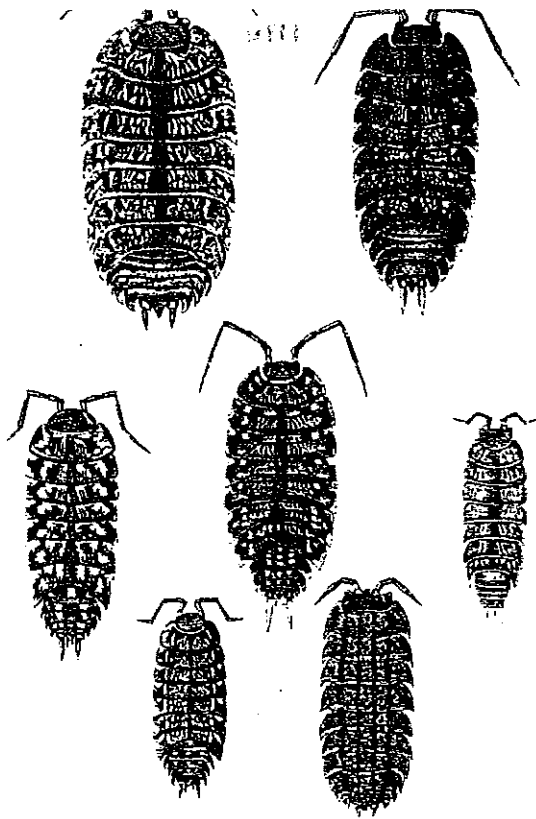


## BRITISH ISOPOD STUDY GROUP

Newsletter 33 June 1992

Edited by David Bilton



The job of transferring all-post-1989 records onto the maps has now been completed, and this has filled out and expanded the distribution patterns of a number of species. Most notable perhaps are the large number of recent records for the synanthropic species Porcellio dilatatus, P. laevis and Porcellionides pruniosus, which seem to counter the statement in Harding and Sutton that these species have declined in abundance this century. It seems that simply not enough people search in the right places! Jon Daws has done more than anyone in producing this spate of records, and has recently turned up P. laevis in a couple of new areas (see notes in this newsletter). Whether or not Jon's P. laevis record constitutes the "second best" isopod find of 1991 is perhaps something we should put to a vote, since the discovery of Miktoniscus patiencei at Spurn, Yorkshire, by Paul Lee is truly amazing. This represents the only site between Suffolk and Kincardineshire! In addition it is a surprise that a site as frequently visited by naturalists as Spurn can still turn up interesting additional species. This species must occur in many more sites around the coast, so why are there still so few records (only 27 10km squares in the British Isles)? A summary of notable records is included later in the newsletter.

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### A Key to the Woodlice of Britain and Ireland

Steve Hopkin's AIDGAP key is now available, and can be fully recommended to all members, no matter what their level of experience may be. The key itself follows an easy to use format, and covers all British and Irish species, including those such as Trichonisoides helveticus which have only just been recognized as occurring here. Clear diagrams accompany the key, including essential figures of the male genitalia of Trichonisoides/Metatrichonisoides and Haplophthalmus species. A useful feature of the work, particularly to those unfamiliar with some of the animals, is the set of notes and descriptions, covering all species, which supplement the keys. To my mind the beautiful colour photos of living woodlice alone justify purchase—enough to convince almost anyone that isopods are attractive creatures!

To obtain your own copy simply write to: The Field Studies Council, The Leonard Wills Field Centre, Nettlecombe Court, Williton, Taunton, Somerset TA4 4HT (Tel 0984-40320).

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### The Biology of Terrestrial Isopods III

The proceedings of the Poitiers symposium are now available, from J.P. Mocquard, Laboratoire de Biologie Animale, Universite de Poitiers, 40 Avenue du Recteur Pineau, F-86022 POITIERS CEDEX, FRANCE, priced ca. 150FF. The volume contains close on thirty papers and summaries of poster presentations. The standard of contributions appears rather mixed, but there are some interesting articles, including a multivariate analysis of British isopod distribution data, and a fascinating discussion of underwater survival and orientation in Ligia exotica.

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### Sex change in woodlice!

The role of endosymbiotic bacteria in determining the sex of some species of terrestrial isopods is well known (see Bull, J.J. 1983. Evolution of Sex Determining Mechanisms. Benjamin Cummings Publ. Co. for a review of earlier works). Armadillidium vulgare, for example, normally consists of males, with ZZ sex chromosomes, and females which are heterogametic (ZW). However, in some populations, sex determination is influenced by cellular bacteria, which reverse genetic males into functional neo-females, producing highly female-biased broods. Rigaud and co-workers (Rigaud, T., Juchault, P. & Mocquard, J.P. 1991. Experimental study of temperature effects on the sex ratio of broods in terrestrial Crustacea Armadillidium vulgare Latr. Possible implications in natural populations. Journal of Evolutionary Biology 4:603-617.) have now shown that at higher temperatures (30C), the sex ratio of broods produced by neo-females instead becomes male biased. This effect was related to a disappearance of bacteria from the cells of embryos reared at 30C. It is also noted that populations with very low incidence of neo-females have always been observed in Mediterranean and semi-desert regions, where diurnal temperatures often include periods at or above 30C.

