articles so please start putting pen to paper (fingers to keyboard) ready for Volume 22 which, hopefully, will be for 2007.

FURTHER STUDIES ON *GEOPHILUS CARPOPHAGUS* (SENSU LATO), AND A REINTERPRETATION OF THE STRUCTURE OF ITS LABRUM

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INTRODUCTION

The order Geophilomorpha includes about 1000 named species in total (Lewis 1981). Only one of these, *Geophilus carpophagu*s Leach 1817, has been the subject of a previous search for possible cryptic species (Arthur et al. 2001). We now build on that earlier study in two ways: achieving greater resolution of morphological features; and looking at specimens from a wider geographical area – not just British populations.

As will be seen, our results both confirm the existence of the recently described species *Geophilus easoni* (Arthur et al 2001), and suggest the possible existence of a species complex or group. We also show that the conventional interpretation of the structure of the labrum is incorrect for this species, and perhaps for the family Geophilidae in general. This is important because there has been considerable controversy about the nature of the arthropod head (see, for example, Budd 2002), including the issue of homologies between various head structures among different arthropod classes. Discussion of this issue relies on having a correct understanding of the structures concerned.

MATERIALS AND METHODS

All of the British specimens were collected from the field. All other specimens, from continental Europe, north Africa and the Canaries, were from collections held in the Natural History Museums in Copenhagen (University of Copenhagen), London, Vienna, and Berlin (Humboldt University). After examining the segment numbers of all specimens to provide a connection with previous work using this character (Arthur & Kettle 2001; Kettle & Arthur 2000), we selected approximately 50 specimens (a mixture of British field-caught ones and material from the Copenhagen collection) for the SEM work. This figure was a compromise between the need for information on variation between individuals and the problem that this work required the destruction of the specimens concerned, some of which had been held in the museum collection for several decades.

The morphological characters examined were the number and shape of projections on the labrum. These were visible only after (a) separating the head and first few trunk segments from the rest of the body to facilitate more detailed work in this region, and (b) dissecting away the forcipules, and the first and second maxillae. After dissection, the specimens were prepared for SEM work by removing from preservative (70% ethanol) and air-drying for approximately 24 hours. They were then transferred to aluminium stubs of 25 mm diameter, three specimens per stub. The specimens were secured to the stubs using silver DAG paint. They were not coated.

The microscope used was a Hitachi S-3000N variable-pressure SEM. All work was carried out at a pressure of 70 Pa and at an accelerating voltage of 20 Kv using the backscattered electron detector. Images were captured digitally in TIF format over a wide range of magnifications, at working distances of 10-15 mm. The magnifications used to produce the images displayed in our figures herein were 200-250 (whole clypeus) and 1000-1200 (close-ups of ‘teeth’).

RESULTS

Segment numbers

British specimens can be readily assigned to either *Geophilus carpophagus* (sensu stricto) or *Geophilus easoni* using the number of segments alone (Arthur et al. 2001; Arthur et al. 2002). So the first step in the present study was to compare the specimens at our disposal from outside Britain with the segment number ranges of British populations – see Table 1.

On the basis of segment number alone, the Danish specimens appear to be *G. carpophagus*, the 'Europe' material a mixture of the two species, which is perhaps unsurprizing as this is a combined collection of small numbers of specimens from several countries in central and southern Europe. The North African material may be *G. easoni*, and the Canarian material *G. carpophagus*, with the slight upward shifts in segment numbers that are to be expected in more southerly populations (Arthur & Kettle 2001; Kettle & Arthur 2000). However, all of these interpretations are very tentative. We now look to see if information arising from the SEM studies can render them any less so.

SEM studies of ventral head characters

Figure 1 shows one specimen each of British *G. carpophagus* and *G. easoni*. We examined the *shape* of the central 'teeth' and the *number* of filamentous projections (fimbriae) flanking the teeth in several specimens. These were both reliable characters for separating the two species in Britain, while the 'converse' characters (number of teeth, shape of fimbriae) were not. Therefore, they potentially afford an opportunity to determine the identity of each non-British specimen, and hence to clarify the rather tentative conclusions reached from the segment number data.

On the basis of the shape of the central teeth, the French specimens, with their blunt-ended teeth (see Figure 2) seem to be unambiguously *G. easoni*. This is perhaps not surprising, as both specimens were from Finistère in Brittany. With regard to the material from further afield, the situation is much less clear. Many specimens from the other source countries come out as failing to align clearly with either of the two British species on the basis of tooth shape: for example, the Algerian specimen shown in Figure 3.

Counts of the total number of fimbriae on the labrum (Figure 4) show clearly separated distributions for British *G. carpophagus* (12-19) and *G. easoni* (30-46). The non-British material spans across these two ranges (19-38). If the different source countries are separated out, the situation does not get any clearer. For example, the largest European sample, from Denmark, which looks to be *G. carpophagus* on the basis of segment number data (Table 1) has a range of 25-36, that is, corresponding approximately with British *G. easoni*.

Although these SEMs of ventral head characters have failed to clarify the species status of the non-British material, they have produced an unexpected, and very clear, result in relation to the structure of the 'labrum' of *Geophilus carpophagus* (sensu lato). This is emphatically *not* a 3-piece structure, as it is normally drawn (Eason 1964). The 'mid piece of the labrum' is no such thing – rather it is a projection of the clypeus (Figures 1, 2 and 3).

DISCUSSION

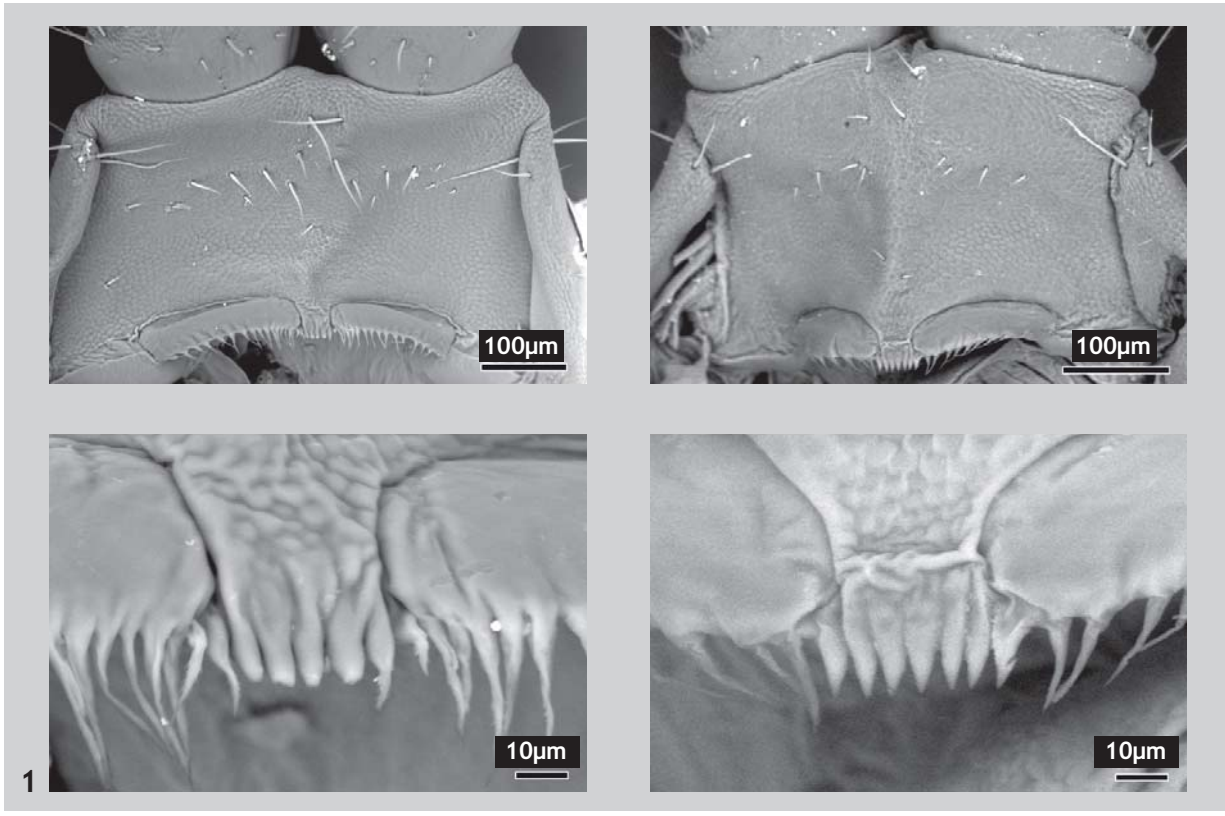
British material

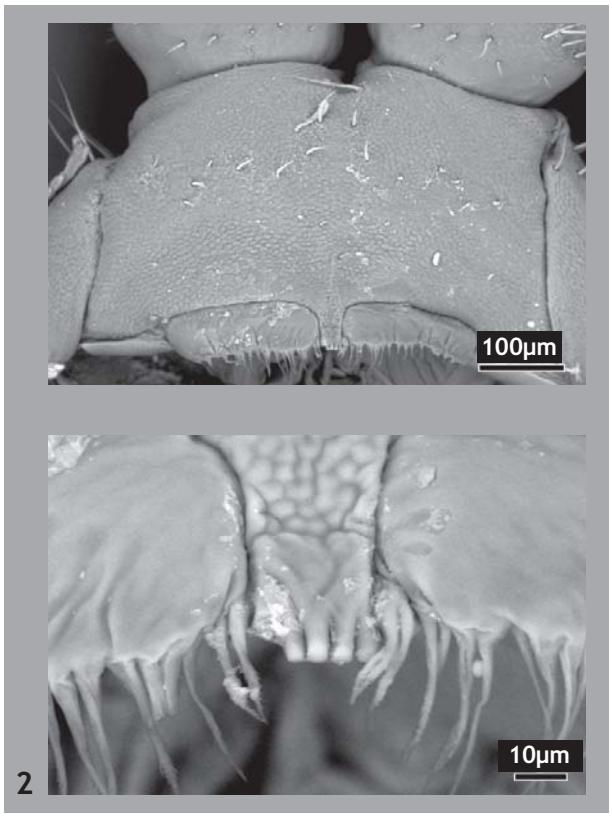
Our results confirm the existence of two separate species, *G. carpophagus* and *G. easoni*, as proposed in earlier papers (Arthur et al. 2001; Arthur et al. 2002; Lewis 1985), and extend the range of characters that can be used to separate the two.

Non-British material

In spite of having both segment number data and information on ventral head structures from the SEM work, it is currently impossible to be certain of the species status of most of the European and African specimens. At least three hypotheses can be advanced regarding this material: 1. All specimens from all places belong to *G.carpophagus* or *G. easoni*, with anomalies merely representing intraspecific variation. 2. There is at least one further cryptic species reperesented among the material we examined. 3. There is, in at least some places, a species complex in the

FIGURE 1
SEM photographs of the clypeus/labrum, and the 'mid-piece of the labrum' (bottom) from specimens of British *G. easoni* (left) and *G. carpophagus* (right).
FIGURE 2
SEM photographs of the clypeus/labrum, and the 'mid-piece of the labrum' (bottom) from a specimen of *G. easoni* from Brittany, France.
FIGURE 3
SEM photographs of the clypeus/labrum, and the 'mid-piece of the labrum' (bottom) from an Algerian specimen.





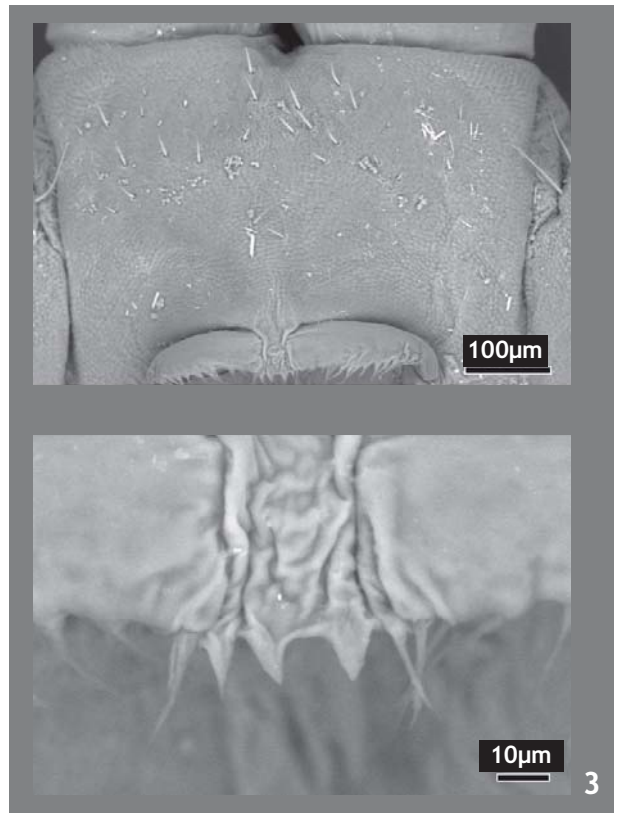


FIGURE 4
Frequency distributions for the number of fimbriae on the side pieces of the labrum in British *G. carpophagus* (top), British *G. easoni* (centre) and all non-British specimens examined (bottom).

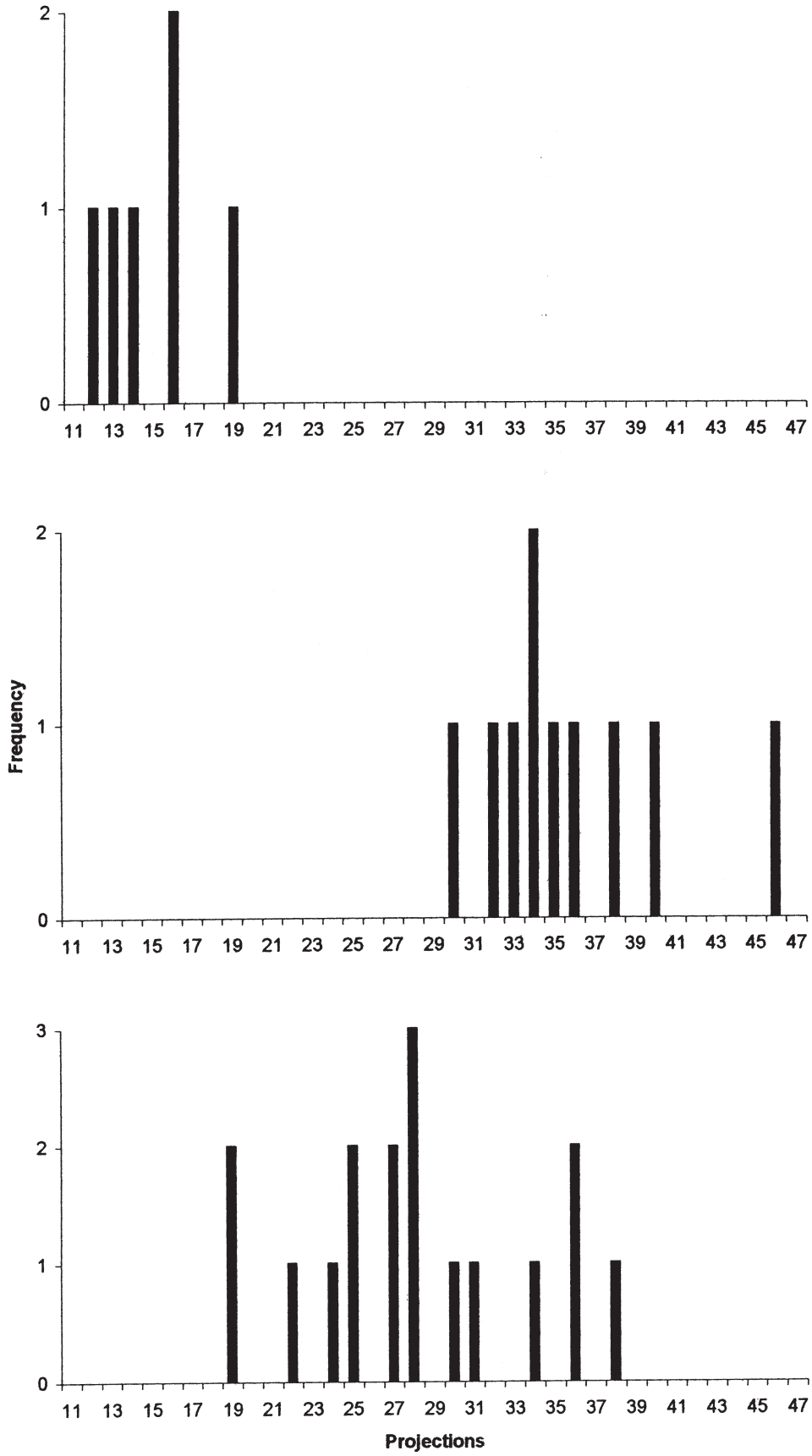


TABLE 1

Segment numbers of males (left side of table) and females from *G. easoni* and *G. carpophagus* (British specimens); and in specimens of as-yet uncertain species status from outside Britain. Source countries for Europe were: France, Austria, Spain, Portugal and Greece. The north African specimens were from Algeria and Tunisia.

SEGMENTS	47	49	51	53	55	57	59		47	49	51	53	55	57	59	61
easoni	80	12							2	73	5					
carpophagus			1	22	3							3	27	11		
Denmark				4								3	21	2		
Europe	1	4	2	4	2					1	5	3	3	3		
North Africa		9								6	9	4				
Canaries				8	1	0	3						2	4	15	4

sense of partial interbreeding and perhaps incipient reproductive isolation. Further studies will be required to distinguish between these hypotheses.

The nature of the labrum

It is conventional, in the myriapodological literature, to refer to the labrum of geophilids as consisting of three pieces, a mid-piece and two flanking side pieces (Eason 1964; Lewis 1981). Drawings of the labrum typically show clear boundaries between these pieces, and also between all three of them and the clypeus. However, it is apparent from the present study that this description is inaccurate, at least for *G. carpophagus and G. easoni*. The side pieces are indeed distinct morphological units, but the 'mid-piece' is an extension of the clypeus. This can be seen clearly from Figure 1. In many cases it is less clear, because there is a tendency for a slight crumpling or fold to develop at the base of the midline extension of the clypeus. It is likely that misinterpretation of this fold as a discontinuity or joint, in light-microscopical studies, has been responsible for the incorrect idea that the central piece of tissue is part of the labrum.

The next question is whether this reinterpretation of the nature of the labrum in *G. carpophagus* and *G. easoni* should be extended to a wider group of species – the family Geophilidae for example. In order to address this question, the next phase of this work will be to examine the clypeus/ labrum of several other geophilids. It may also be informative to examine other species chosen to represent families that are distantly related according to our current view of the phylogeny of the Geophilomorpha (Foddai 1998; Foddai & Minelli 2000), as the structure of the labrum varies markedly between families (Eason 1964).

ACKNOWLEDGEMENTS

We thank Gordon Corbet for providing many of the British specimens; Jason Dunlop, Verena Stagl and Janet Beccaloni for allowing us to examine their museum collections; Alessandra Bettin for assistance with the segment number counts; and the Sir James Knott Trust for funding our research.

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THE OCCURRENCE OF *ASELLUS COMMUNIS* SAY, 1818 (CRUSTACEA, ISOPODA) AT BOLAM LAKE, NORTHUMBERLAND

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INTRODUCTION

Unfamiliar specimens of a freshwater isopod were found at Bolam Lake (NGR: NZ(45) 080818) in Northumberland by D.W.Sutcliffe as early as 1962. These later proved to be the North American species *Asellus communis* Say, 1818 (Sutcliffe, 1972, Williams, 1972). Williams (1972) and Gledhill *et al.* (1993) describe and illustrate the species from material collected at Bolam Lake. Although the species has been studied in North America, little is known about its occurrence in Britain. Moon and Harding (1981) summarised the information on this species available at that time, but *A. communis* has probably not been recorded in Britain since the late 1960s (D.W.Sutcliffe, pers.comm.). In an attempt to re-find the species, we visited Bolam Lake Country Park during the course of the BMIG annual meeting at Durham in April 2005.

OCCURRENCE IN NORTH AMERICA

Asellus communis appears to be native and widespread in North America, with records from Canada (Nova Scotia, Ontario) and the USA (from West Virginia to Maine in the east, plus Colorado and Washington State) (Williams, 1970). In the same paper, Williams gives a detailed illustrated description of *A. communis* from North American material. Magnin and Leconte (1971, 1973) describe its life cycle in North America, and Kaushik and Hynes (1971) state that it feeds avidly on the decaying leaves of a range of broadleaved trees.

BOLAM LAKE

Origins

In common with many lakes in Northumberland, Bolam Lake is man-made. Beginning in 1816, Bolam Lake was created by deepening and damming a boggy area (Bolam Bog), which was fed by small streams and springs. Formerly part of Lord Decies' Bolam Estate, Bolam Lake Country Park has been owned and managed since 1972 by Northumberland County Council as an area for informal countryside recreation. The total area of the Country Park is some 40 hectares of which the lake and reedbeds are about 10 hectares, the remainder being woodland and grassland, with broad paths. The dam at the eastern end of the lake incorporates a spillway feeding the outfall stream, a tributary of the River Blyth.

Description

The geology underlying Bolam Lake is Carboniferous Limestone series, overlain with glacial drift and post-glacial downwash. The lake is shallow with a substrate of fine mud and decaying vegetation, especially leaves from woodlands surrounding the lake. Most of the banks of the lake are overhung by trees and shrubs, including oaks, alders and rhododendrons, except at the western end where there is a reedbed. Access to the lake shore is restricted by trees and shrubs, but at several points, such as around fishing piers and stands, the dam and a slipway near the Pheasant Field, access is possible to the shore and, from the piers, several metres out from the shore. The lake was included by Sutcliffe (1972) in his survey of the chemistry and fauna of water-bodies in Northumberland.

SURVEY (2ND APRIL 2005)

Bolam Lake

We (GMC & PTH) set out, in opposite directions around the lake, independently sampling with water nets at accessible points along the lake shore. GMC sampled mainly on the northern shore, PTH sampled around the dam and the eastern shore, and at the few accessible points along the southern shore. The shore at the western end was inaccessible, except for a fishing pier near the West Wood car park.

Specimens of *A. communis* were collected at several points, most plentifully in slightly deeper water (about 1 metre) with a fine gravel substrate, around the fishing pier in Low House Wood. Not all specimens seen were collected, but those that were all proved to be *A. communis*. Sutcliffe (1972) had noted that native species of *Asellus* (*A. aquaticus* and *A. meridianus*) were not recorded at Bolam Lake in the 1960s and we confirmed their apparent absence.

The habitat in which *A. communis* was collected was similar to that described by Sutcliffe (1972): in generally clear water with a substrate of mud or fine gravel and decaying leaves. Waterplants, such as Canadian waterweed (*Elodea canadensis*), another introduced North American species, were present but not abundant. Other fauna observed in samples included leeches, molluscs and amphipods, including *Crangonyx pseudogracilis*, a North American species that is now widespread in Britain and parts of Ireland.

Measurements

Because we were struck by the large size of the specimens of *A. communis* relative to typical specimens of *A. aquaticus* and *A. meridianus*, we measured the body length (head to telson, to nearest mm) of intact specimens (Table 1). *A. communis* is a distinctively large and 'floppy' looking species, unlike the normally smaller and more compact native species.

TABLE 1
Length measurements of intact specimens of *Asellus communis* from Bolam Lake.

	Male	Female (gravid)	Female (non-gravid)
Number of individuals	18	5	4
Lengths (mm): mean	11	8	7
minimum	8	7	5
maximum	15	10	9

Outfall stream from Bolam Lake

Water flows out of Bolam Lake over a spillway in the dam at the eastern end of the lake. This outflow enters a culvert under a road and emerges in a pasture field after some 50 m (NZ084818), to form a small stream running in a narrow channel through the field. This stream eventually joins Little How Burn, a minor tributary of the River Blythe. At the time of our visit, there was a fairly rapid flow of water through the culvert and ditch. One specimen of *A. communis* was captured in a net held over the outlet of the culvert into the ditch. Two more specimens were captured in the first 85m or so of the stream. We sampled this stream for some 300m further downstream, but no additional specimens were found. Approximately 4 km downstream from the Bolam Lake outfall, we sampled near the confluence of Little How Burn and How Burn, near East Whiteside Bridge (NZ803808 to NZ805807), but no specimens of *Asellus* species were seen.

Putative record from the Wirral, Cheshire

Subsequent to our visit to Bolam Lake we found another published record for *A. communis* in the UK, in the form of an online distribution map on the website of rECOrd, the biodiversity record centre for vice county 58 (http://www.consult-eco.ndirect.co.uk/lrc/). On investigation we learned that this record, together with records of *Dytiscus marginalis*, *Notonecta glauca*, and *Planorbis corneus*, had originated in a survey of Hooton Wood and Grassland, the Wirral (NGR: SJ(33)350788) on 11 August 1994. However, the recorder is reported not to have identified *Asellus* to species, so this record has been withdrawn (S.J.McWilliam via J.P.Guest, pers. comm.).

Importance as a non-native species

As a non-native species, established as a breeding population in Britain, the status of *A. communis* has attracted attention as a potentially invasive species. The species is listed in a reply to a parliamentary question regarding established breeding populations of non-native animals (*Hansard* for 14 December 1995: Written answers to questions, columns 722-723). It was classified in 2004 as having an *Unknown Impact* on native habitats and biota, under the Environment Agency's River Basin Classification Project, part of the Water Framework Directive Programme. The Joint Nature Conservancy Council, through the UK Biodiversity Research Advisory Group, included *A. communis* in a consultative list of non-native species, which considers the status and threats posed by non-native species. A recent report (Hill *et al.*, 2005) includes *A. communis* in the most comprehensive list of non-native species yet compiled for England. In the underlying database for this review, the data for *A. communis* were incomplete and the species was erroneously listed from the Lake District, but this error will be corrected in a subsequent version of the database (Mark Hill and Gavin Broad, pers. comm.)

DISCUSSION

Asellus communis is known to have been established in Bolam Lake, apparently as a self-maintaining population, since at least 1962. Other than in the nearest 100m of the small outflow stream from the lake, it is not known to occur anywhere else in Britain. How it arrived at Bolam Lake is unknown and why it has apparently not spread is a mystery. Although the park at Bolam Lake was not used as a military base during the 1939-45 war, it has been suggested that *A. communis* may have been introduced in association with the presence of American troops in the area west of Morpeth. However, we know of no evidence to support this suggestion.

It is particularly interesting that an introduced species: a) has been present at the same site for over 40 years (and possibly much longer); b) appears to be thriving and c) apparently has not spread to other sites. Possible explanations for the somewhat anomalous occurrence and survival of *A. communis* at Bolam Lake could be sought in the complex interaction of freshwater amphipods and isopods in waterbodies subject to organic pollution and levels of cyanide in waters, as reviewed by MacNeil *et al.* (1997). The water chemistry of Bolam Lake is clearly influenced by its surroundings, including the neutral/acidic soils of the catchment area and the heavy leaf fall of deciduous and evergreen trees and shrubs around the lake.

Interest in *A. communis* as an established non-native species has increased recently.
As Bolam Lake is used by anglers, it would be reasonable to expect that live specimens of *A. communis* could get caught-up in landing- and keep-nets and inadvertently be transported to other water-bodies. Although there is no evidence that this has happened, targeted surveys are needed of other popular lakes for coarse-angling in Northumberland and Durham, to search for this species. As angling at Bolam Lake is by permit only, it would theoretically be possible to trace the movements of individual anglers, from Bolam Lake to other water-bodies, thereby identifying waterbodies to be surveyed.

ACKNOWLEDGEMENTS

We are grateful to Frances Povey of Northumberland County Council and the staff at Bolam Lake Country Park for permission to carry out our survey at the lake. Access to the adjacent field and permission to sample the outfall stream was kindly granted by Peter Blaylock. We also thank David Sutcliffe for information about early records at Bolam Lake, Jonathan Guest and Andy Harmer for investigating the Wirral record on our behalf, and Mark Hill and Gavin Broad at BRC for access to the database of non-native species.

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THE HABITAT PREFERENCES OF *POLYXENUS LAGURUS* (LINNÉ)

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The literature on millipedes tends to associate *Polyxenus lagurus* mostly with trees. Indeed, Hopkin & Read (1992) state that *Polyxenus* is a bark-dweller, while Blower (1985) is less categorical. A key feature of these three authors is that they were all based well inland at the time and were therefore most likely to encounter the bristly millipede on trees. Were they based on the coast, particularly in the south-west, their emphasis would potentially have been quite different. Blower (loc cit) refers to several records in coastal regions at the roots of halophile plants such as sea pink and beneath lichens and moss cushions growing on boulders. He also mentions it as an inhabitant of old stone or brick walls.

Hopkins and Read (loc. cit.) provide the following biological and ecological information about *Polyxenus* which help to inform our understanding of their habitat associations:

- Their small size and flattened profile enable them to live in small crevices including the spaces under peeling bark – this feature is referred to by the authors as their ecomorphological type.
- Their Malpighian tubules are closely attached to the hindgut and ensheathed by an envelope of flattened cells; this maximises water retention;
- They graze algae from the bark of trees;
- They live in dry habitats.

In a recent review of my personal records of this enigmatic species I have been able to draw out some suggestions about its field ecology. Of 51 records made between 1981 and 1992[1]:

- 18 counties represented across England & Wales;
- records from every month of the year, with peak in April-August period – most in May and June, although this perhaps reflects my own field activity patterns rather than that of the millipede;
- situations where found come under the following headings:
  - o three from dry rocky south-facing hillsides – Piddledown Common (Dartmoor), Ballard Down (Purbeck), and Lindisfarne (Northumberland);
  - o 9 from maritime therophyte zone on rocky seacliffs, from SW coasts;
  - o 33 from tree bark or within dry decay:
    - § 11 tree species;
    - § oak (10 occasions), field maple (5), beech (4), elm (3), willow (3), hawthorn (2), ash (2), Eucalyptus, pine, spruce, sycamore;
    - § open-grown trees – exposed situations;
    - § inland sites across S & E of England, incl. Cornwall, Devon & Dorset;
- Two uncategorised records, from heather (a dwarf shrub) and from a dead grass blade.

What becomes very obvious is that it is primarily a species of exposed solid surfaces, open to more or less direct sunlight, the exposure being sufficiently persistent for extensive development of encrusting algae and lichens to take place. This is presumably what Hopkin and Read (*loc. cit*.) mean by the rather ambiguous term ‘dry’. Two very different situations meet these requirements: i) the wood and bark of trees and shrubs growing in open situations, but also ii) exposed rocks in situations where succession to denser vegetation cover is unable to proceed due to the impacts of exposure, as on rocky coasts but also inland on rocky crags. Churchyards are also the source of many records held by the Millipede Recording Scheme (P. Lee, pers. comm.)

It also appears to require shelter close by, retreating into crevices, etc, presumably when the air humidity drops below a critical level, such that its anatomical and physiological adaptations to inhabiting ‘dry’ situations can no longer cope adequately.

[1] My more recent records are less accessible at present.

It is basically part of the epiphyte and saxicole invertebrate assemblage, alongside molluscs such as tree snail *Balea perversa* and lapidary snail *Helicigona lapicida*, bugs such as *Myrmedobia* spp, and many Psocoptera. This is a restricted but distinctive assemblage of invertebrates which are all too often overlooked by ecologists and conservationists, and only feature in nature conservation incidentally, courtesy of lichenologists.

The tree associations raise an additional question as to preference for different bark structures. Data on the relative frequency of different tree species in the places visited in the ten or so year recording years covered is not available. While the range of tree species represented suggests that most tree species can provide suitable conditions, the one tree species which stands out as having greater representation than might have been expected is field maple. The bark of this tree is particularly laminated in structure and thereby provides an especially good situation for crevice fauna. Although my impression had been that hawthorn was also well-represented, the actual data for the study period do not show this. It may be that my more recent experience of the species is somewhat different.

Another aspect of the tree associations is that older trees tend to have greater cover of epiphytes as well as greater variety of bark structures, and so *Polyxenus* is more likely to be found on older trees than young ones. Habitat continuity is undoubtedly important on rocky sites as well as trees and shrubs. The mobility of *Polyxenus* is little known. Hopkin and Read (loc. cit.) comment that millipedes have rather limited powers of dispersal, and that dispersal takes place primarily by walking. The exploitation of trees brings with it the need to move from tree to tree on occasion, and the association with more open-grown trees involves greater distances than might otherwise be imagined.

Blower (1985) also mentions that the millipede can be abundant in coastal sand dunes. It seems that the dry litter of marram tussocks can also meet its special requirements. It also is known from leaf litter in hotter drier climates such as in the Mediterranean region, eg David (1996) reports the species at densities exceeding 100 per square metre in holm oak forest *Quercus ilex* in southern France. It would be interesting to know how much these habitat associations vary across its global range.

ACKNOWLEDGEMENTS

Many thanks to Paul Lee for information from the Millipede Recording Scheme and Helen Read for literature sources.

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ADENOMERIS GIBBOSA - NEW TO THE UNITED KINGDOM

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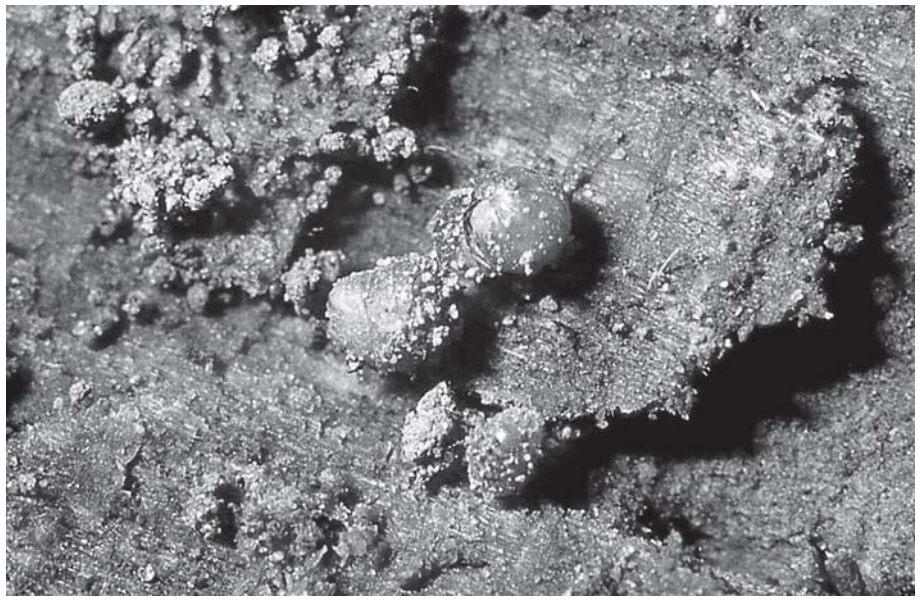
SUMMARY
Adenomeris gibbosa Mauriès, 1960 was found on 16th April 2004, new to the United Kingdom, at Aston Clinton, Buckinghamshire. The species is likely to be an introduction from Western Europe perhaps a century or more ago.

LOCATION
On 16th April 2004, during the BMIG annual weekend at Green Park, Aston Clinton, Buckinghamshire the authors collected at Cobblers Pit just across the disused canal, the Wendover branch of the Grand Union Canal, and adjacent to the Park. Cobblers Pit (SP886112, vc24, Alt.100m) is a nature reserve of Buckinghamshire County Council and consists of a strip of mixed woodland running uphill, between grass fields, from the canal to the A4011 road across which is the large area of Halton Woods. At the lower (northerly) end of the reserve, where it abuts the canal and Green Park, there is a group of yew, *Taxus baccata*, that may well have been planted, perhaps a hundred years ago. A signboard at the canal entrance to the reserve gives some history which includes: i) a sunken lane runs through the reserve, perhaps connecting the Upper and Lower Icknield Ways, or it may have been used to transport marl or other pit products down to the canal; ii) a short length of concrete canalbank there is said to have prevented water leaking out - or could it have been a wharf for unloading goods (perhaps including plants from Europe) for Sir Anthony de Rothschild's Green Park House and gardens in its heyday? The site has clearly seen much human activity, particularly the transport of goods.

Surface searching among the yew trees and open scrub was reasonably productive for invertebrates but stones and logs were noticeably in short supply so resort was made to sieving and grubbing through leaf litter, humus and soil among the ivy *Hedera helix*, dog's mercury *Mercurialis perennis*, and in bare areas. Apart from *Glomeris marginata*, *Melogona scutellare*, *Macrosternodesmus palicola* and *Ophiodesmus albonanus*, a few microglomerids were noticed which were initially assumed to be *Geoglomeris subterranea* Verhoeff, 1908 (syn. *Stygioglomeris crinata*



PHOTOGRAPH 1.
Adenomeris gibbosa, Cobblers Pit, Aston Clinton, 16.4.2004. First finds three specimens, obscured by dirt, difficult to spot. Head and collum tuck under the telson protectively giving the ovoid shape. Size: (curled-up) 1.50mm x 1.25mm. Photograph: Paul Richards (using: Olympus OM2n + 90mm Tamron macro lens + 3 extension tubes + 2x convertor. Ektachrome 200).

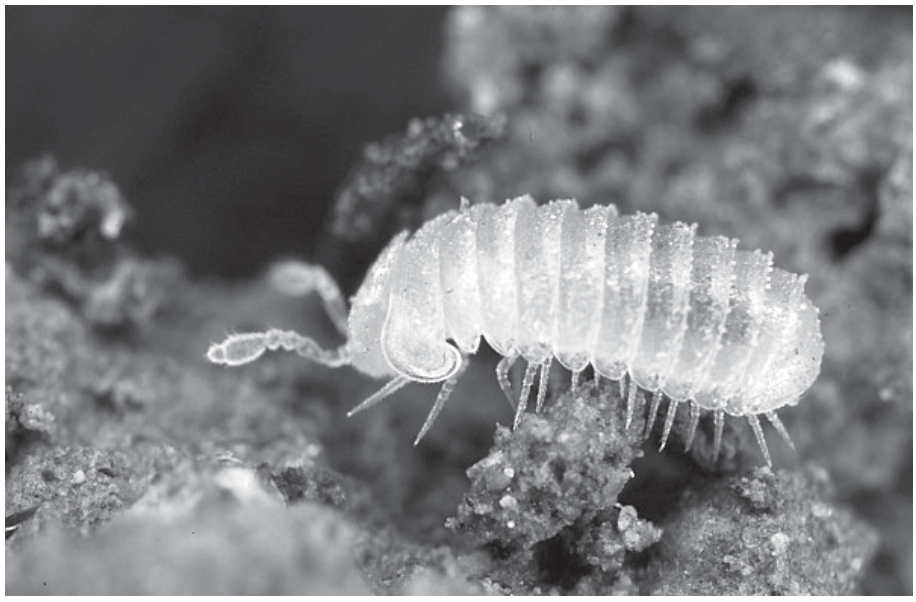
Brölemann, 1913) but the colour seemed wrong. They had a buff or pale brown ground colour instead of the more familiar distinct whiteness of *G. subterranea* found in limestone habitats; however many had the dark gut contents showing through as Richards (1995) mentions for this species. When JH viewed some of the specimens with a x20 hand lens in the field he quickly realised that many had an ornamentation of small lumps and, from memory of the drawings in Blower (1985), hazarded they were *Adenomeris* or even *Trachysphaera* reported more recently in the UK (Jones and Keay 1986).

IDENTIFICATION

A hasty retreat to base and microscopical examination allowed us to conclude that they were indeed *Adenomeris gibbosa* (or a closely related species) based on the 12 tergites (collum, shield and telson included) and their ornamentation of tubercles (otherwise variously called protuberences or excrescences). The initial specimens were obtained by sieving, but the resultant dirt covering obscured detail (Photo 1) so cleaner specimens were later obtained by careful direct grubbing. Closer examination showed that the majority of the specimens (approx. 30) were *A. gibbosa* together with five female *G. subterranea*. They were found at a depth of 1cm - 2cm in moist conditions: a) among humus; b) at the boundary of humus and soil; c) under pieces of wood embedded in the soil; and d) within interstices of the crumbly clayey soil - basic as it is derived from the chalk of the Chiltern Hills. It is likely that the substrate of buff clay particles somehow influences the similar internal ground colour of the animals in both species; this compares with the normal white ground colour of *G. subterranea* found in limestone districts.

Jean-Paul Mauriès of the Muséum National d'Histoire Naturelle, Paris has confirmed the identity of the Cobblers Pit specimens as *Adenomeris gibbosa*. A few, including a male, have been deposited with the MNHN. Two females have been placed in the BMIG Basic Collection.

Alerted by the find on the 16th, the following day Helen Read searched a nearby section of Halton Woods, (mentioned above) just a short distance uphill from Cobbler's Pit. She found two more of the species at SP887106. Also that day, Steve Gregory and Paul Lee accompanied JH to the original site and found a few more *A. gibbosa* and *G. subterranea*.



PHOTOGRAPH 2.
Adenomeris gibbosa, Cobblers Pit, Aston Clinton, 17.4.2004. Note characteristic rows of tubercles. Grooves on the shield allow the posterior edge of the telson and succeeding tergites to fit tightly making it difficult to open a contracted animal. Note only 11 tergites are apparent; collum indistinct from head. Size: 2.5mm long. Photograph: Steve Hopkin (using: Olympus OM4Ti, 38mm macro lens with ring flash, Fuji Velvia film. f16 auto flash exposure).

DESCRIPTION

As the accounts of *A. gibbosa* and *G. subterranea* given in Blower (1985) were quite adequate to separate the species on this occasion there is no need to repeat a full description here. Further, *A. gibbosa* is superficially similar to *Trachysphaera lobata* (Ribaut, 1954) for which an accessible description together with a good drawing is found in Jones and Keay (1986). Although *T. lobata* also has transverse rows of tubercles (*Trachsphaera* and *Adenomeris* are both placed in the Trachysphaeridae) close examination shows there are some very distinct differences, including: i) *T. lobata* has only 11 tergites compared to the 12 of *A. gibbosa*; ii) *T. lobata* has a row of five ocelli down the side of the head whereas *A. gibbosa* has none; iii) the telson of *T. lobata* is rounded with no transverse ridge.

However, notes from the examination (at x40 magnification) of 7 males and 25 females from Aston Clinton may be usefully recorded. There is always the possibility that further microglomerids await discovery in the UK and Ireland and additional characters may help to distinguish members of this difficult group.

a) As a main feature of *Adenomeris* (of *T. lobata* also), the bulbous tubercles are quite variable in size and colour, varying from pale buff usually to quite dark on a few specimens. However, occasionally they are far from obvious, especially in specimens that have been subjected to abrasion; indeed at least one of the specimens appears to have almost none, so that if tubercles appear to be absent one needs to refer to other features. Gut contents are not always apparent and probably depend upon food intake; indeed this could suggest interesting student projects:- i) does food type affect gut colour? ii) do the animals feed and/or digest food at low temperatures?

b) The posterior one third of most tergites is thicker and forms a transverse crescentic band (Photograph 3), widest on the dorsum and tapering latero-ventrally. The tubercles are mostly concentrated along this band; when small they appear scattered evenly in a strip about 4 tubercles wide; if large ones are present they occur at the anterior and posterior edges of the band, so giving the appearance of two parallel rows. Viewed with reflected light, the anterior two thirds of each tergite is covered in low papillations that in transmitted light appear porelike. The tergite surface of *G. subterranea* is much smoother and shinier, the papillations much smaller and there is a general pilosity of adpressed microsetae.

c) In a lateral view of the telson the transverse ridge (anterior to the centre) is usually obvious, compared to the smooth convexity of *G. subterranea*. Most of the telson is covered by tubercles with those on the ridge larger and

PHOTOGRAPH 3.
Adenomeris gibbosa, Cobblers Pit, Aston Clinton, 17.4.2004
Rebated ledge on anterior edge of shield allows the telson to fit tightly. Spacing of posterior row of tubercles shows well from this angle. Note tapering crescent on each tergite. Size: 1.0mm wide. Photograph: Steve Hopkin (details as above).

hence accentuating it. However, the twin horns of the transverse ridge, or two divergent sets of enlarged tubercles (Mauriès, 1960), are hardly apparent in these specimens, to the point of being absent. Comparing the specimens (two years in 70% ethanol) with the photographs, the tubercles may have shrunk a little but not appreciably.

d) With direct light (backlight), a lateral view shows up a general and distinct pilosity only on the head and collum and at the posterior edges of most tergites (cf. *G. subterranea* above).

e) The posterior margin of the telson is interesting: in posterio-dorsal view with direct light, the edge is very finely crenulate, seemingly corresponding with equally fine parallel longitudinal chasings in a broad band round the posterior edge; they appear much less clear in *G. subterranea*.

f) Seen laterally each tergite of *A. gibbosa* is slightly concave, the effect accentuated by the layer of squashed exudate on the band described in b) above (even with the tubercles removed); when the animal is rolled up, the effect is to produce a scalloped outline as seen in Photo 4. This compares with the slightly convex surface of each tergite in *G. subterranea* giving, in the rolled up state, a very smooth outline.

g) The "characteristic obliquely running grooves of the antero-ventral portions of the tergite lobes" mentioned by Blower (1985), for *G. subterranea* particularly, are also clearly present in *A. gibbosa* though finer and probably often obscured by exudate.

h) Size of females: The two largest are 3.0mm long x 1.2mm broad; however most are 2.5mm x 1.0mm, apart from a few smaller immatures.

i) Size of males: most are 2.5mm x 1.0mm with a couple smaller.

j) Eggs: One of the two largest females contained eight eggs; the presence of the males suggests that A. gibbosa is sexually reproductive at this site. Approximately 12 males and 32 females altogether were collected which gives some idea of the sex ratio.

k) Mature females have 17 pairs of legs. Males have 19 pairs - the last three pairs adapted as copulatory structures - gonopods / telopods.

PHOTOGRAPH 4.
Adenomeris gibbosa, Cobblers Pit, Aston Clinton, 17.4.2004. The rightmost animal, viewed laterally, shows the scalloped outline of the tergites. Size: 1.5mm x 1.25mm.
Photograph: Steve Hopkin (details as above).

DISTRIBUTION

Adenomeris gibbosa was first collected and described by Mauriès (1960) from Saint Pé de Bigorre in the Hautes Pyrénées. Two further collections were from Eaux-Bonnes and Licq-Atherey in the Pyrénées Atlantiques according to Des Kime (pers.comm.); ie. the western end of the Pyrenees; these constitute the brief mention by Demange (1981), itself subsequently refered to by Blower (1985).

Subsequently the species was found at two sites around Dublin, Ireland by Declan Doogue: At Ballygall in 1978 and at Lucan in 1981. Both of these are referred to by Blower (1985) and Des Kime (pers. comm.). From the descriptions given, both the Irish sites are close to old or abandoned habitation.

As the British and Irish sites are all synanthropic, it is highly likely that the species has been introduced. *A. gibbosa* is found naturally in fine limestone scree under moss, or in the soil, in Beech *Fagus sylvatica* forest in the western Pyrenean mountains (Des Kime, pers.comm.). Among possible hypotheses it would seem quite plausible that any "alpine" enthusiast collecting a few plants (with a little soil) from the Pyrenees for their treasured alpine garden, especially early in the last century before the days of mass availability at garden centres, could easily introduce the unobtrusive microglomerids and for them to become naturalised at lower elevations in our higher latitudes. The same scenario could be envisaged for several other species of microglomerid genera which may lurk unsuspected in gardens or their surrounds in calcareous parts of Britain and Ireland. For a start there are two more species of *Adenomeris*: *A. hispida* Ribaut (1909) found more to the east in the central Pyrenees; and *A. viscaiana* Mauriès and Barraqueta (1985) from the Spanish province of Viscaya in the Basque Country.

ACKNOWLEDGEMENTS

We extend our grateful thanks to all colleagues who have helped with information, references and photographs: To Jean-Paul Mauriès of Paris for confirming the identity of the Cobblers Pit specimens; to Helen Read for allowing inclusion of her additional record; to Steve Hopkin for his excellent photographs; to Tony Barber for copies of published papers; to Jan Beccaloni of the Natural History Museum, London for genera descriptions; and to Des Kime who kindly sent information on the localities from which the species have been collected in Europe.

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MYRIAPODA (CENTIPEDES & MILLIPEDES) FROM THE CHANNEL ISLANDS

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Politically British, although geographically French, the Channel Islands are of myriapodological interest because of their much longer connection with the European mainland than that of England. Johnston (1981) describes some of the sequence of changes following the end of the last glaciation and the consequential rise in sea levels. By about 7,500 BC England and France had finally separated. Guernsey, Herm and Sark seem to have been part of a peninsula still connected to France by a narrow isthmus with Alderney and Jersey part of the mainland. By about 7,000 BC Alderney, Guernsey/Herm and Sark were separate islands with Jersey a broad peninsula of the mainland. At this time the vegetation seems to have been thick deciduous forests with oak predominating. By 4,000 BC all islands were separate.

Present day species on the islands may date back to the more favourable post-glacial period (or be survivors from refugia), may have arrived by accidental transport (e.g. by rafting; most likely with littoral species) or accidentally, being imported as a result of human activity. There has been a history of human occupation of the islands going back a long way, possibly as long as 600,000 years, and trade between Britain, France and the Islands in recent years (including the closer links with France during the Occupation) may be responsible for the occurrence of certain species.

Land use in the main islands of Guernsey & Jersey is often intensive but "wild areas" occur especially around the coast, in reserves & in conserved areas, golf courses, etc. and in the case of Jersey certain inland wooded valleys such as Waterworks Valley. Hence we are likely to have a myriapod fauna derived in part from that of mainland Europe (with Jersey possibly richer in species of this origin) and from chance introductions much modified by agricultural & horticultural practice, quarrying and building. With a position much further south than southern England and surrounded by sea, the survival of species with more demanding climatic requirements may be possible.

At the present time, the list of species for the islands is obviously far from complete. Nevertheless it seems useful to review our present knowledge.

The earliest published record for either centipedes or millipedes from the Channel Islands appears to be "D.W.T." reporting in 1889 the discovery of the maritime centipede, *Hydroschendyla submarina* from Jersey (Thompson, 1889). This is the first published British record of the species although there were, apparently, specimens in the Natural History Museum from Cornwall but they had not been recognised as a new species at the time. It was recorded again in the twentieth century by Browning (1956) from Jersey and by Brehaut (1980) from Guernsey. There seem to be no subsequent records from the islands but it is elusive, found quite low down on the shore often in rock crevices, and is highly likely to be still present around the coast of Jersey and Guernsey (and probably, the others islands) in suitable habitats.

Gadeau de Kerville (1894) reported four species of chilopod from Les Iles Chausey (Grande Ile); *Lithobius forficatus*, *Lithobius melanops*, *Strigamia maritima* and *Geophilus gracilis*. Eason (1964) considers *Geophilus gracilis* to be a synonym of *Geophilus fucorum seurati*. Brolemann described *Geophilus algarum* from there (Brolemann, 1930); Lewis (1962) considers this to be conspecific with *Geophilus fucorum*.

In 1897 W.A.Luff (Luff, 1897) published what appears to be the first Channel Island record of the so called "house centipede", *Scutigera coleoptrata* from a street in St.Peter Port, Guernsey. In 1946 F.A.Turk (Turk, 1946) published a report of it from a bath in St.Helier, Jersey. Browning (1956) reported on a collection of Arachnida and Myriapoda from the latter island, including a further record of *Scutigera* from a glasshouse in the same town whilst Dobson (1959) reported the species from St.Ouen's Bay with the comment that it had now been found on a number of

occasions in the island. In Browning's list there were a total of 6 centipedes (*Haplophilus subterraneus = Stigmatogaster subterraneus, Hydroschendyla submarina, Lithobius forficatus, Lithobius pilicornis doriae, Cryptops* sp., *Scutigera coleoptrata*) and 3 millipedes (*Cylindroiulus latestriatus, Schizophyllum sabulosum = Ommatoiulus sabulosus, Proteroiulus fuscus*) recorded for Jersey.

For Guernsey, there are a number of myriapod records in reports of the *Reports and Transactions of the Société Guernsiase*. One of these is of *Blaniulus guttulatus* attacking strawberry roots (Girard, 1958) and subsequently the greenhouse millipede *Paradesmus gracilis* (*Oxidis gracilis*) was reported as very common in Guernsey although not formally identified and *Polydesmus gallicus* (*P.coriaceus*) recorded (Girard,1962). In 1965 *Scutigera* was reported from under a bungalow floor (Taylor, 1965); there is another report from 1986 (Austin, 1987). Since then *Scolioplanes maritimus* (*Strigamia maritima*) has been noted from L'Eree along with *Lithobius forficatus* from St.Peter's (Brehaut, 1968, 1970), four species of millipedes from Guernsey (*Polyxenus lagurus, Polydesmus gallicus, Polydesmus angustus* and *Schizophyllum sabulosum* with *Polyxenus* also from Sark (David & Brehaut, 1980) and *Hydroschendyla submarina* from Bordeaux (Brehaut, 1981).

In 1969 R.D. Kime collected several species of both millipedes and centipedes from both Guernsey and Herm (Barber & Kime, 1971). The Guernsey records were *Haplophilus subterraneus* (*Stigmatogaster subterraneus*), *Geophilus osquidatum, Cryptops hortensis, Lithobius variegatus, Lithobius duboscqui* (*Lithobius microps*), *Polydesmus* imm., *Proteroiulus fuscus, Blaniulus guttulatus, Leptoiulus belgicus* and *Cylindroiulus punctatus* whilst from Herm there were *Schendyla nemorensis, Geophilus carpophagus* (probably *Geophilus easoni*), *Lithobius variegatus* and *Cylindroiulus punctatus*. The present author, using data from Dr W.J. Le Quesne (Barber,1990) reviewed the status of *Scutigera* in Jersey, widespread in buildings, a situation which also appears to be true for Guernsey.

Collections of myriapods were made in Guernsey by A.N.Keay in 1980 and by R.E.Jones in1993. In 1990 I was able to examine some Jersey specimens from pitfall traps collected in 1987 at Noirmont by Dr Le Quesne (ex Liverpool Museum). Although many of these records are in the national database, they have not so far been published although there were lists for the Islands in 1991 (Barber, 1991, *unpub*.) and for Guernsey in 1994 (Jones,1994, *unpub*.) in the *Newsletter* of the British Myriapod Group. The 1991 list included 7 centipedes and 6 millipedes for Jersey, 5 centipedes and 4 millipedes for Guernsey and 3 centipedes and 1 millipede for Herm whilst the 1994 one had 16 centipedes and 12 millipedes in total for Guernsey. In addition Dr C.T.David has kindly passed on to me records he has made.

In August 1994 I made collections in Guernsey, Herm, Sark and Alderney whilst in the summer of 2004 during a short visit I was able to collect specimens from various localities and habitats in Jersey. All the above reports are referred to in the following list with collectors/recorders identified as CTD (C.T.David), RDK (R.D.Kime, as published in Barber & Kime, 1971), ANK (A.N.Keay) and REJ (R.E.Jones) and the present author (ADB) or are based on published records as above. Many of the millipedes were determined / checked by REJ (1993/4) or by Paul Lee (2004, indicated PL).

CLASS CHILOPODA (CENTIPEDES)

Order Geophilomorpha

***Stigmatogaster subterraneus* Shaw**
(*Haplophilus subterraneus*)
This species seems to be the common large geophilomorph of both Guernsey and Jersey (as it is in SW England) and has been found on both Herm and Alderney.

Recorded from Guernsey from Moulpied (-.7.69, RDK), Moulin Huet (-7.69, RDK, 24.8.94, ADB), Talbot Valley (18.8.94, ADB), L'Eree (17 & 21.8.94, ADB), Lihou Is. (21.8.94, ADB), Silbe Reserve (17.8.94, ADB), Icart (16 & 26.8.94), Port Soif (13.8.94, ADB) and Fermain Bay (15.8.94, ADB)

On Jersey, Browning reported it from Noirmont point. It is also known from La Hougue Bie (27.8.04), Fliquet (28.8.04), Waterworks Valley (29.8.04), Gréve de Lecq (30.08.04), Le Ouaisné Common (31.8.04), Lion Park (1.9.04), St.Catherine's Wood (2.9.04) and Bouley Bay (2.9.04) from woodland, grassland, sand dune (under trees) and roadside (all ADB).

Records from Herm (woodland, 20.8.94, ADB) and Alderney (St.Anne's & Braye Road, 23.8.94, ADB). The related, and somewhat similar, *Nesoporogaster brevior*, is reported only from two sites in Cornwall.

***Hydroschendyla submarina* (Grube)**
Older Jersey records as above. As well as the published Guernsey record from below high tide at Bordeaux (Brehaut, 1981) it was also collected by Charles David at Portlet Harbour (5.3.00). The species may well occur in suitable shore sites on all the islands.

***Schendyla nemorensis* (C.L.Koch)**
Widespread in Britain and reported on Guernsey from L'Ancresse Bay (27.12.03, REJ), Petit Bot Bay (26.12.93, REJ), Lihou Is. (21.8.94, ADB), Hommet Paradis (22.8.94, ADB), Le Guet (24.8.94, ADB) and Icart (16.8.94, ADB).

Recorded in Jersey from under stones on top of the cliffs at La Corbiére (26.8.04, ADB) and from woodland in Waterworks Valley (29.8.04, ADB).

Also known from Herm (-.7.89, RDK) and Alderney, Clonque Bay (23.8.94, ADB).

Schendyla peyerimhoffi
A littoral species, widespread around south & west coasts of Britain, there is a single record from Fort Hommet, Guernsey (18.8.94, ADB) but it may be widespread in suitable sites.

Schendyla dentata (*Brachyschendyla dentata*), a small species is quite widespread in southern England, mostly in synanthropic sites. It occurs in similar sites elsewhere in northern Europe and could possibly be found in the Channel Islands whilst *Schendyla monodi* (*Brachyschendyla monodi*) is known from a single female from Brittany (Brölemann, 1930, Delamare Debouttéville, 1948).

***Strigamia acuminata* (Leach)**
There are Jersey records from woodland at Verclut point (25.8.04, ADB) and Gréve de Lecq (30.8.04, ADB). The similar *Strigamia crassipes* with 49 – 53 leg pairs has not yet been recorded.

***Strigamia maritima* (Leach)**
This is a common Atlantic littoral species likely to be found on all the islands in suitable habitats. Gadeau de Kerville recorded it from Chausey.

Recorded on Guernsey from L'Eree (Brehaut, 1968), Havelet Bay (-.9.80, ANK), Fort Hommet (18.8.94, ADB), Baie de la Jaonneuse (22.8.94, ADB), Port Soif (13.8.94, ADB), Saints Bay (CTD, 5.3.00), Soldiers Bay (9.3.00, CTD), Spur Point (9.3.00, CTD) and Bordeaux Harbour (2.4.00, CTD).

Jersey records are from shingle at Le Hocq (25.8.04), St.Ouen's Bay (La Tête du Nier Côte, 26.8.04), Rozel (27.8.04) and Le Ouaisné (31.8.04).

It has also been recorded from Alderney, Clonque Bay (26.9.03, CTD).

***Geophilus carpophagus* Leach**
The species *Geophilus carpophagus* Leach has recently been separated into two; *Geophilus carpophagus* and *Geophilus easoni* (Arthur et al., 2001), distinguished amongst other things by the number of leg pairs, 51-57 in the former and 47-51 in the latter. The species also appear to be ecologically distinct in Britain with *G.carpophagus* in the present sense associated with buildings, trees and seashores and *G.easoni* with woodland and moorland.

There is a Guernsey record of two specimens of *G.carpophagus* in the new sense from an old quarry at Prevote Watch House, (19.8.94, ADB) and J.G.E. Lewis has examined some very dried up material from Pleinmont (24.8.94, coll. ADB) and identified one specimen as this species. Jones (1994, unpub.) reported *G.carpophagus* from L'Ancresse Bay (27.12.93) but it is not clear whether it is this species or *G.easoni*.

***Geophilus easoni* Arthur et al.**
Found on Guernsey on Lihou Island (21.8.94, ADB) and at Le Guet (24.8.94, ADB).

For Jersey, a single female of *G.easoni* with 51 leg pairs is recorded from woodland behind St.Brelade's cemetery; its identity confirmed by J.G.E.Lewis (31.8.04, ADB).

There is also a Sark record from a field overlooking the cliffs near the harbour (25.8.94, ADB). The Barber & Kime (1971) record of *G.carpophagus* from Herm was probably this species but the specimen is no longer available.

***Geophilus electricus* (Linné)**
Commonly associated with human activity over much of England, there is a single record from Talbot Valley, Guernsey (27.12.93, REJ)

Geophilus osquidatum
Widespread in SW England, there is a Guernsey record from Moulpied (-.7.69, RDK, det. E.H.Eason).

Geophilus fucorum
A littoral species, widespread around the British Isles, recorded from Guernsey from Baie de la Jaonneuse (22.8.94, ADB). Brolemann's *Geophilus algarum* described in 1909 from Chausey (Brolemann, 1930) seems to be this species.

May well occur around all the islands and Gadeau de Kerville's *G.gracilis* is probably this species.

***Geophilus pusillifrater* Verhoeff**
Two specimens of this small species were found at Fort Le Marchant, L'Ancresse Bay on Guernsey (27.12.93, REJ).

***Geophilus flavus* (De Geer)**
(*Necrophloeophagus longicornis*)
This is widespread in England and very common in parts of eastern Britain. It is recorded in Guernsey from Petit Bot Bay (26.12.93, REJ, 16.8.94, ADB), Talbot Valley (27.12.93, REJ), Jerbourg (14.8.94), Divette (15.8.94, ADB) and Calais (15.8.94, ADB).

We have a single Jersey record, from woodland in Waterworks Valley (29.8.04, ADB). Also recorded from two sites on Sark (25.8.94, ADB).

***Geophilus truncorum* Bergsoë & Meinert**
(*Brachygeophilus truncorum*)
Widespread in British woodlands, it is recorded on Guernsey from Petit Bot Bay (26.12.93, REJ), Talbot Valley (27.12.93, REJ), Fermain Bay (15.8.94, ADB) and Silbe Reserve (17.8.94, ADB).
We have a single Jersey record, from Waterworks Valley (29.8.04, ADB).

Of the other geophilomorphs known from southern Britain, *Arenophilus peregrinus* and *Nothogeophilus turki* are small, rarely recorded species, *Chalandea pinguis* appears in Britain to be confined to North Devon whilst the two *Henia* species (*H.vesuviana* and *H.brevis*) are mostly from synanthropic sites. *H.vesuviana* is a large and distinctive species, unlikely to be mistaken for any other; if it occurs in the Channel Islands it may have been missed as its likelihood of being in any particular locality in Britain seems to be quite weather sensitive .

Order Scolopendromorpha

***Cryptops anomalans* Newport**
Collected on Guernsey from steps near Soldiers Bay (15.8.94, ADB) and in Jersey from under bark of a dead tree-trunk in woodland in Waterworks Valley (29.8.04, ADB).

***Cryptops hortensis* Leach**
This species seems to be widespread and common across Guernsey and Jersey.

Recorded on Guernsey from Moulpied (-.7.69, RDK), Petit Bot (-.7.69, RDK, 26.12.93, REJ), Hoogue du Pommier (25.12.93, REJ), Talbot Valley (27.12.93, REJ, 18.8.94, ADB), Catiroc (21.8.94, ADB), Vale (22.8.94, ADB), Moulin Huet (24 & 26.8.94, ADB), L'Eree (17.8.94, ADB), Silbe Reserve (17.8.94, ADB), Icart (16.8.94, ADB), Le Guet (24.8.94, ADB), Jerbourg (13.8.94, ADB), Divette (15.8.94, ADB) and Soldiers Bay (15.8.94, ADB).

Jersey records are from Le Hocq (25.8.04), Lavender Farm (26.8.04), La Hougue Bie (27.8.04), Rozel (28.8.04), Longueville (28.8.04), Grêve de Lecq (30.8.04) and Lion Park (1.9.04) from waste-ground, woodland, grassland, etc. It is likely that Browning's *Cryptops* sp. was this species.

Recorded from Sark, North Common (25.8.94, ADB), Herm, woodland (20.8.94, ADB) and Alderney, St.Anne's and Clonque Bay (23.8.94, ADB).

There are also a number of records of immature, small specimens which are most likely this species.

Order Lithobiomorpha

***Lithobius variegatus* Leach**
Thought at one time to be confined to mainland Britain & Ireland, this species was subsequently recorded from Guernsey & Herm and in Brittany and Spain. It can usually be identified in the field, tends to favour rural rather than urban locations and appears to be widespread in the Channel Islands.

Guernsey records are from above Le Jaonnet Bay (-.7.69, RDK), Moulpied (-.7.69, RDK), Fort Field (-.9.80, ANK), Fort George (-.9.80, ANK), Havelet Bay (-.9.80, ANK), Hoogue du Pommier (25.12.93, REJ), Petit Bot Bay (26.12.93, REJ, 16.8.94, ADB), Silbe Reserve (17.8.94, ADB), Talbot Valley (18.8.94, ADB), Catiroc (21.8.94, ADB), Pleinmont (24.8.94, ADB), Le Guet (24.8.94, ADB), Icart (16.8.94, ADB), Jerbourg (13 & 14.8.94) and Soldiers Bay (15.8.94).

Jersey records are from Verclut Point (25.8.04), Longueville (28.8.04), Waterworks Valley (29.8.04), Grêve de Lecq (30.8.04), Lion Park (1.9.04) Bouley Bay (2.9.04) and St.Catherine's Wood (2.9.04). The Longueville record was of small specimens from an old wall, others are from or close to trees or woodland (all ADB).

Recorded from Herm (-.7.69, RDK, 20.8.94, ADB), Sark, field overlooking the cliffs (25.8.94, ADB) and Alderney, Clonque Bay (23.8.94, ADB).

***Lithobius forficatus* Linn.**
This is the common large brown lithobiid over most of mainland Britain and the only species it is likely to be confused with in SW England or the Channel Islands is probably *Lithobius pilicornis*.

Reported from Guernsey as collected by Mrs M. Burridge at St.Peter's by Brehaut (1970), Jones (1994, unpub.) does not report it in his list. Collected by ANK at St.Peter Port (-.9.80) and by ADB only from the two islands of Lihou (21.8.94) and Hommet Paradis (22.8.94).

It does seem to occur all over Jersey, often in non-rural sites. Specific records are from Lavender Farm (25.8.04), Coronation Park, Millbrook (27.8.04), Waterworks Valley (29.8.04), Ouaisné (31.8.04) and Lion Park (1.9.04).

The species has been found at two sites on Alderney: St.Annes, waste site and Clonque Bay (both 23.8.94, ADB) where *L.pilicornis* was not observed.

***Lithobius pilicornis* Newport**
A large species which seems to out-compete *L.forficatus* in suitable habitats, ANK recorded it from Fort George (-.9.80). In the summer of 1994 I found this to be widespread in Guernsey with records from Prevote Watch House (19.8.94), Le Guet (24.8.94), Icart (26.8.940, Fort Hommet (13.8.94), Port Soif (13.8.94), Point de la Moye (14.8.94) and L'Eree (17.8.94).

In Jersey it was recorded by Browning from wasteland at Bel Royal but I did not find any specimens on the island in 2004. The form *L.pilicornis doriae* which Browning records probably represents immature specimens.

Lithobius melanops
A species often associated with human influence but also found on the sea shore, there are a number of records from Guernsey where it seems to be widespread: L'Ancresse Bay (27.12.93, REJ), Cobo Bay (25.12.93, REJ), Prevote Watch House (19.8.94, ADB), Lihou Is. (21.8.94), Hommet Paradis (22.8.94), L'Ancressse (13.8.94, ADB), Baie de la Jaonneuse (22.8.94, ADB), Fort Hommet (13.8.94, ADB), Port Soif (13.8.94) and Pointe de la Moye (14.8.94, ADB).

Although a possible specimen was observed at L'Etacquerel shore on Jersey, there are no definitive records from there nor from the other islands although Gadeau de Kerville reported it from Chausey.

Lithobius borealis
From Guernsey, a male and a female of this species were recorded from the Fermain Bay area (15.8.94, ADB) and a male from Jerbourg (13.8.94, ADB). There are no other records from the islands.

***Lithobius tricuspis* Meinert**
This is most easily identified from the number of spurs on the gonopods of females which give it its name and these can be clearly seen on a specimen from woodland at Grêve de Lecq, Jersey (30.9.04, ADB). An immature female, almost certainly of the same species is recorded from Waterworks Valley (29.8.04, ADB).

***Lithobius muticus* C.L.Koch**
A species widespread on the European mainland although in Britain mostly found in SE England, Jones (1994, *unpub*.) includes it in his Guernsey list but I have no details of its locality.

***Lithobius calcaratus* C.L.Koch**
This is a species frequently recorded from drier habitats in Britain.

Although there are no Guernsey records, from Jersey, both males and females occurred in the 1987 Noirmont collection (April, May, October/November) and a female was collected at Le Petit Port under wooden rubbish (3.09.04, ADB). A specimen, probably also of this species, was also seen at St. Catherine's Bay (waste ground) on 25.8.04 but was not captured.

***Lithobius microps* Meinert**
(*Lithobius duboscqui*)
This is frequently associated with human habitations but is certainly seen elsewhere, especially in SE England and is widespread in the Islands.

On Guernsey it has been collected from Moulin Huet (-.7.69, RDK, 26.8.94, ADB), above Saints Bay (-.7.69, RDK), Petit Bot Bay (26.12.93, REJ), Prevote Watch House (19.8.94, ADB), Lihou Is (21.8.94, ADB), Hommet Paradis (22.8.94, ADB), Pleinmont (24.8.94, ADB), Miellet Bay (17.8.94, ADB), Le Guet (24.8.94, ADB), Jerbourg (26.8.94) and Fermain Bay (15.8.94).

From Jersey, a male and a female were found in the 1987 Noirmont collection (September/October). It is also recorded from Le Hocq (waste ground, 25.8.04), La Pulente (grass under conifer,26.8.04), Waterworks Valley (woodland, 29.8.04) and St.Brelade (woodland at back of cemetery, 31.8.04) (all ADB).

Recorded from Herm, woodland (20.8.94, ADB) and Alderney, St.Anne's (23.8.94, ADB).

Other species of *Lithobius* recorded from southern Britain include *Lithobius piceus* (mostly south-east; widespread in France), *L.peregrinus* (a single SE location to which it was presumably introduced), *L.lapidicola* (east coast) and three relatively widespread species, *L.macilentus*, *L.crassipes* and *L.curtipes*, none of which seem to occur, apparently, in south-west England.

***Lamyctes emarginatus* (Newport)**
(Lamyctes fulvicornis)
This is often said to favour damper places and is also markedly seasonal, rarely seen in late spring / early summer. From Jersey we have a single, damaged specimen in the 1987 Noirmont collection (June/July) and it was also collected at Lion Park (1.9.04, ADB).

Order Scutigeromorpha

***Scutigera coleoptrata* (Linn.)**
Quite unlike any other of our centipedes with its extraordinarily long antennae and legs (15 pairs), its insect-like compound eyes, only 7 apparent segments to the trunk and its dull yellow colour with violet bands this is often called the "house centipede" because of its tendency to be found in buildings and previous occurrences in Guernsey & Jersey have already been described.

For Guernsey, Dr David advises me that he gets several telephone calls a year about it and that it appears to be present all over the island not just in St. Peter Port and St. Sampson.

Frances Le Sueur in her *Natural History of Jersey* (1976) speaks of as "fairly common and frequently enters houses" but it has always seemed likely that it was, in fact, more or less confined to buildings. However, I found specimens outdoors at both L'Etacquerel (1.9.04) and St Brelade's (3.9.04); the former site was at the top of a shingle shore amongst large pebbles well away from buildings (two animals seen, one captured) and the latter towards the back of the Sir Winston Churchill Memorial park.

Dobson (1960) reported it from St.Ouen's Bay without indicating whether this was an outdoor or indoor record; given the recent records and the fact that the bay has only a limited number of buildings along it, it could well be an outdoor one. Certainly the species must surrender any reputation of only occurring in buildings and be regarded as an established outdoor species, at least in Jersey though not on the British mainland. Having seen its almost wraith-like appearance in the field when it runs for cover perhaps the name "ghost centipede" by analogy with tropical "ghost crabs" (*Ocypoda africana*) might be a more appropriate name !

Livory (2000) records *Scutigera* from Chausey and from an outdoor site at St-Nicholas-près-Granville, Brittany and reports on older records from Roscoff, Cancale and St-Méloir-des-Ondes so that it certainly seems to occur outdoors, at least occasionally, on the French Channel coast.

CLASS DIPLOPODA (MILLIPEDES)

Order Penicillata

***Polyxenus lagurus* (Linné)**
This, the minute (2-3 mm) "bristly millipede", was reported by David & Brehaut (1980) as occurring on Guernsey and Sark in 1975 and recorded by ANK from Castle Cornet (10.5.92). It is widespread and common in Guernsey. Charles David reports that he sees this quite frequently but seldom makes a record unless he is doing some sort of survey. He gives specific records from Divette (14.5.92), Les Tielles (13.12.92), Jaonnet (12.4.93), Fauxquets Valley (10.3.96), Castle Cornet (4.4.02), St.Germain Quarry (7.4.02) and Fort George (1.11.03).

He has also found it on Alderney (Saye Bay, 6.6.92), Sark (Eperquerie Common, 7.12.92), Herm (East Coast cliffs, 31.12.92) and various small islets near Herm including Longue Pierre (19.8.89) and Fondu (30.7.94).

It will undoubtedly occur also on Jersey.

Order Glomerida

***Glomeris marginata* (Villers)**
This was reported by Warne (1985) from pitfall traps amongst sand-dunes at St.Ouen's Bay/Les Blanches Banques, Jersey (21.10.95). There are no other records from any of the islands of this distinctive pill millipede which is commonly found in woodland in Britain.

Another species, *Glomeris hexasticha intermedia*, is reported from Brittany and Normandy whilst three small, soil dwelling, glomerids (*Stygioglomeris crinita*, *Adenomeris gibbosa* and *Trachysphaera lobata*) are known from Britain but they are not easy to find unless soil sieving is carried out.

Order Chordeumatida

***Melogona gallica* (Latzel)**
A single record of this species collected by REJ at Petit Bot Bay, Guernsey (26.12.94).

***Chordeuma proximum* Ribaut**
Recorded from Guernsey from both Petit Bot Bay (26.12.93) and Talbot Valley (27.12.03, REJ). From Jersey, a single immature *Chordeuma* was collected in Waterworks Valley (29.8.04). Mature males are essential for definitive identification of *Chordeuma* species and these occur later in the year.

***Nanogona polydesmoides* (Leach)**
Widespread in Britain, this species was collected on Jersey from mixed woodland at St.Catherine's Wood (2.9.04, ADB).

Of the other British chordeumatids, *Craspedosoma rawlinsii*, which is similar in size to *Nanogona*, is not commonly found in southern England, *Brachychaeteuma* species are small, whitish forms of which *B.melanops* is widespread in the south, frequently in synanthropic sites, and *Anthogona brittanica* seems to be very local. There are two further species of this order, *Chamaesoma brolemanni* and *Anthogona variegatum* recorded from Normandy

Order Julida

Family Blaniulidae

***Proteroiulus fuscus* (Am Stein)**
A widespread British species; common occurrence is under the bark of dead branches/ trunks in woodland.

Several records from Guernsey; above Le Jaonnet Bay (-.7.89, RDK), Petit Bot Bay (26.12.93, REJ), Le Guet (24.8.94, ADB), Trinity Cottages (24.8.94, ADB), L'Eree (17.8.94, ADB), near Calais (15.8.94, ADB) and near Soldiers Bay (15.8.94, ADB)

Recorded from Jersey by Browning (1956) from Noirmont Point and now from woodland at Verclut Point (25.8.04) and Waterworks Valley (29.8.04) (both ADB).

***Blaniulus guttulatus* (Fabricus)**
This is often found in agricultural land and gardens and can become a pest, especially of seedlings and is reported as such, attacking strawberry roots in Guernsey (Brehaut, 1959).

Other Guernsey records are widespread including Moulpied (RDK, -.7.69), Valdes Terres (B.Barrett, -.5.75), Talbot Valley (27.12.93, REJ; 18.8.94, ADB), Hougue du Pommier (25.12.93, REJ), Lihou Is. (21.8.94, ADB), Trinity Cottages (24.8.94, ADB), Sillbe Reserve (17.8.94, ADB), Prevote Watch Tower (19.8.94, ADB), path to Icart (26.8.94, ADB), Fermain Bay (15.8.94), Divette (15.8.94, ADB) and Vale area (22.8.94, ADB).

Recorded in Jersey from Waterworks Valley (29.8.04), Le Hocq (25.8.04), Fliquet (28.8.04) and St.Catherine's Wood (2.9.04) (all ADB).

Also found on Alderney (St.Annes, 23.8.94, ADB) and Sark (road to harbour, 25.8.94, ADB)

***Choneiulus palmatus* (Nemec)**
This is here recorded in Jersey from Waterworks Valley (29.8.04) and Le Grêve de Lecq (30.8.04) (coll. ADB, det. PL).

Choneiulus palmatus* / *Nopoiulus kochi
From Jersey, a juvenile (stadium V) from waste ground at Le Hocq (25.8.04), examined by Paul Lee, may be the latter species but certainty is not possible.

***Archiboreoiulus pallidus* (Brade-Birks)**
A female from Alderney (Braye Road, 23.8.94) was examined for me by RDK
He described it as corresponding to this species but with vulvae much more pointed than in Blower's (1985) illustration. He commented that he could not see what else it could be.

Family Julidae

***Cylindroiulus latestriatus* (Curtis)**
A species often, but not exclusively, associated with coastal areas which seems to be extremely widespread on both Guernsey and Jersey. It was also found on Alderney and likely to be found on the other islands with further searching.

Guernsey records include L'Ancresse Bay (27.12.93, REJ), Table des Pions (24.8.94, ADB), Lihou Is. (21.8.94, ADB), L'Eree area (21.8.94, ADB), Pointe de la Moye (14.08.94, ADB), Le Guet (24.08.94, ADB), Moulin Huet Bay (26.8.94, ADB), Jerbourg (13.8.94, ADB), Baie de la Jaonneuse (22.8.94, ADB) and Hommet Paradis (22.8.94, ADB).

For Jersey, in addition to Browning's report there are records from La Pulente (26.8.04), Lavender Farm (26.8.04), Coronation Park, Millbrook (27.8.04), La Grêve de Lecq (30.8.04), Le Ouaisné & Le Ouaisné Common (31.8.04), Le Grouin (31.8.04) together with a probable specimen of the species from Fliquet (28.8.04) (all coll. ADB, det. PL).

Recorded from Alderney at St.Anne's (23.8.94, ADB).

***Cylindroiulus britannicus* (Verhoeff)**
Recorded from Jersey in three well separated sites; Waterworks Valley (29.8.04), Lion Park (1.9.04) and St.Catherine's Wood (2.9.04) (all coll. ADB, det. PL)

***Cylindroiulus truncorum* (Silvestri)**
British records of this species are scattered and include Kew Gardens and according to Blower (1985) it is probably indigenous in North Africa but widely introduced. There are Jersey records from Le Hocq (25.8.04), St.Catherine's Point (25.8.04), two sites in Waterworks Valley (29.8.04) and Le Grêve de Lecq (30.8.04) (all coll. ADB, det. PL)

***Cylindroiulus punctatus* (Leach)**
A very common and characteristic woodland animal, possibly the most commonly found millipede in Britain and is apparently widespread in both Guernsey and Jersey in woodlands or under trees.

In Guernsey, we have records from above Le Jaonnet Bay (-.7.69, RDK), Moulpied (-.7.69, RDK), Saumarez Port Folk Museum (-.5.75, B.Barratt), Talbot Valley (27.12.93, REJ, 17.8.94, ADB), Petit Bot Bay (26.12.93, REJ, 16.8.94, ADB), Fermain Bay (28.12.93, REJ, 15.8.94, ADB), Trinity Cottages (24.8.94, ADB), L'Eree (17.8.94, ADB), Sillbe Reserve (17.8.94, ADB), Le Guet (24.8.94, ADB), Icart (16.8.94, ADB), Jerbourg (13.8.94, ADB) and near Soldiers' Bay (15.8.94, ADB).

From Jersey, it occurred in the 1987 Noirmont collection (March/April, Sept./Oct.) and is also recorded from Verclut Point (25.8.04), La Pulente (26.8.04), Lavender Farm (26.8.04), Waterworks Valley (29.8.04), Grêve de Lecq (30.8.04), St.Brelade (31.8.04), Le Ouaisné (31.8.04), Bouley Bay (2.9.04) and St.Catherine's Wood (2.9.04) (all ADB).

Also known from woodland on Herm (-.7.69, RDK, 20.8.94, ADB) and from Sark (North Common, 25.8.94, ADB).

Of the other British *Cylindroiulus* / *Allajulus* species, *C.parisorum* records are scattered across England, often from rotting tree stumps, *C.caeruleocinctus* is much commoner in the south-east and quite rare in the south west, *C.londinensis*, a distinct large dark species is mostly recorded from synanthropic habitats in Britain (although widespread in France) and may be found in the Channel Islands and *A.nitidus* is not commonly found.

***Leptoiulus belgicus* (Latzel)**
This species is usually described as having a clear single white line along the length of its back but this is not always obvious especially in live animals. When picked up with forceps it tends to make extremely active movements. In mainland Britain it is mostly a patchily distributed south-western animal with occasional records across southern England. However, it seems to be very widespread and common in both Jersey and Guernsey and is also found on Alderney, Herm and Sark.

Guernsey records include sites above Saints Bay and Le Jaonnet Bay (-.7.89, RDK), Talbot Valley (27.12.93, REJ), Petit Bot Bay (26.12.93, REJ, 16.8.94, ADB), Fermain Bay (28.12.93, REJ, 15.8.94, ADB), Trinity Cottages (24.8.94, ADB), L'Eree (17.8.94, ADB), Silloe Reserve (17.8.94, ADB), Prevote Watch House (19.8.94, ADB), La Corbière (19.8.94, ADB), Fort Hommet (13.8.94, ADB), Pointe de la Moye (14.8.94, ADB), Icart (16.8.94, ADB), Moulin Huet Bay (24.8.94, ADB), Jerbourg (13.8.94, ADB), Calais (15.8.94, ADB) and the Vale area (22.8.94, ADB).

From Jersey, it occurred in 4 of the samples from the 1987 Noirmont collection (August – November) and is now recorded from St.Catherine's Point (25.8.04), Lavender Farm (26.8.04), Rozel (28.8.04), Fliquet (28.8.04), Waterworks Valley (29.8.04), La Grêve de Lecq (30.8.04), St.Aubin (31.8.04), Le Ouaisne (31.8.04), Le Grouin (31.8.04), St.Brelade (31.8.04), Lion Park (1.9.04) and Sir Winston Churchill Memorial Park, St.Brelade (3.9.04).

Recorded from Herm (woodland, 20.8.94, ADB), Alderney (Clonque Bay, 23.8.94, ADB), Sark (harbour road & near Stocks Hotel, 25.8.94, ADB)

***Leptoiulus kervillei* (Brolemann)**
This is widespread in SW England and occurs across the south of the country as well as in France.

For Jersey, a single male was recorded from Waterworks Valley (29.8.04, ADB, det. PL).

***Ophyiulus pilosus* (Newport)**
A common British species, this is recorded in Jersey from Waterworks Valley (29.8.04) and St.Catherine's Wood (2.9.04), both woodland (both ADB) but not so far from the other islands. Desmond Kime has a record of this from Guernsey which is accordingly mapped in Kime (2001).

The superficially similar *Julus scandinavius*, widespread in Britain but seemingly absent from Brittany & Normandy and most of western France, is shown, apparently from Normandy in the atlas map of 1990 (Kime, 1990) but not in the later version (Kime, 1999) and had, apparently, been included in error (*pers.comm*.). There are no Channel Islands records

***Ommatoiulus sabulosus* (Linné)**
Easily recognised in the field and found over most of Britain, it seems to be widespread in a variety of sites on Jersey although there is only a single report of it (as *Schizophyllum sabulosum*) on Guernsey (David & Brehaut, 1980)

Recorded by Browning (as *Schizophyllum sabulosum*) from Noirmont Point, from Noirmont in the 1987 collection and from La Pulente (26.8.04), Lavender Farm (26.8.04), Waterworks Valley (28.8.04), Grêve de Lecq (30.8.04), St.Brelade's (31.8.04), Ouaisné Common (31.8.04), Ouaisné cliffs (31.8.04) and Bouley Bay (2.9.04) (all ADB).

***Tachypodoiulus niger* (Leach)**
This is very widespread and common in Britain but is only so far recorded in Jersey from woodland at Verclut Point (25.8.04) and in Waterworks Valley (29.8.04).

***Brachyiulus pusillus* (Leach)**
Recorded from Petit Bot Bay, Guernsey (26.8.93, REJ)

Order Polydesmida

***Polydesmus angustus* Latzel**
This, the largest and most common species of the genus in Britain is recorded from both Guernsey and Jersey.

For Guernsey, other than that of David & Brehaut (1980) there are records from Saumarez Port Folk Museum (B.Barrett, -.5.75), Petit Bot Bay (26.12.93, REJ), Hougue du Pommier (25.12.93, REJ), Silloe Reserve (17.8.94, ADB) and Le Guet (24.8.94, ADB).

On Jersey, it was recorded in the 1987 Noirmont collection (June) and a single female was found at St.Brelade (31.8.04 coll. ADB, det. PL). Immature polydesmids were found at St.Catherine's Point, Lavender Farm and Waterworks Valley.

***Polydesmus coriaceus* Porat** (= *P.gallicus*, sensu Blower, 1985)
Another widespread species, this was reported by David & Brehaut (as collected by R. Le Pelley) from Guernsey and is also recorded at Petit Bot Bay (26.12.94, REJ).

There are four other species of *Polydesmus* known from southern England of which *P.inconstans* (also recorded from Normandy) and *P.denticulatus* are quite widespread and might be found in the Islands.

***Brachydesmus superus* Latzel**
Reported on Guernsey from Petit Bot Bay (24.12.93, REJ) and Talbot Valley (18.8.94, ADB), this small polydesmid may well be under-recorded.

***Ophiodesmus albonanus* (Latzel)**
A small (up to 5mm) white species often associated with urban sites and gardens, it is here recorded from Guernsey at Petit Bot (16.8.04, ADB) and from Jersey in Waterworks Valley (29.8.04, coll. ADB det. PL). Comparably small *Macrosternodesmus palicola* is not recorded here nor, apparently, from Brittany or Normandy.

***Oxidus gracilis* (C.L.Koch)**
Reported by Giraud (1962) as a glasshouse millipede very common in Guernsey.

Of the other millipede species recorded from southern England, the distinctive *Polyzonium germanicum* is confined to Kent but also occurs in Normandy, *Thalassisobates littoralis* is littoral and elusive so may well be present in the Islands, *Nemasoma varicorne* is superficially a little like *Proteroiulus fuscus*, also occurring under bark of dead logs, but is smaller, *Metaiulus pratensis* seems to be confined to the extreme south-east, *Enantiulus armatus* is found in South Devon only (outside western France) and *Haplopodoiulus spathifer* is an introduced species known from several locations including Kew

DISCUSSION

The 2004 collection substantially increased our knowledge of the species occurring in Jersey but the number known for each of the major islands still falls far short of the totals recorded for the British Isles where there are about 50 species reported for each group. There are likely to be a number of reasons for this. The times of year when collections were made, the relatively small number of sites visited and the short time spent at each will undoubtedly have meant that some species, possibly quite common ones (especially smaller types), have not been collected. Some British species are very restricted in their occurrence and, in addition, the isolation of the islands from mainland Britain and France and their relatively small areas may mean that types that might be expected genuinely do not occur there. There are several species of centipede and millipede recorded from Guernsey which have so far not been found in Jersey and vice-versa; some of these, if not all, might be expected to turn up in due course.

Amongst the centipedes, there are two British littoral species (*Schendyla peyerimhoffi* and *Geophilus fucorum*), both recorded from Guernsey, which may well be found on the other islands and there is an elusive littoral millipede, *Thalassisobates littoralis*, known from SW England and elsewhere, that might occur. Several species of *Geophilus* (*G.osquidatum*, *G.electricus* and *G.pusillifrater*,) known from Guernsey, might be collected in due course on Jersey and the distinctive *Henia vesuviana* (*Chaetechelyne vesuviana*) known from France and Southern England could well occur in the islands.

In relation to the small to medium size *Lithobius* species. *Lithobius melanops* is commonly associated with gardens and the sea shore and is very widespread in Guernsey. A possible specimen of this was seen at L'Etacquerel but is surprising that no confirmed Jersey specimens have been collected. *L. borealis*, a common moorland & woodland species over much of western Britain is reported from Guernsey as is also *L.muticus* which is widespread in Europe though mostly found in the south-east in mainland Britain. *Lithobius tricuspis* from Jersey is a distinctly "Continental" species, most common in Britain in South Devon.

Amongst the millipedes, the tiny "bristly millipede" *Polyxenus lagurus* (2-3mm) not yet found on Jersey is easily missed and is very likely to be found to be widespread there. Guernsey species which could be found on Jersey include *Melogona gallica*, *Chordeuma proximum*, *Brachyiulus pusillus Polydesmus coriaceus*, *Brachydesmus superus* and the greenhouse flat-back *Oxidus gracilis*. A probable specimen of *Archiboreoiulus pallidus* has been recorded from Alderney and may occur on the other islands.

Surprising is the fact that the "pill millipede", *Glomeris marginata*, which is frequently seen in British woodlands has been reported only once from Jersey and then from a rather atypical habitat. Common British black julids,

Ophyiulus pilosus, *Julus scandinavius* and *Tachypodoiulus niger* have only been found twice (or not at all in the case of *I.scandinavius*) and then only in the less well studied Jersey. Is it possible that their niche(s) are occupied by the common *Leptoiulus belgicus* ?

Also interesting is the fact that, despite the small size of the collections, there appear to be some differences between the two main islands. Common on both appear to be the centipedes *Stigmatogaster subterraneus*, *Cryptops hortensis*, *Lithobius variegatus* and *Lithobius microps* along with the littoral *Strigamia maritima* and of the millipedes, *Blaniulus guttulatus*, *Cylindroiulus punctatus* and *Leptoiulus belgicus*.

The centipede *Lithobius melanops*, common on Guernsey seems to be much rarer or maybe absent on Jersey whilst the large and obvious millipede *Ommatoiulus sabulosus* was found at 10 sites on Jersey but has only been recorded once on Guernsey. *Lithobius forficatus* seems to be the common large brown lithobiid on Jersey but in the 1994 collection was only found on Guernsey on the two islets of Lihou and Hommet Paradis whereas there were 8 records of *Lithobius pilicornis* on the mainland, a species not seen in the 2004 Jersey collection.

No doubt further collections will alter this picture and comparison with the fauna of Normandy and Brittany is of some interest. Most records from these two areas appear to be scattered in the literature with early references being found in the appropriate Faune de France volume (Brölemann, 1930) and in Gadeau de Kerville's reports referred to there.

Delamare Debouteville (1948) published faunistic notes on the myriapods of Brittany referring to 13 chilopods and 3 diplopods. Amongst the former were *Lithobius nicoensis* from Ile Vert, *Scutigera* from the marine station collection ("courant sur la digue du port"), *Hydroschendyla submarina*, *Strigamia maritima*, *Geophilus algarum* (*G.fucorum*) and *Brachyschendyla monodi*. It seems that only single examples of *Lithobius nicoensis* and *L.microps* were found; Brolemann (1930) describes *L. nicoensis* as from the Alpes Maritimes (Cannes to Menton) where it is common. Interestingly, he refers to a halophilic blaniulid, not able to be identified.

Razet & Barbotin (1952) gave a further account of Brittany species, adding, amongst other species, *Geophilus osquidatum*, *Geophilus gavoyi*, *Cryptops savignyi* (presumably *C.anomalans*), *Lithobius tricuspis*, *L. agilis*, *L.lucifugus*, *L.curtipes* and both *L.microps* Meinert 1868 and *L.duboscqui* (now regarded as a junior synonym of *L.microps* Meinert, 1868). Their *L.microps* is described as having 6-8 well pigmented ocelli in two rows on each side of the head and the authors themselves admit that it does not conform absolutely to Brolemann's description. In the circumstances, it is difficult to be sure which species is being referred to. *L.lucifugus*, often regarded as an alpine species, is known from Britain but only from one lowland site in Scotland. They describe *Geophilus gavoyi* (which is recorded as an example from forêt de Rennes) as "connu de Grande-Bretagne" but I am unable to locate a reference to this in the British literature. The diplopods listed are *Polyzonium germanicum*, *Nanogona polydesmoides*, *Chordeuma proximum* and *Melogona gallica*.

Various reports by British workers on species from Brittany and Normandy were published in the 1980s (Barber, 1986; Kime et al, 1987; Blower, 1987; Lewis & Kime, 1988). All the "*Geophilus carpophagus*" records for which we have details show segment numbers within the range identified by Arthur et al for *G.easoni* apart from one male from Brittany with 51 leg pairs. For centipedes there is also a recent account of species from Brittany (Iorio, 2005) which lists 17 in total although it is not clear whether the *Geophilus carpophagus* refers to *G.easoni* or *G.carpophagus* s.s. For millipedes, the European distribution maps of Desmond Kime show a number of species from these two regions (Kime, 1990, 1999, 2001)

Tables 1 and 2 show the species that have been recorded from each of the Channel Islands. Tables 3a and 3b and 4a and 4b show records for Southern England, Channel Islands, Brittany and Normandy using data from the above sources.

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TABLE 1. Species of centipede recorded from each of the Channel Islands

Numbers of sites (post-1950) from which the species has been collected are given for Guernsey and Jersey. The "*Geophilus carpophagus*" found on Herm was probably *G.easoni* but the specimen is no longer available. It should be borne in mind that collections from Herm, Sark and Alderney are based on one or two single day visits.

	Guernsey	Herm	Sark	Alderney	Jersey	Chausey
CHILOPODA						
Stigmatogaster subterraneus	9	x		x	9	
Schendyla nemorensis	6	x		x	2	
Schendyla peyerimhoffi	1					
Hydroschendyla submarina	1				1	
Strigamia acuminata					2	
Strigamia maritima	5			x	4	GdK
"*Geophilus carpophagus*"	x	x	x			
Geophilus carpophagus ss	2					
Geophilus easoni	2	?	x		1	
Geophilus osquidatum	1					
Geophilus electricus	1					
Geophilus fucorum	1					GdK, Bröl
Geophilus pusillifrater	1					
Geophilus flavus	5		x		1	
Geophilus truncorum	4				1	
Cryptops anomalans	1				1	
Cryptops hortensis	14	x	x	x	7	
Lithobius variegatus	15	x	x	x	7	
Lithobius forficatus	4			x	5	GdK
Lithobius pilicornis	8				1	
Lithobius melanops	10				?	GdK
Lithobius tricuspis					2	
Lithobius borealis	2					
Lithobius muticus	?					
Lithobius calcaratus					2	
Lithobius microps	11	x	x	x	5	
Lamyctes emarginatus					2	
Scutigera coleoptrata	x				x	A.Livory
Total	22	5	5'	7	17	

TABLE 2. Species of millipede recorded from each of the Channel Islands

Numbers of sites (post-1950) from which the species has been collected are given for Guernsey and Jersey.

	Guernsey	Herm	Sark	Alderney	Jersey
DIPLOPODA					
Polyxenus lagurus	1	x	x	x	
Glomeris marginata					1
Chordeuma proximum	2				?
Melogona gallica	1				
Nanogona polydesmoides					1
Proteroiulus fuscus	7				3
Blaniulus guttulatus	12		x	x	4
Archiboreoiulus pallidus				x	
Choneiulus palmatus					2
Cylindroiulus punctatus	13	x			10
Cylindroiulus latestriatus	10			x	9
Cylindroiulus britannicus					3
Cylindroiulus truncorum					4
Leptoiulus kervillei					1
Leptoiulus belgicus	13	x	x	x	10
Ophyiulus pilosus	1				2
Brachyiulus pusillus	1				
Ommatoiulus sabulosus	1				10
Tachypodoiulus niger					2
Polydesmus angustus	6				2
Polydesmus coriaceus (=*gallicus*)	2				
Brachydesmus superus	2				
Ophiodesmus albonanus	1				1
Oxidus gracilis (greenhouse)	(x)				
Total	16	3	3	5	16

TABLE 3A. Species of centipede recorded from the Southern England, Channel Islands, Brittany & Normandy (post-1945); Geophilomorpha & Scolopendromorpha

CHILOPODA	S.England	C.I.	Brittany	Normandy
Stigmatogaster subterraneus	x	x	x	x
Nesoporogaster brevior	x			
Schendyla nemorensis	x	x	x	x
Schendyla peyerimhoffi	x		x	
Schendyla dentata	x			
Schendyla monodi				
Hydroschendyla submarina	x	x	x	
Henia vesuviana	x		x	
Henia brevis	x			
Pachymerium ferrugineum	x		x	
Strigamia acuminata	x	x	x	x
Strigamia crassipes	x		x	x
Strigamia maritima	x	x	x	
"*Geophilus carpophagus*"	x	x	x	x
Geophilus carpophagus ss	x	x		
Geophilus easoni	x	x	x	x
Geophilus osquidatum	x	x	x	
Geophilus gavoyi			x	
Geophilus electricus	x	x		
Geophilus fucorum	x	x	x	
Geophilus pusillifrater	x	x		
Geophilus flavus	x	x	x	
Geophilus truncorum	x	x	x	x
Gnathomerium inopinatum			x	x
Chalandea pinguis	x			
Arenophilus peregrinus	x			
Nothogeophilus turki	x			
Cryptops anomalans	x	x	x	
Cryptops hortensis	x	x	x	x
Cryptops parisi	x		x	x

TABLE 3B. Species of centipede recorded from the Southern England, Channel Islands, Brittany & Normandy (post-1945); Lithobiomorpha & Scutigeromorpha

	S.England	C.I.	Brittany	Normandy
CHILOPODA				
Lithobius variegatus	x	x	x	x
Lithobius forficatus	x	x	x	
Lithobius piceus	x		x	x
Lithobius peregrinus	x			
Lithobius pilicornis	x	x	x	
Lithobius melanops	x	x	x	x
Lithobius tricuspis	x	x	x	?
Lithobius agilis	?		x	
Lithobius borealis	x	x		
Lithobius macilentus	x		x	
Lithobius lapidicola	x			
Lithobius muticus	x	?	x	x
Lithobius calcaratus	x	x	x	x
Lithobius lucifugus			x	
Lithobius nicoensis			x	
Lithobius crassipes	x		x	x
Lithobius curtipes	x		x	
Lithobius microps	x	x	x	x
Lamyctes emarginatus	x	x	x	
Scutigera coleoptrata	(x)	x	x	x
Total centipede species	43	26	36	17

TABLE 4A. Species of millipede recorded from Southern England, Channel Islands, Brittany & Normandy (post-1945); Non-julids

	S.England	C.I.	Brittany	Normandy
DIPLOPODA				
Polyxenus lagurus	x	x	x	
Glomeris marginata	x	x	x	x
Glomeris hexasticha intermedia			x	x
Stygioglomeris crinata	x			
Adenomeris gibbosa	x			
Trachysphaera lobata	x			
Polyzonium germanicum	x		x	x
Chordeuma proximum	x	x	x	x
Chordeuma sylvestre	x			x
Melogona gallica	x	x	x	x
Melogona scutellare	x			
Nanogona polydesmoides	x	x	x	
Craspedosoma rawlinsii	x			
Brachychaeteuma melanops	x			
Anthogona brittanica	x			
Anthogona variegatum				x
Chamaesoma brolemanni				x
Polydesmus angustus	x	x	x	x
Polydesmus coriaceus (=*gallicus*)	x	x		
Polydesmus inconstans	x			x
Polydesmus denticulatus	x			
Polydesmus testaceus	x			x
Polydesmus barberii	x			
Brachydesmus superus	x	x		x
Ophiodesmus albonanus	x	x		
Macrosternodesmus palicola	x			
Stosatea italica	x			

TABLE 4B. Species of millipede recorded from Southern England, Channel Islands, Brittany & Normandy (post-1945); Julida

	S.England	C.I.	Brittany	Normandy
DIPLOPODA				
Thalassiosobates littoralis	x			
Nemasoma varicorne	x			
Proteroiulus fuscus	x	x	x	x
Blaniulus guttulatus	x			x
Archiboreoiulus pallidus	x			x
Choneiulus palmatus	x			
Metaiulus pratensis	x			
Cylindroiulus punctatus	x	x	x	x
Cylindroiulus latestriatus	x	x	x	x
Cylindroiulus britannicus	x	x		
Cylindroiulus parisiorum	x			
Cylindroiulus truncorum	x	x	x	
Cylindroiulus vulnerarius	x			
Cylindroiulus londinensis	x		x	x
Cylindroiulus caeruleocinctus	x			
Allajulus nitidus	x			x
Enantiulus armatus	x			
Leptoiulus belgicus	x	x	x	
Leptoiulus kervillei	x	x	x	x
Iulus scandinavius	x			
Ophyiulus pilosus	x	x		
Brachyiulus pusillus	x	x		x
Ommatoiulus sabulosus	x	x	x	x
Tachypodoiulus niger	x	x	x	x
Haplopodoiulus spathifer	x			
Total millipede species	49	20	17	23

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REPORT ON A COLLECTING TRIP OF THE BRITISH MYRIAPOD GROUP TO HUNGARY IN 1994

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ABSTRACT

During a collecting trip participated jointly by the members of the British Myriapod Group and by Hungarian experts in 1994, 34 species of millipedes, 14 of centipedes, 8 of woodlice and 73 of spiders were recorded from Hungary. Two records of the millipede species *Boreoiulus tenuis* (Bigler, 1913) and *Styrioiulus styricus* (Verhoeff, 1896) were new to the fauna of Hungary.

INTRODUCTION

Millipede faunistics in Hungary has been a neglected science for a long time, since the once intensive works of Ö. Tömösváry and J. Daday. In the second half of the 20th century a few data on the geographic distribution of Hungarian Diplopoda were put on record, mainly by I. Loksa and L. Szalay. The majority of the material of the former scientist, although it certainly includes important information, is unfortunately still in a largely unevaluated stage, kept at the Department of Zoosystematics and Ecology, Eötvös Loránd University, Budapest. Much of Loksa's data, even that mentioned in his papers, could not be found and checked because his material was unlabelled. In the meantime, changes in millipede taxonomy (Hoffman 1979) and development of faunal mapping schemes (Kime 1990) has made this increased knowledge of local faunas more widely available, even in relatively well-documented regions such as Central-Eastern Europe.

The first stages in mapping the millipede fauna of Hungary using modern methods was presented at the 7th International Congress of Myriapodology, Vittorio Veneto, Italy, 1987 (Korsós 1990). Possible joint field work to collect data more intensively had already been proposed at that time to experts in Western Europe. The British Myriapod Group was invited to undertake field work and a joint trip with Hungarian scientists was carried out in 1994.

The aim of the joint work was to collect as many records as possible during a short field trip to the southwestern part of Hungary which was considered as underrecorded for Diplopoda, Chilopoda, and Isopoda. After identification it was hoped that an important contribution would be gained to the general understanding of this country with regard to the European Invertebrate Survey, especially as regards the non-insect arthropod groups. The southwestern region of the country (mainly Counties Zala, Somogy and Baranya) was chosen for the survey because of the large number of suitable and relatively undisturbed habitats. It represents also an interesting area for zoogeographical observations, since three different influences (Atlantic, Mediterranean, and Continental) take effect here, so a high number of species was expected. The collecting trip also aimed to rediscover some poorly known millipedes from the Hungarian fauna as predicted by the checklist compiled in 1994 (Korsós 1994).

In the present paper, after a short chronological description of the trip, the list of the collecting localities is given, with a basic habitat characterisation and UTM codes. It is followed by the detailed taxonomic list of the four groups collected: millipedes, geophilomorph and scolopendromorph centipedes, woodlice and spiders, with the locality numbers and remarks, where necessary. Additional information is presented on millipedes and spiders, whereas the group of woodlice is less complete, and presented only for information.

DESCRIPTION OF THE FIELD TRIP (28 MAY – 5 JUNE 1994)

Six members of the British Myriapod Group accompanied by two Hungarian scientists commenced the visit in Budapest, and then travelled to the west and south of the country. Over a period of ten days collecting took place in a range of habitats from wet woodland to steppe. A couple of days were spent in the Lake Balaton area and collections were made at different altitudes at Meleg-hegy where *Styrioiulus styricus* was recorded new for Hungary in the

beech woodland. It was also found possible to revisit NagygörbQ (Kovácsi Hill) which was described by I. Loksa (1961) and from where he reported several interesting species.

Heading south from Lake Balaton several woodlands were visited: Hosszúvíz in County Somogy proved to be one of the best sites with interesting species such as *Cylindroiulus abaligetanus*, *Allajulus dicentrus* and *Xestoiulus imbecillus* being found. Close to there, in Szenyér, *Boreoiulus tenuis* appeared as new to the fauna of Hungary. The Boronka Landscape Protection Area further to the south was a little disappointing, except for the many large *Ommatoiulus sabulosus*, whereas in the Zselic Landscape Protection Area the spectacular *Polydesmus collaris* was found.

After a brief stop in Pécs several days were spent close to the lake at Orfq where collecting forays were made into the surrounding area. After Orfq the Danube area was visited: the Gemenc Landscape Protection Area and then some steppe habitat at Ásotthalom and in the Pusztaszer Landscape Protection Area in the Kiskunság (east of the Danube river). On the route back to Budapest a brief stop was made at an old oak woodland at Pusztavacs.

Sampling was carried out mostly by hand, just searching amongst leaf litter and under logs and stones. In addition some sieving of leaf litter was done and in Orfq some pitfall traps were put out for two nights (which were not particularly successful).

LOCALITIES

No. 1. County Gyõr-Moson-Sopron, Hegyeshalom, motorway service station, 28 May 1994, XP-60
No. 2. Budapest, Vezér u., student hostel, 28 May, 1994, CT-56
No. 3. County Fejér, Székesfehérvár, M7 motorway, Shell service station, 29 May 1994, CT-02
No. 4. County Somogy, Szántódpuszta, museum village, 29 May 1994, YM-29
No. 5. County Somogy, Balatonfenyves, Hotel Fenyves, 29 May 1994, XM-97
No. 6. County Somogy, Balatonkeresztúr, Keresztúri Forest, 29 May 1994, XM-77
No. 7. County Somogy, Balatonfenyves, Nagyberek, 29 May 1994, XM-77
No. 8. County Somogy, Balatonszentgyörgy, Gulya Restaurant, 30 May 1994, XM-77
No. 9. County Zala, Keszthelyi Mts, Keszthely, Meleg Hill, open scrub, 30 May 1994, XM-78
No. 10. County Zala, Keszthelyi Mts, Keszthely, Meleg Hill, *Quercus* woodland, 30 May 1994, XM-78
No. 11. County Zala, Keszthelyi Mts, Vállus, Meleg Hill, *Pinus* woodland, 30 May 1994, XM-78
No. 12. County Zala, Keszthelyi Mts, Balatongyörök, Meleg Hill, *Fagus* woodland, 30 May 1994, XM-78
No. 13. County Zala, Balatongyörök, Szépkilátó panoramic viewpoint, 30 May 1994, XM-77
No. 14. County Zala, Keszthelyi Mts., Nagygörbõ, Kovácsi Hill, *Carpinus, Quercus, Castanea* forest, 30 May 1994, XM-69
No. 15. County Somogy, Hosszúvíz, *Alnus* & *Tilia* forest, 31 May 1994, XM-85
No. 16. County Somogy, Hosszúvíz, *Pinus* forest, 31 May 1994, XM-85
No. 17. County Somogy, Szenyér, *Quercus* forest, 31 May 1994, XM-84
No. 18. County Somogy, Boronka Landscape Protection Area, Nagybajom, *Pinus* forest, 31 May 1994, XM-94
No. 19. County Somogy, Zselic Landscape Protection Area, Zselickisfalud, tourist house, 31 May 1994, YM-12
No. 20. County Somogy, Szenna, Museum Village, 1 June 1994, YM-13
No. 21. County Somogy, Zselic Landscape Protection Area, Bõszénfa, Kardosfapuszta, *Quercus* woodland, 1 June 1994, YM-12
No. 22. County Somogy, Zselic Landscape Protection Area, Bõszénfa, Ropolypuszta, *Quercus* woodland, 1 June 1994, YM-12
No. 23. County Baranya, Csertõ, reservoir, 1 June 1994, YM-10
No. 24. County Baranya, Pécs, Fõ Square, 1 June 1994, BS-80
No. 25. County Baranya, Mecsek Mts, Orfû, camping, 1 June 1994, BS-81
No. 26. County Baranya, Mecsek Mts, Orfû, Remete Meadow, *Pinus* wood, 2 June 1994, BS-81
No. 27. County Baranya, Mecsek Mts, Orfû, Remete Meadow, *Quercus* wood, 2 June 1994, BS-81

No. 28. County Baranya, Mecsek Mts, Pécs, Rózsa Hill, *Fagus* forest, 2 June 1994, BS-80
No. 29. County Baranya, Mecsek Mts, Pécs, Patacsi Field, picnic site, 2 June 1994, BS-70
No. 30. County Baranya, Mecsek Mts, Pécs, Sötét Valley, *Fagus, Carpinus* forest, 2 June 1994, BS-70
No. 31. County Baranya, Mecsek Mts, Orfû, Körtvélyes, 450 m a.s.l., *Fagus* & *Carpinus* woodland, 2 June 1994, BS-71
No. 32. County Baranya, Mecsek Mts, Orfû, Körtvélyes, 300 m a.s.l., 2 June 1994, BS-71
No. 33. County Baranya, Mecsek Mts, Orfû, Camping, pitfall traps, 3 June 1994, BS-81
No. 34. County Baranya, Mecsek Mts, Orfû, Lake Pécsi, pitfall traps, 3 June 1994, BS-81
No. 35. County Baranya, Mecsek Mts, Orfû, Camping, pine wood, pitfall traps, 3 June 1994, BS-81
No. 36. County Tolna, Gemenc Landscape Protection Area, Szekszárd, Keselyûs, grassland, 3 June 1994, CS-33
No. 37. County Bács-Kiskun, Baja, farm restaurant, 3 June 1994, CS-41
No. 38. County Bács-Kiskun, Baja, Town Hall Square, 3 June 1994, CS-41
No. 39. County Csongrád, Ásotthalom, Memorial Forest, 3 June 1994, DS-01
No. 40. County Csongrád, Szeged, Szív Street, E. Hornung's garden, 3 June 1994, DS-32
No. 41. County Csongrád, Szeged, student hostel, 3 June 1994, DS-32
No. 42. County Bács-Kiskun, Pusztaszer Landscape Protection Area, Pusztaszer, Büdösszék, 4 June 1994, DS-25
No. 43. County Bács-Kiskun, Pusztaszer Landscape Protection Area, Tömörkény, Újmajori Forest, *Quercus* wood, 4 June 1994, DS-25
No. 44. County Bács-Kiskun, Pusztaszer Landscape Protection Area, Baks, Palásti Forest, oak wood, 4 June 1994, DS-35
No. 45. County Pest, Pusztavacs, *Convallario-Quercetum*, 4 June 1994, CT-82
No. 46. County Bács-Kiskun, Lajosmizse, farm restaurant, 4 June 1994, CT-90
No. 47. Budapest, Vezér Street, student hostel, 4 June 1994, CT-56

LIST OF SPECIES

MILLIPEDES (det. by Z. Korsós, H. J. Read & R. D. Kime)

POLYXENIDA

Polyxenus lagurus (Linnaeus, 1758)
Localities: 5, 6, 10, 11, 12, 15, 17, 26, 28
The only representative of the order in Hungary; common species throughout Europe..

GLOMERIDA

Glomeris hexasticha Brandt, 1833
Localities: 9, 10, 11, 12, 14, 15, 21, 22, 25, 26, 27, 30, 35
The most common species of the order in Hungary, found throughout Central Europe.

JULIDA

Boreoiulus tenuis (Bigler, 1913) – **NEW TO THE FAUNA OF HUNGARY**
Locality: 17
A mainly North European species, this is the first Hungarian record, from a natural forest habitat.

Choneiulus palmatus (Nemec, 1895)
Locality: 5
A species occurring in Atlantic and Central Europe, usually with synanthropic affinity in Hungary; the present collection is in agreement with that.

Cibiniulus phlepsii (Verhoeff, 1897)
Locality: 36
Synanthropic species from South-east Europe and Asia Minor, up to now found only in the flood forests in the region of Budapest (Korsós 1992, 2002).

Nopoiulus kochii (Gervais, 1847)
Locality: 5
Common species in Hungary, mainly in anthropogenic habitats. Widely distributed in Europe.

Proteroiulus fuscus (Am Stein, 1857)
Locality: 5
Common species in Hungary, which is on the southern edge of its range.

Allajulus dicentrus (Latzel, 1884)
Localities: 15, 17
Loksa (1957) mentioned one female specimen in his revision of Daday's material from Nagykanizsa, which is quite close to the locality where we have found. Sziráki (1966) also listed the species from Hungary without further locality details. It was recently reported in the region of the river Dráva, too (Korsós 1995, 1997, 1998). It has a restricted geographical distribution in Austria, NE Italy, Slovenia, Croatia and Bosnia outside western Hungary.

Brachyiulus bagnalli (Curtis, 1845)
Localities: 3, 5, 8, 43, 44
An eastern European species; its West European counterpart is *B. pusillus* (Leach, 1814).

Cylindroiulus abaligetanus Verhoeff, 1901
Locality: 15
The species is endemic to Hungary; it was revised in the frame of the *C. horvathi*-group by Korsós & Read (1994).

Cylindroiulus boleti (C. L. Koch, 1847)
Localities: 5, 6, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 25, 26, 27, 28, 30, 31, 32, 36, 45
One of the most widespread and frequently found millipede species in Hungary. It is common in SE Central Europe and the Balkan countries as far south as Macedonia and Bulgaria..

Cylindroiulus latestriatus (Curtis, 1845)
Locality: 5
A West European species, occurring particularly on sandy coasts, which shows synanthropic tendency in its Hungarian and other eastern European occurrences.

Cylindroiulus luridus (C. L. Koch, 1847)
Localities: 11, 12, 14, 15, 17, 22, 28, 30, 32
Very similar species to *C. boleti*, but much rarer.

Enantiulus nanus (Latzel, 1884)
Localities: 10, 11, 12, 14, 21, 27, 28, 30, 31
Central European. Widespread in dry habitats.

Julus terrestris (Linnaeus, 1758)
Locality: 23
Common species in lowland forests and grasslands. Occurs from the Baltic to the Balkans.

Julus scanicus (Lohmander, 1925)
Locality: 36
Its first occurrence in Hungary was reported by Korsós (1994). This is the second record, thus of special importance. It is an uncommon species known elsewhere from southern Sweden, Denmark, Germany, the Czech Republic and Slovakia

Leptoiulus cibdellus (Chamberlin, 1921)
Locality: 44
Widespread forest species. SE Central Europe and the Baltic.

Leptoiulus sp.
Localities: 10, 17, 30
It is most probably a new species of the genus; but it would be premature to describe it without a proper revision of the whole genus.

Megaphyllum bosniense (Verhoeff, 1897)
Localities: 10, 11
The species of this genus in Hungary need a revision; *M. bosniense* only occurs in the western part of the country (Loksa 1962, 1968). Found from Austria to Albania and Bulgaria.

Megaphyllum projectum Verhoeff, 1894
Localities: 6, 10, 12, 14, 15, 16, 17, 18, 19, 21, 22, 26, 27, 28, 30, 31, 32, 35
One of the commonest forest species in Hungary. Central European.

Megaphyllum unilineatum (C. L. Koch, 1838)
Localities: 4, 9, 10, 20, 29, 39, 43, 44, 45
Common species with wide environmental tolerance, found throughout much of Central and SE Europe.

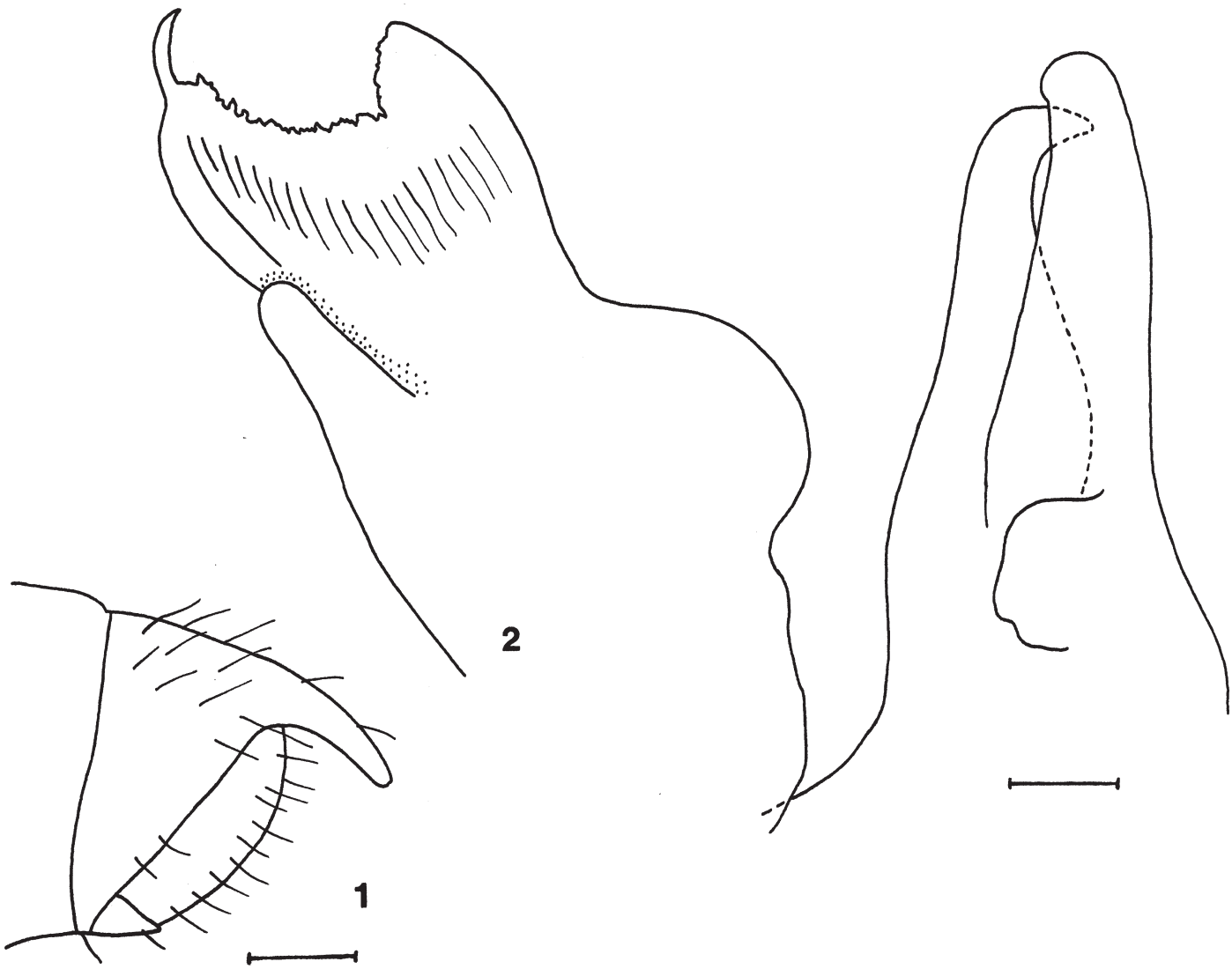
Ommatoiulus sabulosus (Linnaeus, 1758)
Localities: 9, 16, 18
Widespread European species, usually xerophilous in Hungary.

Ophyiulus pilosus (Newport, 1842)
Localities: 10, 11, 12, 15, 16, 21, 26, 31, 32
In contrast to its western European synanthropic habit, this species is more characteristic of undisturbed forests in Hungary.

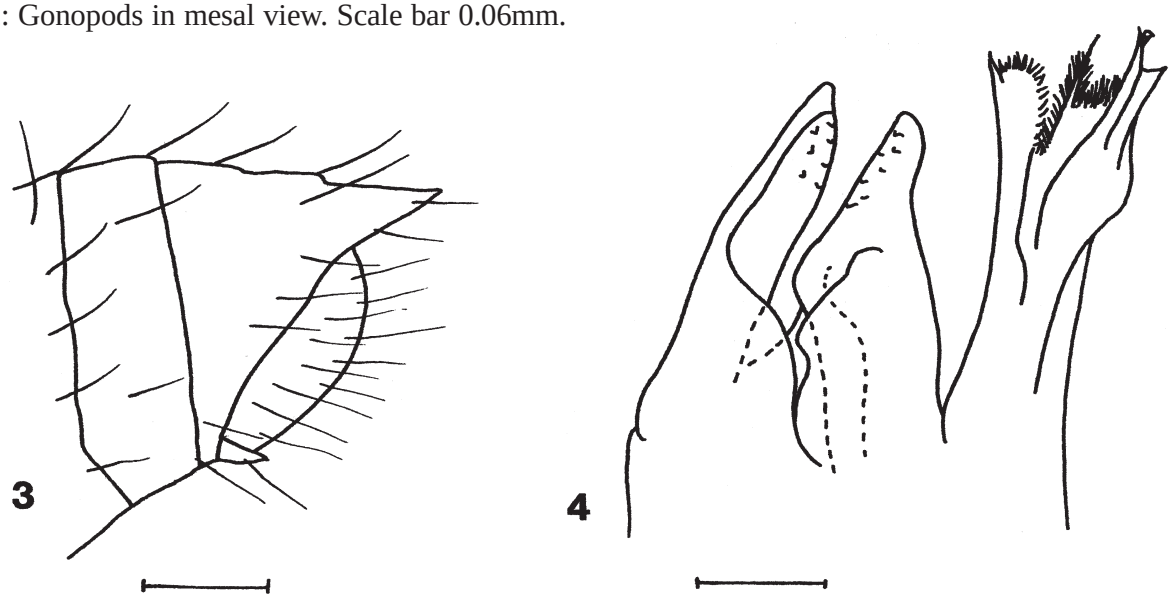
Styrioiulus styricus (Verhoeff, 1896) – **NEW TO THE FAUNA OF HUNGARY**
Locality: 12
This species is small and uniformly pale in colour, (the male from which the gonopods are illustrated was 16.9mm long and 1.3mm in maximum height). The telson is strongly downwards directed (Figure 1), and the mandibular stipites in the male are barely expanded. The number of ocelli is quite reduced from the maximum number possible. It lacks metazonal setae but the area around the telson is setose. The gonopods (Figure 2) are very similar to *Styrioiulus pelidnus* (Latzel, 1884) which it also resembles in general appearance, the main differences being the shape of the opisthomerite which is flat topped in *pelidnus* and concave in *styricus* and the mesomerite which is much more pointed and curved posteriorly in *styricus*. Further study, involving *S. p. orientalis* Loksa, 1962 as well, may result in the synonymy of all these forms. *S. styricus* is a rare animal, previously reported from Austria.

Unciger foetidus (C. L. Koch, 1838)
Localities: 9, 10, 11, 12, 14, 15, 17, 21, 22, 28, 29, 30, 32
Common forest dweller in Hungary, found in most parts of Central and Baltic Europe.

Xestoiulus imbecillus (Latzel, 1884)
Localities: 15, 21
This tiny, dark brown millipede has both frontal and metazonal setae. The hind end is very setose and the projection on the preanal ring is pointed and broadly horizontal (Figure 3). It differs in appearance to *Xestoiulus laeticollis* in lacking the paler head and first few segments, which are the same colour as the body in this species. The male specimen illustrated here had 43 podous and 3 apodous segments; a length of 10.6mm and maximum body height of



FIGURES 1–2: *Styrioiulus styricus* (Verhoeff, 1896), new to the fauna of Hungary. – 1: Telson, scale bar 0.13mm. – 2: Gonopods in mesal view. Scale bar 0.06mm.



FIGURES 3-4: *Xestoiulus imbecillus* (Latzel, 1884). – 3: Telson, scale bar 0.13mm. – 4: Gonopods in mesal view. Scale 0.06mm.

0.7mm. The gonopods (Figure 4) also differ from *X. laeticollis* with the opisthomerite having a very setose appearance. *Xestoiulus imbecillus* is believed to be confined to the mountainous and hilly zones of E Austria, NE Italy, Slovenia, Croatia, N Bosnia and Hungary.

Xestoiulus laeticollis (Porat, 1889)
Locality: 36
Loksa (1965) described ssp. *evae* from Nagybajom (actually very close to our locality No. 18), but our specimens are more to the east, not very far from the Danube river. Another subspecies, *X. l. dudichi* (Verhoeff, 1927) is known from two regions (Bátorliget and Dráva, Korsós 1991 and 1998, respectively) of Hungary. *Xestoiulus laeticollis* occurs in many parts of Central Europe and the Baltic.

POLYDESMIDA
Brachydesmus superus Latzel, 1884
Localities: 5, 12, 15, 44
Widespread species frequently found in synanthropic habitats as well.

Brachydesmus troglobius Daday, 1889
Localities: 31, 32
The species is endemic to the Cave of Abaliget in the Mecsek Mts. (Korsós 2000).

Polydesmus collaris C. L. Koch, 1847
Localities: 22, 30, 32
A southern European species; it reaches its northern distribution edge in Hungary in the Bakony Mts, north of Lake Balaton (Korsós et al. 2001).

Polydesmus complanatus (Linnaeus, 1761)
Localities: 5, 6, 15, 16, 18, 19, 20, 21, 30, 32, 44
The commonest *Polydesmus*-species in Hungary, found in every kind of habitat, usually in association with decaying wood. It occurs throughout eastern Europe.

Polydesmus denticulatus C. L. Koch, 1847
Localities: 5, 14, 15, 30, 44
Widespread, but more confined to moist habitats than the previous species. Throughout the northern and central regions of Europe.

Stosatea italica (Latzel, 1886)
Locality: 5
This species was only recorded once from Hungary, from the region of Szeged, in the southeastern part of the country (Szabó 1931, Sziráki 1966). That material is unfortunately untraceable, thus this second occurrence has special importance. *Stosatea italica* is essentially a Central Mediterranean species which has spread northwards as far as Hungary and Austria in the east and Ireland in the west

Strongylosoma stigmatosum (Eichwald, 1830)
Localities: 10, 11, 12, 14, 15, 17, 21, 22, 25, 28, 31, 32
Widespread paradoxosomatid species in Hungary, associated with dead trees usually.
It occurs commonly in eastern Europe, on the whole east of a line through the mouth of the Elbe River and the Adriatic Sea.

CENTIPEDES

GEOPHILOMORPHA (det. by R. E. Jones)

Brachyschendyla montana (Attems, 1895)
Locality: 28

Clinopodes flavidus (C. L. Koch, 1847)
Localities: 5, 6, 10, 11, 14, 15, 17, 22, 25, 26, 27, 28, 29, 30, 31, 32, 36

Clinopodes linearis (C. L. Koch, 1835)
Localities: 6, 12, 14, 28, 30

Henia illyrica (Meinert, 1870)
Localities: 6, 8, 10, 13, 14, 20, 21, 22, 25, 26, 27, 28, 31, 41

Geophilus flavus (De Geer, 1778)
Localities: 6, 14, 15, 17, 20, 21, 22, 28, 32, 36, 43

Pachymerium ferrugineum (C. L. Koch, 1835)
Localities: 5, 8, 9, 15, 23, 36

Schendyla nemorensis (C. L. Koch, 1837)
Localities: 5, 14, 17, 18, 43

Strigamia acuminata (Leach, 1814)
Localities: 18, 29

Strigamia crassipes (C. L. Koch, 1835)
Localities: 14, 15, 31, 36

Strigamia transsylvanica (Verhoeff, 1935)
Localities: 21, 22

SCOLOPENDROMORPHA (det. by J. G. E. Lewis)

Cryptops anomalans Newport, 1844
Localities: 6, 10, 12, 14, 15, 17, 18, 20, 21, 24, 25, 26, 27, 28, 29, 31
Widespread in Europe as far as Ukraine but absent in Scandinavia. The species also occurs in North Africa and has been introduced to a few parts of Canada and the United States.

Cryptops parisi Brölemann, 1920
Localities: 14, 17, 18, 21, 26, 28
Widespread in Europe, introduced in Scandinavia and Newfoundland.

Cryptops hortensis Leach, 1815
Localities: 17, 20
The most widely distributed of the three species: Azores, Madeira, Canary Islands through Europe and eastwards to Tajikistan. Introduced into United States including Hawaii, Canada, St Helena, and Australia.

Cryptops juv.
Locality: 15

WOODLICE
These were collected and have been provisionally identified. A full report will be given in a subsequent paper.

SPIDERS (det. by P. A. Selden)
The taxonomy and arrangement follows Platnick (2003). The species composition reflects the primary trapping methods: pitfalls and litter-sieving. Thus, most are ground-dwelling spiders, and many are night-active.

ARANEAE
Pholcidae
Hoplopholcus cf. ***forskali*** (Thorell, 1871)
Locality: 19
Immature male in toilets; this is an eastern European species.

Pholcus opilionoides (Schrank, 1781)
Localities: 39, 42
A common species in shady places.

Pholcus phalangioides (Fuesslin, 1775)
Locality: 42
Common in shady habitats, especially buildings.

Dysderidae
Dasumia canestrinii (L. Koch, 1876)
Locality: 21
A southern European species.

Dysdera longirostris Doblika, 1853
Locality: 17
An eastern European species.

Harpactea Bristowe, 1939 sp.
Localities: 12, 14, 21, 38
Immature males.

Harpactea rubicunda (C. L. Koch, 1838)
Locality: 43
Common throughout Europe.

Harpactea saeva (Herman, 1879)
Localities: 17, 21, 26, 33
An eastern European species.

Theridiidae
Crustulina guttata (Wider, 1834)
Localities: 45
A common Palaearctic species.

Enoplognatha ovata (Clerck, 1757)
Localities: 15
A common Holarctic species.

Enoplognatha thoracica (Hahn, 1833)
Localities: 10, 14, 43
A common Holarctic species.

Episinus angulatus (Blackwall, 1836)
Localities: 5
A common European species.

Euryopis flavomaculata (C. L. Koch, 1836)
Localities: 23
A common Palaearctic species.

Linyphiidae
Anguliphantes angulipalpis (Westring, 1851)
Localities: 17
A Palaearctic species; rather scarce in central and eastern Europe.

Araeoncus humilis (Blackwall, 1841)
Localities: 42
A common Palaearctic species, also introduced to New Zealand.

Centromerus cavernarum (L. Koch, 1872)
Localities: 17
A European species, somewhat scarce, in damp, dark woods.

Centromerus silvicola (Kulczynski, 1887)
Localities: 14
Rare in central Europe; an eastern European species.

Diplostyla concolor (Wider, 1834)
Localities: 11, 30, 34
A common Holarctic species.

Entelecara erythropus (Westring, 1851)
Localities: 15
A Palaearctic species, not common.

Lepthyphantes Menge, 1866 sp.
Localities: 30, 31
Unidentified females, one *pallidus* group.

Linyphia hortensis Sundevall, 1830
Localities: 26
A common Palaearctic species.

Meioneta rurestris (C. L. Koch, 1836)
Localities: 42
A common Palaearctic species.

Oedothorax apicatus (Blackwall, 1850)
Localities: 34, 42
A common Palaearctic species.

Panamomops Simon, 1884 sp.
Localities: 15
Unidentified female

Tenuiphantes flavipes (Blackwall, 1854)
Localities: 10, 11, 12, 14, 26, 30, 43
A common Palaearctic species.

Tenuiphantes tenuis (Blackwall, 1852)
Localities: 34
A common European and Mediterranean species, widely introduced elsewhere.

Trichoncus affinis Kulczynski, 1894
Localities: 33
A scarce Palaearctic species.

Tetragnathidae
Metellina segmentata (Clerck, 1757)
Localities: 11
A common Palaearctic species, introduced to Canada.

Araneidae
Gibbaranea bituberculata (Walckenaer, 1802)
Localities: 14
A scarce Palaearctic species of warm places.

Zygiella x-notata (Clerck, 1757)
Localities: 42
A common Holarctic and Neotropical species.

Lycosidae
Alopecosa trabalis (Clerck, 1757)
Localities: 11
A central European to central Asian species found in open, sunny habitats.

Arctosa C. L. Koch, 1847 sp.
Localities: 14, 45
Immatures

Aulonia albimana (Walckenaer, 1805)
Localities: 23, 33
A Palaearctic species common in open, sunny habitats.

Pardosa amentata (Clerck, 1757)
Localities: 15, 34
A European–Russian species common in damp habitats.

Pardosa cribrata Simon, 1876
Localities: 42
A southern European and Mediterranean species.

Pardosa lugubris (Walckenaer, 1802)
Localities: 11, 33
A common Palaearctic species.

Pardosa monticola (Clerck, 1757)
Localities: 1
A common Palaearctic species.

Pirata latitans (Blackwall, 1841)
Localities: 34, 42
A species of Europe to central Asia found in damp habitats.

Trochosa C. L. Koch, 1847 sp.
Localities: 10
Immature female

Trochosa robusta (Simon, 1876)
Localities: 39, 42
An uncommon Palaearctic species found in dry, open habitats.

Trochosa terricola Thorell, 1856
Localities: 6, 30
The commonest *Trochosa* species, with a Holarctic distribution.

Dictynidae
Cicurina cicur (Fabricius, 1793)
Localities: 14, 17, 22, 28
Very common in the pitfall traps; a European–central Asian species.

Amaurobiidae
Amaurobius C. L. Koch, 1837 sp.
Localities: 10, 26, 30, 43
Immatures.

Coelotes Blackwall, 1841 sp.
Localities: 14, 33
Immatures.

Urocoras longispinus (Kulczynski, 1897)
Localities: 21, 30
An eastern European species.

Titanoecidae
Titanoeca schineri L. Koch, 1872
Localities: 39, 43
An uncommon Palaearctic species.

Liocranidae
Agroeca Westring, 1861 sp.
Locality: 15
Immature.

Corinnidae
Phrurolithus festivus (C. L. Koch, 1835)
Locality: 3
A common Palaearctic species.

Zodariidae
Zodarion germanicum (C. L. Koch, 1837)
Localities: 33, 43
Widespread in Europe.

Zodarion rubidum Simon, 1914
Locality: 34
First record of this species for Hungary; det. Bosmans (1997). Widespread in Europe; introduced to the USA; possibly dispersed along transport routes (Pekar 1999, *in litt*.).

Gnaphosidae
Callilepis schuszteri (Herman, 1879)
Localities: 9, 12
A Palaearctic species, most frequent in south-eastern Europe.

Drassodes lapidosus (Walckenaer, 1802)
Locality: 15
A common Palaearctic ground spider.

Drassyllus villicus (Thorell, 1875)
Localities: 6, 21, 43
Europe, in dry habitats.

Gnaphosa Latreille, 1804 sp.
Locality: 1

Haplodrassus signifer (C. L. Koch, 1839)
Locality: 20
A common Holarctic ground spider.

Haplodrassus silvestris (Blackwall, 1833)
Locality: 35
A common Palaearctic ground spider.

Poecilochroa variana (C. L. Koch, 1839)
Locality: 18
Europe to central Asia, in sunny habitats.

Trachyzelotes pedestris (C. L. Koch, 1837)
Localities: 1, 6
Europe to central Asia, in dry habitats.

Zelotes apricorum (L. Koch, 1876)
Locality: 43
Europe to central Asia, in sunny habitats, uncommon.

Zoridae
Zora nemoralis (Blackwall, 1861)
Localities: 18, 26
A common Palaearctic species.

Zora spinimana (Sundevall, 1833)
Locality: 23
A common Palaearctic species.

Philodromidae
Philodromus aureolus (Clerck, 1757)
Localities: 19
A common Palaearctic species.

Thomisidae
Heriaeus graminicola (Doleschall, 1852)
Localities: 15
Europe to central Asia, rare.

Ozyptila Simon, 1864 sp.
Localities: 21
Immature.

Ozyptila praticola (C. L. Koch, 1837)
Localities: 6, 34
A widespread but uncommon Holarctic species.

Ozyptila simplex (O. P.-Cambridge, 1862)
Localities: 34
A widespread but uncommon Palaearctic species.

Xysticus kochi Thorell, 1872
Localities: 34, 42, 43
Europe, Mediterranean to central Asia, widespread and common.

Xysticus lanio C. L. Koch, 1832
Locality: 22
A widespread Palaearctic species.

Salticidae
Evarcha arcuata (Clerck, 1757)
Localities: 9
A common Palaearctic species.

Marpissa muscosa (Clerck, 1757)
Localities: 29
A common Palaearctic species, on tree trunks.

Neon reticulatus (Blackwall, 1853)
Localities: 31
A common Holarctic species.

Pseudeuophrys erratica (Walckenaer, 1826)
Localities: 15, 21
A common Palaearctic species, introduced to the USA.

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REPORT ON THE 2003 BMIG MEETING IN CHESHIRE

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INTRODUCTION

The group annual field meeting in April 2003 was a special one in celebration of E.H. Eason and J. Gordon Blower. It incorporated a day of lectures at Manchester Museum and was well attended by many colleagues from across Europe. Thus the field component was one day shorter than usual and much of the time at Delamere, guided by Joan Fairhurst, was spent in discussion as well as collecting.

Cheshire is a relatively well studied county, being close to Manchester where J. Gordon Blower was based and there were no major surprises in the finds. The grounds of the Agricultural College at Reaseheath, our base for the meeting, produced a long list of species over days we stayed.

MILLIPEDES

Cylindroiulus vulnerarius was found in the grounds of Reaseheath. This species has still been found from fewer than 25 sites in the UK although it is to be expected from many more. Due to its cryptic habits is probably often overlooked. The coastal location of Parkgate, Neston yielded the two similar *Cylindroiulus* species, *britannicus* and *latestriatus*. Examples of the former were collected from driftwood at the top of a brackish marsh by Paul Lee, this would be expected to be a typical situation for *C. latestriatus* and highlights the importance of collecting and dissecting specimens of these two species.

CENTIPEDES

Only 7 species of centipede are on record from the meeting in Cheshire despite the fact that 9 people contributed records. This must be put down, in part at least, to the fact that there was only a single day's collecting involved and also that the total number of species in the area, compared with, say Buckinghamshire is relatively limited. Nevertheless it is surprising that a few more were not found, most notably *Lithobius crassipes* and *L.melanops.*

The Merseyside Museum's *Recorder* database printout has a similarly restricted list although it does include *L.crassipes* and the exotic *Scutigera coleoptrata*. In the Provisional Atlas, a number more species are shown from the general area, notably *L.melanops, L.borealis, Lamyctes fulvicornis, Geophilus electricus* and *G.flavus*. In addition, there is an urban record of *Lithobius pilicornis* and a record from Delamere Forest of *L.muticus*. In the present list a mere five species are recorded from the latter area.

WOODLICE

The species list is quite short with just 12 species of woodlice where recorded. This is primarily due to lack of recording effort, but could also reflect the acidic nature of the habitats sampled. Two species of note were recorded. The first, *Armadillidium depressum,* was seen by Tony Barber on the Wirral coast. Although predominantly south western (it is common in Tony Barber's Devon garden!), this species is known from the nearby coast of North Wales. The second species is *Armadillidium pulchellum,* found by John Harper just outside Hartington in Derbyshire.

LOCATIONS

1 Lyme Park, SJ96 82, 25.4.03

MILLIPEDES																					
Taxa	**1**	**2**	**3**	**4**	**11**	**12**	**13**	**14**	**15**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
Allajulus nitidus																					
Blaniulus guttulatus		x				x					x	x			x	x		x			x
Boreoiulus tenuis		x														x					x
Brachychaeteuma sp.																					x
Brachydesmus superus								x		x											
Brachyiulus pusillus								x		x											x
Choneiulus palmatus		x														x					
Chordeuma proximum																	x				
Cylindroiulus britannicus		x					x						x								
Cylindroiulus caeruleocinctus												x									
Cylindroiulus latestriatus		x	x	x			x	x	x				x	x							
Cylindroiulus punctatus	x	x		x	x	x	x				x		x				x				x
Cylindroiulus vulnerarius		x	x																		
Glomeris marginata				x																	x
Julus scandinavius		x		x	x	x		x					x				x			x	
Macrosternodesmus palicola		x																			x
Melogona gallica																	x				
Melogona scutellare				x																	x
Nanogona polydesmoides																	x				x
Ommatoiulus sabulosus					x			x		x									x		
Ophyiulus pilosus		x		x		x		x		x											x
Polydesmus angustus		x		x	x								x	x							x
Polydesmus coriaceus		x					x				x		x								
Proteroiulus fuscus		x		x	x	x		x									x				
Stygioglomeris crinata																					x
Tachypodoiulus niger	x	x	x			x	x						x	x			x			x	x
Recorder	DW	PL	SG	PL	GBC	JH	PL	PL	ADB	PR	DW	ADB	ADB	SG	ADB	ADB	GBC	JH	HR	PL	JH
		JH		PR			RDK	ADB									JH			SG	
		PR		RDK				PR													
		GBC		SG				RDK													
		SG						SG													
		JA																			

CENTIPEDES																						
Taxa	**2**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**12**	**13**	**14**	**15**	**16**	**19**	**20**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
Cryptops hortensis														x						x		
Geophilus easoni		x	x						x													
Geophilus electricus																						x
Geophilus flavus																						x
Geophilus insculptus									x						x	x	x			x		
Geophilus truncorum		x			x	x			x											x		x
Lithobius crassipes								x														x
Lithobius forficatus	x	x		x					x		x				x	x		x		x	x	x
Lithobius melanops	x						x														x	
Lithobius microps	x								x	x		x			x	x	x					
Lithobius muticus									x													
Lithobius variegatus	x				x				x											x		
Schendyla nemorensis	x								x				x			x				x	x	
Stigmatogaster subterranea	x											x		x	x		x	x	x	x	x	x
Strigamia acuminata			x																			
Strigamia maritima													x									
Recorder	JH	PR	MZ	MZ	MZ	MZ	MZ	MZ	JH	PR	SG	ADB	PR	ADB	ADB	ADB	ADB	JH	JH	MZ	MZ	JH
	PR	SG	JL						JL		ADB									JL	SG	
	SG																				PL	
	PL																					
	GC																					

WOODLICE															
Taxa	**2**	**3**	**4**	**12**	**13**	**14**	**17**	**19**	**20**	**21**	**22**	**24**	**25**	**27**	**28**
Andoniscus dentiger	x	x								x					
Armadillidium depressum									x						
Armalillidium pulchellum															x
Armadillidium vulgare						x		x		x					
Haplophthalmus danicus							x								
Haplophthalmus mengei	x														x
Ligia oceanica						x									
Oniscus asellus	x	x	x	x		x	x			x	x	x	x	x	x
Philoscia muscorum	x	x	x	x	x	x				x	x			x	x
Porcelio scaber	x	x	x	x		x				x	x		x	x	x
Porcellionides pruinosus	x	x													
Trichoniscus pusillus	x	x	x	x	x	x	x			x		x	x	x	x
Trichoniscus pygmaeus															x
Recorder	JH	SG	PR	JH	PR	SG	PR	ADB	ADB	SG	ADB	JH	JH	HR	JH
	PR		SG											SG	
	SG														

2 Reaseheath, SJ643 542, 24-27.4.03
3 Reaseheath Gardens, SJ647 539, 26.4.03
4 Delamere Forest SJ54 70, 26.4.03
5 Delamere Forest SJ54 71, 26.4.03
6 Delamere Forest SJ54 72 26.4.03
7 Delamere Forest SJ54 73, 26.4.03
8 Delamere Forest SJ54 74, 26.4.03
9 Delamere Forest SJ54 75, 26.4.03
10 Delamere Forest SJ54 76, 26.4.03
11 Delamere Forest, SJ55 70, 26.4.03
12 Delamere Forest SJ55 71, 26.4.03
13 Parkgate, Neston, SJ27 79, 26.4.03
14 Red Rocks, Hoylake, SJ20 88, 26.4.03
15 Hoylake, SJ217 897, 26.4.03
16 Red Rocks, West Kirby, SJ22 86, 24.4.03
17 Dunes nr. Red Rocks, SJ27,26.4.03
18 Thurstaston beach SJ 23 83, 26.4.03
19 Thurstaston church, SJ247841, 26.4.03
20 Wirral Co. Park, Thurstaston, SJ237837, 26.4.03
21 Wirral coast, SJ277790, 26.4.03
22 Chester, SJ410660,26.4.03
23 Northgate Locks, Chester, SJ419668, 26.4.03
24 Overton scarp wood, SJ51 77, 26.4.03
25 Overton church, SJ520773, 26.4.03
26 Warburton Wood, SJ554 763, 26.4.03
27 Mow Cop Castle, SJ857573, 27.4.03
28 Hartington, SK136604, 27.4.03

RECORDERS

Juan Alberdi (JA)
Tony Barber (ADB)
Gordon Corbet (GBC)
Paul Lee (PL)
Steve Gregory (SG)
John Harper (JH)
Desmond Kime (RDK)
John Lewis (JL)
Helen Read (HR)
Paul Richards (PR)
Derek Whiteley (DW)
Marzio Zaparoli (MZ)

REPORT ON THE 2004 BMIG MEETING IN BUCKINGHAMSHIRE

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INTRODUCTION

The annual field meeting for 2004 was based at Green Park, Aston Clinton, Buckinghamshire just at the top of the scarp slope of the Chilterns. Collecting was carried out on the chalk escarpment at several places, also on the undulating dip slope and on the contrasting clayey soils of the Vale of Aylesbury. A range of habitats were visited including woodland, chalk grassland, churchyards and also riverside.

MILLIPEDES

The highlight of the weekend was the find of *Adenomeris* at Cobbler's pits by John Harper and Paul Richards and subsequently also at Wendover woods. This genus had not previously been found on the British mainland but had been recorded from Ireland. At the time the participants of the field meeting were not completely certain of the species but it was subsequently confirmed as *A. gibbosa* (as the Irish specimens) by J.P. Mauriès of the Paris museum. He also confirmed the specimens of *Stygioglomeris crinata* found with it at Cobbler's pits. This constitutes the first record of the latter species for VC24.

Another new species for the county was *Leptoiulus kervillei*, a single female of which was found, also by John Harper but this time from Lower Wichenden. John also found an ambiguous specimen from Green Park which may be this species so it is definitely worth looking out for in the future.

Cylindroiulus parisiorum is already known from VC24 and therefore its discovery at Cuddington only produced a new 10km square record. However, it is still an uncommon species and the area immediately to the north and west of London is clearly a stronghold for the species in Britain. As it is recorded more frequently from Britain than anywhere else in Europe, then the populations in Buckinghamshire and surrounding counties are of international importance.

CENTIPEDES

Geophilus linearis (formerly known as *Clinopodes linearis*) seems to be largely, if not entirely synanthropic in Britain. It is quite widespread, but unpredictably found in urban and garden sites in the greater London and south east of England. It was only found in Penn Wood during the weekend. *Stigmatogaster subterraneus* (formerly *Haplophilus subterraneus*) is also synanthropic in the south east but is more widespread and was found several times during the field weekend. It is a common rural species of the south west. *Henia brevis*, another synanthrope was seen twice, from Green Park itself and from a churchyard at Newport Pagnell. Interestingly, *Geophilus carpophagus* (s.s.) was found in 4 locations, all churchyards whilst *G.easoni* occurred 8 times, none from such sites.

Of the other geophilomorphs, *Geophilus flavus* (*Necrophloeophagus flavus*) was found in just over half of the sites examined and seems to be the commonest larger geophilid, *Geophilus truncorum* (*Brachygeophilus truncorum*) from 7 locations and *Geophilus insculptus* from only 3. *Schendyla nemorensis*, comparable in size to *G.truncorum* also occurred 7 times whilst *Strigamia accuminata* (but not *S.crassipes*) was seen in four collections.

The large *Cryptops*, *C.anomalans* was found twice, on both occasions in churchyards where the smaller *C.hortensis* was also seen. The latter also occurred a further six times.

As far as the lithobiomorphs are concerned, *Lithobius forficatus* (19 records), *L.variegatus* (13), *L.melanops* (10) and *L.microps* (20) were widespread. There are four record of *L.crassipes*, none of which are from churchyards; this is a common species in eastern England but very patchy in the south-east. *L.muticus*, found twice, is typically a species of woodland, mostly in SE England but has been found elsewhere.

"Missing" from the collections, apart from generally rare or regional/localised species, we have *Geophilus electricus* and *Cryptops parisi* which are both mostly synanthropic, *Schendyla dentata* (*Brachyschendyla dentata*) (despite all the churchyards examined), *Lamyctes fulvicornis* (mostly found in the autumn), *Lithobius calcaratus* and *L. borealis*.

WOODLICE

The species list is quite short with just 12 species of woodlice where recorded. This is primarily due to lack of recording effort for woodlice. *Ligidium hypnorum* proved to be widespread within the ancient woodlands examined. Although most numerous in wet clay-vale woodlands, it was also found sparingly amongst moss in north facing Chiltern woodlands. *Platyarthrus hoffmannseggi* proved to be common, occurring just about anywhere that ants nests were found. *Cylisticus convexus* (which seems to be scarce in Bucks) was found at Green Park and *Porcellio spinicornis* (which is probably common in the area) was found on a churchyard wall.

MILLIPEDES	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**10**	**11**	**12**	**13**	**16**	**17**	**18**
Adenomeris gibbosa			x												
Allaiulus nitidus	x				x										
Archiboreoilus pallidus	x													x	x
Blaniulus guttulatus	x		x	x	x					x				x	
Boreoiulus tenuis	x		x												
Brachydesmus superus	x			x		x	x								x
Brachyiulus pusillus			x												x
Cylindrouiulus britannicus	x		x				x			x				x	
Cylindroiulus caeruleocinctus	x	x	x		x	x	x			x	x	x			
Cylindroiulus parisiorum															
Cylindroiulus punctatus	x		x	x		x	x	x		x	x		x	x	x
Glomeris marginata	x		x	x		x	x	x			x	x	x		
Julus scandinavius	x														
Leptoiulus kervillei															
Macrosternodesmus pallicola	x		x												
Melogona scutellare	x		x												
Nanogona polydesmoides	x						x			x					
Nemasoma varicorne			x												
Ophiodesmus albonanus	x		x												
Ophyiulus pilosus	x		x				x			x				x	x
Polydesmus angustus	x			x			x								
Polydesmus coriaceus	x		x												
Polydesmus denticulatus			x												
Polydesmus gallicus	x		x		x	x	x		x	x				x	x
Polydesmus inconstans	x														
Polyxenus lagurus														x	
Proteroiulus fuscus															
Stygioglomeris crinata			x												
Tachypodoiulus niger	x		x	x		x	x		x	x			x	x	x
Collectors	SG PR	TB	JH	SG	SG	SG	SG	HR	HR	SG	HR	PR	HR	SG	SG
	TB JH		PR	PL		PL	PL				PL			TB	PL

MILLIPEDES	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
Adenomeris gibbosa			x										
Allaiulus nitidus													
Archiboreoilus pallidus													
Blaniulus guttulatus		x		x		x		x		x			x
Boreoiulus tenuis													
Brachydesmus superus			x		x		x	x			x		x
Brachyiulus pusillus								x			x		
Cylindrouiulus britannicus				x				x					
Cylindroiulus caeruleocinctus	x	x		x	x	x			x				
Cylindroiulus parisiorum								x					
Cylindroiulus punctatus	x	x	x	x			x	x			x	x	x
Glomeris marginata		x	x										x
Julus scandinavius												x	
Leptoiulus kervillei					f								
Macrosternodesmus pallicola	x		x										
Melogona scutellare													
Nanogona polydesmoides													
Nemasoma varicorne												x	x
Ophiodesmus albonanus			x							x			
Ophyiulus pilosus	x			x	x		x	x				x	
Polydesmus angustus													
Polydesmus coriaceus													
Polydesmus denticulatus													
Polydesmus gallicus						x	x	x			x	x	
Polydesmus inconstans													
Polyxenus lagurus													
Proteroiulus fuscus		x					x	x				x	
Stygioglomeris crinata													
Tachypodoiulus niger	x	x		x			x	x	x	x	x	x	x
Collectors	HR	HR	HR	JH	JH	SG	SG	JH	JH	JH	JH	SG	TB
	TB	TB	JH TB				PL					PL	

CENTIPEDES	1	2	3	4	5	6	7	8	9	10	11	12	16	17	18	19	20
Cryptops anomalans											x			x			
Cryptops hortensis	x			x		x	x				x			x		x	
Geophilus carpophagus					x						x			x			
Geophilus easoni				x		x	x					x					x
Geophilus flavus	x		x	x	x	x	x	x						x		x	x
Geophilus insculptus			x													x	x
Geophilus linearis																x	x
Geophilus truncorum				x		x	x					x					x
Henia brevis	x																
Lithobius crassipes															x		x
Lithobius forficatus	x	x	x	x	x		x			x	x				x	x	x
Lithobius melanops	x			x	x	x	x				x				x		
Lithobius microps	x		x	x	x	x	x	x			x		x		x	x	x
Lithobius muticus												x					x
Lithobius variegatus	x		x	x		x	x		x			x			x		x
Schendyla nemorensis	x										x			x	x		
Strigamia acuminata	x										x						
Stigmatogaster subterraneus	x	x			x				x	x				x		x	x
Collectors	PR SG JH TB	TB	PR JH	SG	SG	SG PL	SG PL	HR TB	TB	HR TB	SG PL	HR TB	HR TB	SG	SG PL	HR TB	HR TB

CENTIPEDES	21	22	23	24	25	26	27	28	29	30	31
Cryptops anomalans											
Cryptops hortensis						x				x	
Geophilus carpophagus				x							
Geophilus easoni					x			x		x	
Geophilus flavus	x			x	x	x		x		x	x
Geophilus insculptus		x							x		
Geophilus linearis											
Geophilus truncorum					x					x	
Henia brevis				x							
Lithobius crassipes					x					x	
Lithobius forficatus		x		x	x	x	x	x		x	x
Lithobius melanops				x		x			x		
Lithobius microps	x	x		x		x	x	x	x	x	x
Lithobius muticus											
Lithobius variegatus					x				x	x	x
Schendyla nemorensis	x								x		x
Strigamia acuminata					x					x	
Stigmatogaster subterraneus	x	x	x	x				x			
Collectors	HR TB	JH	JH	SG	SG PL	JH	JH	JH	JH	SG PL	TB

WOODLICE	**1**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**
Androniscus dentiger	x			x	x		x									x		
Armadillidium vulgare	x	x	x	x	x	x	x			x	x	x		x		x	x	x
Cylisticus convexus																		
Haplophthalmus dannicus	x						x				x							
Ligidium hypnorum			x		x	x												x
Oniscus asellus	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x
Philoscia muscorum	x	x	x	x	x	x	x			x	x	x	x			x	x	x
Platyarthrus hoffmansegii	x			x	x					x						x	x	x
Porcellio scaber	x	x	x		x	x	x		x	x	x		x			x	x	
Porcellio spinicornis																x		
Trichoniscus pusillus	x	x	x		x	x	x		x	x	x		x		x	x	x	x
Trichoniscus pygmaeus	x	x							x							x		
Collectors	SG	JH	SG	SG	SG	SG	HR	HR	HR	SG	HR	PR	DC	GC	HR	SG	SG	HR
	PR	PR	PL		PL	PL	DG			PL	DG		GC			PL	PL	
	JH						GC				DC		VS					
							VS				SG							
											VS							

WOODLICE	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**
Androniscus dentiger				x						
Armadillidium vulgare			x	x	x	x	x	x	x	x
Cylisticus convexus								x		
Haplophthalmus dannicus										
Ligidium hypnorum										
Oniscus asellus		x	x	x	x	x	x	x	x	x
Philoscia muscorum	x	x	x	x	x	x	x	x	x	x
Platyarthrus hoffmansegii				x	x	x		x	x	
Porcellio scaber				x	x	x	x	x	x	x
Porcellio spinicornis				x						
Trichoniscus pusillus	x	x	x	x	x	x	x	x	x	x
Trichoniscus pygmaeus				x						
Collectors	HR	HR	JH	SG	SG	JH	JH	JH	JH	SG
		JH			PL					PL

LOCATIONS

1. Green Park Aston Clinton, SP885 114, 15-18.04.04
2. Aylesbury Church, SP817138, 15.4.04
3. Cobblers Pits, Aston Clinton, SP886 112, 14.4.04
4. Hodgemoor Woods, SU968938, 16.4.04
5. Hughenden Manor Churchyard, SU864 954, 16.4.04
6. Millfield Wood, SU871 954, 16.4.04
7. Northmoor Hill, TQ034891, 16.4.04
8. Bacomb Hill, SP863 073, 16.4.04
9. Ellesborough Church, SP837 067, 16.4.04
10. Little Kimble Church, SP827 064, 16.4.04
11. Denham Churchyard, TQ042869, 16.4.04
12. Pulpit Hill, SP833 046, 16.4.04
13. Ashridge car park, 42/96 14, 16.4.04
14. Ragpits, Aston, Clinton, SP887107, 16.4.04
15 Railway Centre, Quainton SP ,16.4.04
16. Cholesbury Common, SP947 069, 17.4.04
17. Newton Longville Churchyard, SP847314, 17.4.04
18. Pilch Field, SP746321, 17.4.04
19. Penn Street Church, SU 923 962, 17.4.04
20. Penn Wood, SU922 962, 17.4.04
21. Wendover Woods, SP887 107, 17.4.04
22. Upper Wichenden Churchyard, SP745 145, 17.4.04
23. Lower Wichenden Churchyard, SP732 122, 17.4.04
24. Newport Pagnell Churchyard, SP878 439, 17.4.04
25. Howe Park Wood, SP833 344, 17.4.04
26. Banks of River Thames, Cuddington-Chearsley., SP728 114, 17.4.04
27. Cuddington Churchyard, SP734 113, 17.4.04
28. Roadside stones & lawn, Alwyn Lawn, Stone, Aylesbury, SP789 116, 17.4.04
29. Wood, Alwyn Lawn, Stone, Aylesbury, SP787 114, 17.4.04
30. Little Linford Wood, SP 832 455, 17.4.04
31. Hawridge Common, SP949 063, 17.4.04

COLLECTORS

Tony Barber (TB)
Dawn Collis (DC)
Glynn Collis (GC)
Steve Gregory (SG)
John Harper (JH)
Paul Lee (PL)
Helen Read (HR)
Paul Richards (PR)
Valerie Standen (VS)

REPORT ON THE 2005 BMIG MEETING IN DURHAM – GENERAL REPORT AND WOODLICE

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INTRODUCTION

The 2005 BMIG field meeting was centred on Durham City in the first three days of April. Twenty three 'delegates', including two new members booked into Collingwood College to sample the delights of student accommodation. All survived to make forays into the surrounding countryside (and the Botanic gardens next door) in the eternal quest for records of centipedes, millipedes and woodlice.

Durham County has a band of Magnesian limestone emerging as a north south ridge to the east of the county with low cliffs bordering beaches and a series of wooded denes leading to the sea. These and a series of abandoned quarries also on the Magnesian lime were well visited. The rest of the county is a complex mix of carboniferous limestone and shales and most effort centred on the Derwent Gorge to the northwest of the County. Another objective was to re-sample some of Bagnall's sites at Gibside – also on the River Derwent.

Search parties were dispatched daily and a lab was made available in evenings for sorting material and identifying specimens brought back from the field. One evening was devoted to a workshop on centipedes. The records will be made available to the Biological Recorders for the County and will help inform the Durham County Biodiversity Action Plans for invertebrates.

WOODLICE

Twelve species of woodlice were present (Table 1) with the usual suspects (*Oniscus, Philoscia, Porcellio scaber* and *Trichoniscus pusillus*) widely distributed. *Armadillidium vulgare,* which is rather scarce this far north, was mainly found in synanthropic sites and on the coast. The Magnesian lime sites seemed to be more productive than the Carboniferous lime sites. Two elusive species, previously recorded from the coast, were rediscovered. *Armadillidium pulchellum* was found on the grassy beach at Hartlepool Point, whilst *Trichoniscoides albidus* occurred in seepages at the base of the cliffs. The latter species was also frequent along the wooded gullies of Hawthorn Dean, where it occurred with *Haplophthalmus danicus.*

MILLIPEDES AND CENTIPEDES

The millipedes and centipedes found are reported elsewhere in this Bulletin in separate articles (Lee and Barber).

TABLE 1.

Site number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Date 01/04/2005-04/04/2005																						
WOODLICE																						
Androniscus dentiger		x			x	x	x	x			x			x		x						x
Armadillidium pulchellum						x																
Armadillidium vulgare	x				x	x				x									x			x
Haplophthalmus danicus				x			x															
Haplophthalmus mengei s.l.					x	x					x	x										
Ligia oceanica																				x		
Oniscus asellus	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x
Philoscia muscorum			x		x	x	x	x			x	x	x	x	x				x		x	x
Porcellio scaber	x		x		x	x	x	x	x		x	x	x	x	x	x	x		x		x	x
Trichoniscoides albidus						x	x															
Trichoniscus pusillus	x	x	x		x	x	x	x	x	x	x	x	x	x	x		x	x	x		x	x
Trichoniscus pygmaeus		x			x						x	x				x			x			
No. spp. (Total = 12)	4	4	4	1	8	9	7	5	3	3	7	6	4	5	4	4	3	2	6	1	4	6

Location	Nat Grid Ref	Code
On Magnesian limestone		
Crimdon Dunes	NZ485367	1
Bishop Middleham	NZ331328	2
Blackhall Rocks	NZ460405	3
Castle Eden Dene	NZ428385	4
Easington (incl. Church)	NZ414434	5
Hartlepool Point	NZ459404	6
Hawthorn Dene	NZ43-45-	7
Hawthorn Hive	NZ44-46-	8
Hesleden Dene	NZ441378	9
Horden Dene (Warren House Gill)	NZ44-43-	10
Raisby Hill Grassland	NZ337355	11
Trimdon Grange Quarry	NZ360352	12
nr Wingate Farm, road side	NZ386382	13
On Carboniferous lime and shale		
Gibside Woodlands	NZ17-58-	14
Derwent Gorge	NZ063490	15
Harehope Quarry	NZ03-36-	16
Bollihope Common	NY98-35-	17
Hamsterley Forest	NY07-30-	18
Botanic Garden hothouse	NZ274408	19
Seaham Harbour	NZ432495	20
Sherburn Church	NZ316422	21
Shincliffe Church	NZ291407	22

Records received from: Tony Barber, Glyn Collis, Steve Gregory, Des Kime, Paul Lee, Eric Philp, Helen Read, Paul Richards, Shona Turnbull – verified by Paul Richards.

CENTIPEDES RECORDED AT THE BMIG DURHAM MEETING, WITH COMMENTS ON SPECIES RECORDED BY RICHARD BAGNALL

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INTRODUCTION

The particular interest of a meeting in the Durham area was that this was a region from which myriapods were collected by Richard Bagnall and from where he recorded several species new to Britain, notably in the Derwent Valley, in the early part of the 20th century.

The inclusion of the species *Lithobius nigrifrons* (= *L.tenebrosus*) on the British list dates from 1911 (Bagnall, 1912a, b, 1913a) when he reported on two mutilated specimens of a lithobiid from Gibside collected in 1906 which had been identified by Edv.Ellingsen of Kragerö, with some hesitation, as this species. He comments that "it is necessary to obtain more material".

Reviewing field work for 1911 (Bagnall, 1912b), he gives a list of species from meetings in the Lower Derwent Valley, Harbottle, Haswell, Easington and Deneholm, the coast near Beadnell, Farne Islands and from Seaton Sluice and St.Mary's Island. From this we have records of *Lithobius forficatus*, *L.variegatus*, *L.tenebrosus* (above), *L.glabratus* (= *L.melanops*), *L.crassipes*, *Henicops fulvicornis* (= *Lamyctes emarginatus*), *Stigmatogaster subterraneus*, *Schendyla nemorensis*, *Scolioplanes crassipes* (= *Strigamia crassipes*), *S. accuminata*, *S.maritima*, *Geophilus carpophagus*, *G.proximus* (= *G.insculptus* in this sense), *G.longicornis* (= *G.flavus*),*G.truncorum*. From the fact that the *Geophilus carpophagus* is reported from Blanchland and is "not uncommon on the moors" it is likely that this refers to *G.easoni*.

In a subsequent paper (Bagnall, 1913b) there is a report of what was thought to be a species new to Britain, *Lithobius duboscqui*, determined by Brolemann himself. In his 1918 checklist (Bagnall, 1918a) he describes this species as "= *microps* of British authors non Meinert". It is as *L.microps* that we know the species today.

His account of the myriapods of the Derwent Valley (Bagnall, 1913a) adds to our species list *Lithobius calcaratus*, *L.piceus britannicus*, *Cryptops hortensis* ("Usually found in greenhouses") and *Mecistocephalus carniolensis* (= *Dicellophilus carniolensis*) an exotic found in hot houses at Leazes Park, Newcastle. *L.piceus* subspecies *britannicus*, a "fairly large and distinct form (recognised in the field by its bright yellow tibae)"was from Blanchland Moors, Buckshott Moor, Cowbers Fell. "Dr Brölemann, to whom I submitted specimens, considers it advisable to describe it as a form of *piceus* (a species not yet recorded as British) though it may ultimately prove to be a new species".

In 1918 (Bagnall, 1918b) there is a comment that most, if not all, of the existing records of *Lithobius borealis* may be really referable to *L.lapidicola*; he refers to records of *L.borealis* from the mountains of Northumberland and Scotland but also reports on a specimen from Lancashire identified by Brölemann as being specifically *L.borealis*. We now know the species formerly referred to by British workers as *L.lapidicola* as *L.borealis* whilst *L.lapidicola* is more correctly applied to another species found in Britain in recent years.

The only subsequent Bagnall reference to species from the Northumberland / Durham area appears to be of *Clinpodes linearis* (*Geophilus linearis*) from Hexham and from coastal areas of Durham and Yorkshire (Bagnall, 1935).

RECENT RECORDS

The present author (Barber, 1981, 1984) reported on centipedes from Northumberland and Durham, finding most of Bagnall's species in the two counties except for *Dicellophillus*, the two terrestrial *Strigamia* species, *Geophilus linearis*, *Cryptops hortensis*, *Lithobius piceus britannicus* and *L.tenebrosus*. He confirmed *Lithobius borealis* and added *L.macilentus* , the latter from north Northumberland. *Lithobius macilentus* was not recognised as British until

TABLE 1

Records of Centipedes from the Durham Meeting
(all records are from 1-2.04.05)

Locations:
Hareh. = Harehope Quarry, Derwent G. = Derwent Gorge / Windybank Wood,
Hampst. = Hampsterley, Gibs'e = Gibside, Snipes = Snipes Dene, Gibside, C.Coll. = Grounds of Collingwood College, Bot.G. = University Botanic Garden, Bp.Md. = Bishop Middleton Quarry, Coxh. = Woodland near Coxhoe, Raisby = Raisby Hill, Trimdon = Trimdon Grange Quarry, Wing. = Wingate Quarry, Easin. = Easington, Hesle. = Hesleden Dene, Black. = Blackhall Rocks, Hord. = Horden, Crim. B. = Crimdon beach, Crim. S. = South of Crimdon

Collectors:
DK = R.D.Kime, EP = E.C.Philp, HR = H.J.Read, PL = P.Lee, PR = J.P.Richards, ST = S.Turnbull, TB = A.D.Barber

Location	Hareh.	Derwent G.		Hamst.	Gibs'e	Snipes	C.Coll.	Bot.G.	Gt.Chilt	Bp.Md.	Coxh.	Raisby H	Trimd.	Wing.	Easin.	CED	Hesle.	Black.	Hord.	Crim.B	Crim.S
NGR	NZ0336	NZ0648	NZ0649	NZ0730	NZ1758	NZ1859	NZ2740	NZ2740	NZ2930	NZ3332	NZ3335	NZ3335	NZ3635	NZ3737	NZ4143	NZ4238	NZ4437	NZ4540	NZ4442	NZ4836	NZ4936
Cryptops hortensis																					
Dicellophilus carniolensis *																					
Geophilus carpophagus																					
Geophilus easoni																			x		
Geophilus flavus		x					x					x	x								
Geophilus insculptus		x			x		x			x		x	x	x		x	x			?	
Geophilus linearis																					
Geophilus truncorum		x		x								x	x					x		x	
Lamyctes emarginatus																					
Lithobius borealis																					
Lithobius calcaratus												x							x		
Lithobius crassipes	x	x	x		x							x									
Lithobius forficatus	x	x			x		x	x*	x			x	x	x	x			x			
Lithobius macilentus										x			x	x							
Lithobius melanops	x		x						x						x			x			
Lithobius microps							x	x		x	x		x	x				x			x
Lithobius piceus																					
Lithobius tenebrosus																					
Lithobius variegatus		x		x	x	x															
Schendyla nemorensis							x														
Stigmatogaster subterraneus					x		x	x										x	x		
Strigamia acuminata																					
Strigamia crassipes																					
Strigamia maritima																		x		x	
	DK	EP, PL	TB	DK	TB, PL	PL	TB, PR	PR	PR	ST, PR	PR	PL, HR	PL, HR	TB	TB	HR	HR	TB	TB	HR, DK	DK
* inside buildings or greenhouse only													EP, PR								

Northumberland & Durham	RSB 1911-1935	ADB 1981 1984	BMIG 1999	BMIG 2005
Cryptops hortensis	x		x	
Dicellophilus carniolensis *	x			
Geophilus carpophagus	x(sl)	x(sl)	x(sl)	
Geophilus easoni	x(prob)	x	x	x
Geophilus flavus	x	x	x	x
Geophilus insculptus	x	x	x	x
Geophilus linearis	x			
Geophilus truncorum	x	x	x	x
Lamyctes emarginatus	x	x		
Lithobius borealis	x	x		
Lithobius calcaratus	x	x		x
Lithobius crassipes	x	x	x	x
Lithobius forficatus	x	x	x	x
Lithobius macilentus		x		x
Lithobius melanops	x	x	x	x
Lithobius microps	x	x	x	x
Lithobius piceus	x			
Lithobius tenebrosus	x			
Lithobius variegatus	x	x		x
Schendyla nemorensis	x		x	x
Stigmatogaster subterraneus	x	x	x	x
Strigamia acuminata	x			
Strigamia crassipes	x			
Strigamia maritima	x	x	x	x

* inside buildings or greenhouse only

TABLE 2
Comparison of records of R. S. Bagnall with some subsequent collections

RSB = R.S.Bagnall, ADB = Barber, 1981, 1984,
BMIG 1999 = Ford Castle Meeting (Barber, 2001), BMIG 2005 = Durham Meeting, 2005

the mid twentieth century (Eason, 1953). The BMIG meeting at Ford Castle recorded 12 species from a variety of coastal and inland sites, including *Cryptops hortensis* (Barber, 2001).

In April 2005 at the BMIG field meeting some of Bagnall's localities (including Gibside, Derwent Valley, Blackhall Rocks) and other sites were visited and a number of centipede species were recorded. Amongst these were all those listed by Bagnall (above) with the exceptions of *Lithobius piceus britannicus*, *L.borealis*, *L.tenebrosus*, *Lamyctes emarginatus*, *Cryptops hortensis*, *Strigamia crassipes*, *S.accuminata*, *Geophilus linearis* and *Dicelophillus carniolensis*. There were also 3 records of *L.macilentus*. Table 1 summarises these records whilst Table 2 compares records from Bagnall's various reports, those of the present author (Barber,1981,1983), the Ford Castle meeting (Barber,2001) and the present one.

The picture that emerges is of *Geophilus insculptus* and *Geophilus flavus* (along with the smaller *Geophilus truncorum*) as the common geophilomorphs, *Lithobius forficatus*, not surprisingly, as a common large lithobiomorph and *L.crassipes* and *L.microps* as the commonest smaller lithobiomorphs with widespread records of *L.melanops*.

Of interest is the fact that there was only one record of *G.easoni* and that from a coastal site; it is often regarded as a moorland animal and of the relatively small number of records of *Lithobius variegatus*, all from the 10km grid squares NZ 03, 04 and 15. It had not been found at all at the Ford Castle meeting and comments have been made elsewhere (Barber, 1984) about its patchy distribution in this area.

Dicellophillus was not found but only one small greenhouse at the University was sampled; other mecistocephalids have been reported from hothouses at Kew and in Cornwall. The status of *Lithobius tenebrosus* remains unclear; basing a record on two damaged specimens identified with such a level of uncertainty makes it difficult to sustain on our list although it was subsequently reported from Cornwall by Turk (1944), the specimens no longer being available. However a single specimen, confirmed by E.H.Eason, was collected at Aberystwyth in 1988 (Keay,1989) so it is not completely impossible that it might have been found in this area or alternatively these may have been damaged examples of another somewhat similar species such as *L.melanops*.

Lithobius piceus britannicus remains enigmatic. The only two larger lithobiids with typically more that 2+2 forcipular coxosternite teeth that have been found in the area are *Lithobius forficatus* and *L.variegatus*, both of which are distinguished from *L.piceus* by such features as the spine 15VaC and a double claw on the 15th legs of the latter. What species Brölemann actually examined is difficult to say; he was not likely to be very familiar with *L.variegatus* which has only been found in France in recent years and, although with its colouration it might, perhaps, be thought of as having yellowish markings on the legs is really rather different from the *L. piceus piceus* of S.E.England. In any case, Bagnall would have been familiar with *L.variegatus* and, presumably, be unlikely to confuse it with another species. Unless specimens can be located, the mystery must remain.

There are several further species that might, perhaps, be expected to be found in due course including *Geophilus electricus* (which is known from Peebles), *Geophilus carpophagus* (s.s.), *Cryptops parisi* (found in Edinburgh), one or other of the other two *Strigamia* species and possibly other maritime types such as *Geophilus fucorum* and *Hydroschendyla submarina*.

ACKNOWLEDGEMENTS
Thanks to Val Standen, meeting organiser, to Paul Lee for help with records and those who contributed records from the meeting.

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MILLIPEDES FROM NORTHUMBERLAND AND DURHAM: REPORTS ON THE 1999 AND 2005 FIELD MEETINGS

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INTRODUCTION

Little work had been done on the millipedes of Northumberland and Durham prior to that of Richard S.Bagnall in 1911. Bagnall himself noted that 'only one or two local species [of myriapod]' had been recorded before his studies (Bagnall, 1912a). Within two short years he had discovered over three quarters of the 27 species known from Durham (VC 66) and over half of the 26 species known from Northumberland South (VC 67) by 1988 (BMG, 1988). In 1913 he reported 20 taxa now regarded as valid species from the Derwent Valley and a further one from Darlington (Bagnall, 1913). Amongst these species was *Brachychaeteuma bagnalli,* described as new to science from a male specimen he collected at Gibside in 1911. In addition, three millipedes were first recognised as part of the British fauna on the basis of his specimens from the region, namely *Macrosternodesmus palicola, Nemasoma varicorne* and *Choneiulus palmatus* (Bagnall, 1912b). In 1917 he added *Boreoiulus tenuis* to the British list after collecting specimens at Gibside (Bagnall, 1918). In 1922 he collected a single, damaged female specimen of a small polydesmid from the same location (Bagnall, 1922). Although found in association with *Macrosternodesmus palicola,* Bagnall attributed his specimen to the species now called *Eumastigonodesmus boncii*. This was another first for the British fauna, thus raising the number of millipede species he collected from Durham and Northumberland to twenty three.

After Bagnall there was little attention paid to the millipede fauna of the area until R.Desmond Kime collected in the Durham area. Although submitted to the Millipede Recording Scheme, most of his work from this period went unpublished. The notable exception was his collection of large numbers of *Cylindroiulus londinensis* at Ryhope Dene, Sunderland in 1968 which was referred to by Blower (1985). Blower (1972) listed a total of 27 species of millipede (including *Eumastigonodesmus boncii*) from VC 66.

A decade later Noel Jackson (1982) produced a report based on his identifications of material from pitfall trap samples collected by David Sheppard in Castle Eden Dene. He included Val Standen's and his own observations on millipedes found at this location as well as some found elsewhere in Durham. Most significant was the addition of *Polydesmus coriaceus* (=*gallicus*) to the vice-county checklist.

Tony Barber spent two weeks in the late summer of 1981 collecting myriapods from the Cheviot (Barber, 1984). He collected sixteen species of millipede during this period, nine from Northumberland South (VC 67) and fifteen from Northumberland North (VC 68). Only one species, *Ophyiulus pilosus*, was added to the list of species recorded from VC 67. However, the millipede fauna of VC 68 had remained poorly known up until this time. Bagnall had reported just one species, *Boreoiulus tenuis*, from VC 68 (Bagnall, 1918). Blower (1972) lists nine species from VC 68 but appears to have overlooked Bagnall's record. Barber added a further six species bringing the number of species recorded from VC 68 to sixteen.

RECORDS FROM THE 1999 MEETING IN NORTHUMBERLAND

In April 1999, largely due to the relatively unknown myriapod fauna of the Cheviot, the BMG and BISG field weekend was based at Ford Castle, Northumberland. Over the weekend thirty seven different places were visited, the majority in VC 68 but four were just north of the River Tweed in the Coldstream area of Berwickshire (VC 81). These sites covered nineteen 10km grid squares from which 27 species of millipede were collected. Details of the sites visited and the species recorded from each site are given in Table 1.

The locations with the most diverse millipede fauna were the village of Wooler and the grounds of Ford Castle. This may have been partly due to typical 'garden' species such as the blaniulids and the macrosternodesmids enhancing the

TABLE 1

Records of Millipedes from the 1999 BMG Field Meeting in Northumberland

Compiled from records submitted by: Wallace Arthur, Tony Barber, Gordon Corbet, Steve Gregory, John Harper and Paul Lee

Site 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
Allajulus nitidus												x										x					x				
Archiboreoiulus pallidus	x												x	x												x	x				
Blaniulus guttulatus	x	x	x	x	x	x	x	x				x	x	x	x				x					x		x	x		x		
Boreoiulus tenuis			x		x		x	x				x	x	x	x																
Brachychaeteuma sp.												x																			
Brachydesmus superus				x					x		x		x	x		x		x	x					x				x			
Brachyiulus pusillus				x			x	x				x		x		x								x				x			
Choneiulus palmatus													x																		
Cylindroiulus britannicus			x	x	x		x	x					x	x	x	x	x		x										x		
Cylindroiulus caeruleocinctus			x					x																			x				
Cylindroiulus latestriatus												x												x						x	x
Cylindroiulus punctatus	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x		x		x		x		x
Glomeris marginata	x	x							x		x	x				x	x		x	x	x				x				x		
Julus scandinavius	x	x					x		x	x						x	x				x	x			x		x	x	x	x	
Macrosternodesmus palicola				x									x	x	x												x				
Melogona scutellaris							x																			x					
Nanogona polydesmoides			x		x		x					x			x														x		
Nemasoma varicorne																x													x		
Nopoiulus kochii			x																												
Ommatoiulus sabulosus					x	x																									
Ophiodesmus albonanus				x				x				x	x		x												x				
Ophyiulus pilosus	x	x	x		x	x	x		x		x	x	x	x	x	x			x		x	x		x		x	x		x		x
Polydesmus angustus	x	x	x	x	x		x	x			x	x	x	x	x	x					x	x		x	x		x	x	x		
Polydesmus denticulatus							x							x																	
Polydesmus inconstans	x			x		x		x				x	x		x							x									
Proteroiulus fuscus	x		x	x		x	x		x		x		x	x		x													x		
Tachypodoiulus niger	x	x		x	x	x	x	x		x		x	x	x	x	x	x	x	x		x		x				x	x	x	x	
No. spp. (Total = 27)	10	7	10	11	9	7	13	10	6	3	6	14	14	13	11	11	5	3	7	1	5	6	2	6	4	4	11	3	13	3	3

TABLE 1 (continued): Records of Millipedes from the 1999 BMG Field Meeting in Northumberland

Site number	32	33	34	35	36	37
Allajulus nitidus						
Archiboreoiulus pallidus	x					
Blaniulus guttulatus			x			
Boreoiulus tenuis		x				
Brachychaeteuma sp.						
Brachydesmus superus	x					
Brachyiulus pusillus		x	x			
Choneiulus palmatus						
Cylindroiulus britannicus		x				
Cylindroiulus caeruleocinctus						
Cylindroiulus latestriatus		x		x	x	x
Cylindroiulus punctatus	x	x	x			
Glomeris marginata						
Julus scandinavius	x				x	
Macrosternodesmus palicola			x			
Melogona scutellaris						
Nanogona polydesmoides	x					x
Nemasoma varicorne						
Nopoiulus kochii						
Ommatoiulus sabulosus						
Ophiodesmus albonanus						
Ophyiulus pilosus	x	x			x	x
Polydesmus angustus	x					
Polydesmus denticulatus						
Polydesmus inconstans	x					
Proteroiulus fuscus			x			
Tachypodoiulus niger	x	x			x	
No. spp.(Total = 27)	9	7	5	1	4	3

Site Details

No.	Site name	NGR	VC	No.	Site name	NGR	VC
1	Hethpool	NT89 28	68	20	Thrunton Wood	NU084103	68
2	Hethpool	NT89 29	68	21	Roseden	NU037215	68
3	The Hirsel, Coldstream	NT835395	81	22	Chillingham Church	NU062259	68
4	Cornhill-on-Tweed (viaduct)	NT855380	68	23	Chillingham, woodland	NU063261	68
5	The Hirsel, Coldstream	NT825401	81	24	Berwick, cliffs	NU008528	68
6	Dunglass Wood, Coldstream	NT833414	81	25	Mere Burn	NU197030	68
7	River Till, Twizel	NT884434	68	26	Alnwick	NU18 13	68
8	Norham Church	NT897475	68	27	Alnwick	NU19 13	68
9	Hethpool	NT90 28	68	28	Bamburgh	NU19 34	68
10	Harthorpe Valley, moor	NT951223	68	29	Brainshaugh	NU20 02	68
11	Harthorpe Valley, scrub	NT960231	68	30	Alnmouth	NU2 0	68
12	Wooler	NT99 28	68	31	Alnmouth	NU24 10	68
13	Ford Castle	NT94 37	68	32	Howick	NU24 17	68
14	Whiteadder Water	NT922546	81	33	Boulmer Steel	NU26 14	68
15	Berwick, churchyard	NT996523	68	34	Nacker Hole	NU23 28	68
16	Duke's Bank Wood SSSI	NZ175998	68	35	Beadnell Church	NU23 29	68
17	Kyloe, Lowick	NU041406	68	36	Bamburgh	NU20 33	68
18	Coe Burn, Thrunton Wood	NU087086	68	37	Greenhill Rocks, Bamburgh	NU201340	68
19	Powburn	NU065163	68				

TABLE 2

Records of Millipedes from the 2005 BMG Field Meeting in Durham

Compiled from records submitted by: Tony Barber, Mark Frater, Des Kime, Paul Lee, Eric Philp, Helen Read, Paul Richards and Shona Turnbull

Site 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
Allajulus nitidus																			x							
Archiboreoiulus pallidus			x								x															
Blaniulus guttulatus	x	x		x	x	x	x				x								x				x	x		
Boreoiulus tenuis					x					x													x	x	x	
Brachychaeteuma bagnalli																			x					x		
Brachychaeteuma sp.		x	x																							
Brachydesmus superus			x		x		x			x	x							x	x				x			
Brachyiulus pusillus								x								x										
Cylindroiulus britannicus						x	x				x											x	x	x	x	x
Cylindroiulus caeruleocinctus																								x		
Cylindroiulus latestriatus											x	x	x									x				
Cylindroiulus londinensis				x							x		x													
Cylindroiulus punctatus	x	x	x	x	x	x	x	x	x	x	x			x		x	x	x	x		x		x	x	x	x
Geoglomeris subterranea		x	x	x																						
Glomeris marginata						x	x	x		x	x			x	x	x	x	x	x		x		x			
Julus scandinavius			x														x		x						x	
Macrosternodesmus palicola	x	x	x			x				x														x	x	
Melogona scutellaris																			x				x			
Nanogona polydesmoides	x		x	x	x												x	x	x				x			
Nemasoma varicorne		x				x	x				x															
Ommatoiulus sabulosus	x																									
Ophiodesmus albonanus																							x	x		
Ophyiulus pilosus	x		x	x	x	x	x				x	x	x			x	x		x				x			
Oxidus gracilis																						x				
Polydesmus angustus				x			x	x			x					x	x	x	x							
Polydesmus coriaceus	x			x						x	x													x		
Polydesmus denticulatus																	x									
Polydesmus inconstans		x																						x		
Poratia digitata																						x				
Proteroiulus fuscus		x	x			x	x				x					x	x	x	x	x	x	x	x	x		
Tachypodoiulus niger	x		x	x	x		x	x	x	x	x		x	x	x		x	x	x		x				x	

Site details

No.	Site name	NGR	VC
	On Magnesian limestone		
1	Bishop Middleham	NZ33 32	66
2	Raisby (Coxhoe) Quarry	NZ332353	66
3	Raisby Hill	NZ337355	66
4	Trimdon Grange Quarry	NZ36 35	66
5	Wingate Quarry	NZ37 37	66
6	Castle Eden	NZ42 38	66
7	Hesleden Dene	NZ44 37	66
8	Warren House Gill	NZ44 42	66
9	Blackhall	NZ45 40	66
10	Blackhall Rocks	NZ469393	66
11	Crimdon Dene	NZ48 36	66
12	Crimdon Dunes	NZ48 37	66
13	Hart Warren	NZ49 36	66
	On Carboniferous lime and shale		
14	Hamsterley Forest	NZ07 30	66
15	Bollihope Common	NY98 35	66
16	Harehope Quarry	NZ03 36	66
17	Derwent Gorge	NZ06 48	66
18	Derwent Gorge	NZ06 49	66
19	Gibside	NZ17 58	66
20	Gibside	NZ17 59	66
21	Snipes Dene, Gibside	NZ18 59	66
22	Botanic Garden, Durham (hothouse)	NZ27 40	66
23	Botanic Garden, Durham (grounds)	NZ27 40	66
24	Collingwood College (grounds)	NZ27 40	66
25	Great Chilton Farm	NZ29 30	66
	Other geology		
26	Tweed Estuary	NT993533	68

TABLE 3

Summary of millipede species recorded from Berwickshire, Durham and Northumberland

	Bagnall 1911-22				Blower 1972				Jackson 1982				Barber 1984				BMG 1988				BMG 1999				BMIG 2005			
Allajulus nitidus																			68				68		66			
Archiboreoiulus pallidus					66										68		66	67	68				68	81	66			
Blaniulus guttulatus	66	67			66	67	68		66						68		66	67	68	81			68	81	66			
Boreoiulus tenuis	66	67	68		66	67											66	67	68				68	81	66			
Brachychaeteuma bagnalli	66				66												66								66			
Brachydesmus superus	66	67			66	67	68								68		66	67	68				68	81	66			
Brachyiulus pusillus					66	67											66	67	68				68	81	66			
Choneiulus palmatus	66	67			66	67											66	67					68					
Craspedosoma rawlinsi	66				66												66			81								
Cylindroiulus britannicus	66				66				66								66	67					68	81	66			68
Cylindroiulus caeruleocinctus																			68				68	81	66			
Cylindroiulus latestriatus					66	67											66	67	68				68		66			
Cylindroiulus londinensis					66				66								66	67							66			
Cylindroiulus parisiorum																			68									
Cylindroiulus punctatus	66	67			66	67	68		66					67	68		66	67	68	81			68	81	66			68
Geoglomeris subterranea																									66			
Glomeris marginata	66	67			66	67	68		66					67	68		66	67	68	81			68		66			
Julus scandinavius	66	67			66	67	68		66					67	68		66	67	68	81			68		66			
Macrosternodesmus palicola	66	67			66	67											66	67					68	81	66			
Melogona scutellare	66				66										68		66	67	68				68		66			
Nanogona polydesmoides	66	67			66	67			66					67	68		66	67	68				68	81	66			
Nemasoma varicorne	66	67			66	67								67			66	67					68		66			
Nopoiulus kochi																		67						81				
Ommatoiulus sabulosus	66	67			66	67	68		66						68		66	67	68	81				81	66			
Ophiodesmus albonanus						67												67					68		66			
Ophyiulus pilosus	66				66				66					67	68		66	67	68				68	81	66			
Oxidus gracilis	66	67			66	67											66	67							66			
Polydesmus angustus	66	67			66	67	68		66					67	68		66	67	68	81			68	81	66			
Polydesmus coriaceus									66																66			
Polydesmus denticulatus	66				66										68		66	67	68				68		66			
Polydesmus inconstans	66				66										68		66	67	68				68	81	66			
Polyxenus lagurus																			68									
Poratia digitata																									66			

fauna recorded from these places but the intensity of recorder effort, especially at Ford Castle, probably accounted for much of the difference. The relatively high diversities found at Twizel, Whiteadder Water and Brainshaugh were probably more significant as there was less recorder effort at these sites and fewer synanthropic species were found.

Notable finds included a male and two female *Nopoiulus kochii* from Coldstream collected by John Harper and constituting a first record for VC 81. The record of *Choneiulus palmatus* from Ford Castle was also a first for VC 68. Harper also collected an adult female *Brachychaeteuma* from Wooler. Whether the species was *bagnalli* or *bradeae* it also would have been new to VC 68 had its identity been confirmed with a male specimen.

RECORDS FROM THE 2005 MEETING IN DURHAM

The BMIG field weekend in April 2005 was based at Collingwood College, Durham. The millipede faunas of twenty five different sites covering ten 10km grid squares in VC 66 and one site in VC 68 were sampled over the weekend. Twenty nine species of millipede were collected in total. Details of the sites visited and the species recorded from each site are given in Table 2.

The most diverse millipede fauna was found around the Collingwood Campus of the University. Twenty different species were collected from this site but the intensity of recorder effort was far greater here than at any other location. The presence of the University Botanic Gardens on the campus was also a significant factor in increasing the synanthropic component of the fauna. Other sites with relatively high diversities of millipedes were Crimdon Dene where fourteen different species were collected and Gibside where thirteen species were found.

Two species were recorded for the first time from VC66 during the weekend. The hothouse alien, *Poratia digitata,* was collected from glasshouses in the University Botanic Gardens by Paul Richards. The only records of this species in Britain previously were from Kew Gardens and Leicester Museum Botanic Gardens. The tiny pill millipede *Geoglomeris subterranea* was collected by several people from the limestone quarry complexes at Trimdon and Raisby.

DISCUSSION

In addition to the new vice-county records noted above, both field meetings were successful in their aims of improving the coverage of the region. The presence of most of the millipedes previously recorded from the region was confirmed and a large number of new 10km grid square records were generated. Table 3 summarises the millipede records for VC 66, 67, 68, 81 generated by Bagnall (1911 to 1922), by Jackson (1982), by Barber (1984) and by the Millipede Recording Scheme (Blower, 1972; BMG, 1988) and compares these records with those generated by the two field meetings. The number of species recorded from each of VC 66, 68 and 81 was increased by five, five and eleven respectively.

Gibside proved to be a rich site for millipedes, just as in Bagnall's day. *Allajulus nitidus* was added to the species known from the site and *Brachychaeteuma bagnalli* was still present at its type location. However, there was no sign of his other significant record from the site, *Eumastigonodesmus boncii.* Several previous visits have failed to re-discover this millipede and as a result it has now been removed from the checklist of British species (Lee, 2006).

There was no return visit to Ryhope Dene to find *Cylindroiulus londinensis*. Jackson (1982) had stated that the species was not present in Castle Eden Dene and this was confirmed during the meeting. However, Des Kime did find *Cylindroiulus londinensis* at two locations further south on the coast near Hartlepool and several people also saw a large population of the species further inland in Trimdon Grange Quarry. The fragmented distribution of this millipede in the area is not easily explained. Although generally considered an animal of woodland on calcareous soils, it appears to be absent from many sites meeting this description yet occurs in apparently unsuitable sites such as coastal dunes at Hart Warren.

Blower (1958) lists *Nopoiulus minutus* (=*kochii*) from Durham and Northumberland on the basis of records published by Bagnall (1912b) from Gibside and Fencehouses in Durham and from Harbottle, Northumberland. However, this species is not listed for either county in Blower (1985) or BMG (1988) as Bagnall later (1917) re-deter-

mined his specimens as *Choneiulus palmatus*. This millipede was re-found in Northumberland and found for the first time in VC 68 through a specimen collected at Ford Castle during the 1999 meeting. The collection of *Nopoiulus kochii* just over the border at Coldstream in Berwickshire suggests both species may well be present in Durham and Northumberland as well.

The confirmation of *Polydesmus coriaceus* as a member of the millipede fauna of Durham provides evidence for a possible northward expansion of the range of this species, something which appears to have gone unnoticed previously. Blower (1985) shows no Scottish records for the millipede and its English distribution reaches no further north than the modern county of South Yorkshire despite the fact that Jackson (1982) had reported collecting a specimen from Wheatley Hill, Durham. The preliminary millipede atlas (BMG 1988) shows the species occurring a little further north in North Humberside with single, outlying records for the Cumbrian coast and West Lothian. Subsequently the millipede has been recorded from a number of locations in North Yorkshire and at a second site in Cumbria. The collection of the millipede from five separate sites in Durham during the 2005 meeting suggests the species is established here although it was not collected further north during the 1999 meeting. BMIG members monitoring sites in northern England and southern Scotland over the next decade could provide valuable information on whether *Polydesmus coriaceus* is truly spreading northwards or whether increased recording effort is creating a false picture of range expansion.

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Lee, P. 2006 (in press). *Atlas of the millipedes (Diplopoda) of Britain and Ireland*. Huntingdon: Biological Records Centre.

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MISCELLANEA

ADDITION

Barber, A.D. & Mann, D. (2004) Myriapod papers of R.S. Bagnall, 1889-1962. Bulletin of the British Myriapod Group 20: 13-16.

The following would appear to be an addition:

Bagnall, R.S. (1912) Review of Field Work in 1911. *Entomologist's Record* **25** (9): 224-226.

CORRECTION

Lewis, J.G.E. (2004) Biological data on British centipedes recorded in his notebook by J. Gordon Blower between 1948 and 1975. Bulletin of the British Myriapod Group 20: 7-12.

Note that although Blower added a note in 1975, the period covered is, in fact, 1948-1962.

Participants at the 2005 field meeting in Durham