Male pseudohermaphroditism, or the differentiation of external male characters in genetic females has also been investigated in woodlice recently (Juchault, P., Louis, C., Martin, G. & Noulin, G. 1991. Masculinization of female isopods (Crustacea) correlated with non-mendelian inheritance of cytoplasmic viruses. Proc. Natl. Acad. Sci. USA 88:10460-10464.). It has long been known that in some woodlouse species fully functional females may exhibit male secondary sexual characteristics, such as modified pleopods. Such modifications may be temporary, or last for the lifetime of the animal, and may only affect part of the individual's body, producing a mozaic of male and female structures. Juchault and colleagues demonstrated that in Porcellio dilatatus such effects are mediated by an intracellular virus which probably acts on epithelial areas which are normally sensitive to male hormone (ie. areas such as pleopods which differentiate the sexes externally). A filtered extract from infected individuals succeeded in producing similar effects in P. laevis and Armadillidium vulgare. Viral particles were also observed in the tissues of affected individuals.

Any reports of hermaphrodite woodlice would be most welcome!!

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### What eats Woodlice (again!)

Continuing from notes in previous newsletters, the scorpion Euscorpium flavicaudis can be added to the list of animals for which woodlice are a favourite meal. This southern European species is naturalized in a number of localities in eastern England, including the Isle of Sheppey, and, apparently, the buildings of a London tube station! Tim Benton, of the University of Cambridge, has looked into the ecology of this animal (Journal of Zoology 226:351; New Scientist 134 no. 1821, May 16, 1992:15), and found that it is a "sit and wait" predator, rarely venturing out of the cracks in which it lives. Its main food item appears to be the woodlice which live in the same environment, the scorpion spending most of its time waiting for the next isopod to walk in its direction!

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### Haplophthalmus mengei/montivagus - keep checking males!

A lot of recent cards including records of H. mengei did not specify whether males were seen by the recorder. Since male sexual modifications must be checked to distinguish this species from H. montivagus it is essential that you continue to mark on the cards whether you have seen males. If not mark clearly females only. I want to produce maps of confirmed males of both species, and do not want to miss any confirmed records. If you have any doubts, please send me the specimens!

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### New Woodlouse Maps

Steve Hopkin and I have decided to produce updated versions of the distribution maps as a special issue of Isopoda. These will be prepared and published early next year, so I would be particularly grateful if you could look through your files for ANY woodlouse records which you have not yet sent in, and also if you could be prompt in supplying details of your finds over the course of this year. It is particularly important that we do not miss any records of the more uncommon species which are made before the end of the year. Either send records to me at the address given, or to BRC, from which I can collect them on returning to the UK next January.

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### New Vice-County records for woodlice

The following are all the new vice-county records that I have available, with the exception of records mentioned in earlier newsletters.

South Devon (VC 3):

Armadillidium pulchellum D.E. Bolton

North Somerset (VC 6):

Trichoniscoides albidus Steve Gregory

East Kent (VC 15):

Halophiloscia couchi Jon Daws

East Suffolk (VC 25):

Armadillidium album Paul Lee

Shropshire (VC 40):

Haplophthalmus danicus Derek Lott (det. Jon Daws)

Flint (VC 51):

Porcellio laevis Jon Daws

Cheshire (VC 58):

Porcellio dilatatus

Porcellio laevis Jon Daws

South Lancashire (VC 59):

Porcellio dilatatus

Porcellionides pruniosus Jon Daws

South East Yorkshire (VC 61):

Miktoniscus patiencei Paul Lee

Isle of Man (VC 71):

Trichoniscus pygmaeus Jon Daws

Shetlands (VC 112):

Androniscus dentiger

Haplophthalmus mengei

Trichoniscoides saeroeensis

Trichoniscus pusillus

Porcellio spinicornis Jon Daws

South Kerry (VC H1):

Armadillidium vulgare Dick Jones

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### BISG/BMG Field Meeting 1992 – Little Dean, Gloucestershire

Many thanks to Jon Daws, who produced the following note, and the collation of records in my absence.....

Our thanks go to Keith Alexander for organizing a very enjoyable meeting, based in and around Little Dean House Hotel. This extremely large, rambling building set in extensive grounds needed a map and compass to find one's way around, although everyone managed to find the bar without any trouble!

On thursday evening we heard an informative and interesting talk by a local naturalist about the different habitats to be found in the surrounding area. Armed with maps supplied by local conservation organizations the 17, if not enthused, at least very damp "isopodologists" (?) were let loose on an unsuspecting county.

The recording started well with Armadillidium depressum the first of ten species found within the hotel grounds, and during the following few days we took the county isopod list from 16 to 19 species, with new records for Cylisticus convexus, Haplophthalmus mengei and Porcellio dilatatus. Armadillidium pulchellum was also recorded from a quarry, although it was within throwing distance of a previous site – but anyone found using this method of dispersal for unusual woodlice will be reported to the RSPCI!

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### BISG/BMG Field Meeting 1993

This event will be held in Sussex if we can find somewhere cheap enough to stay, and which will allow us to take along a rather loud northerner from Durham!! The other two options which have been put on a back burner were Ireland and Hungary. The Sussex meeting will be disorganized by Jon Daws and Tony Barber, so watch this space!

Jon Daws, 29/iv/1992.

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Localities	<i>Androniscus dentiger</i>	<i>Armadillidium depressum</i>	<i>Armadillidium nasatum</i>	<i>Armadillidium pulchellum</i>	<i>Armadillidium vulgare</i>	<i>Cylindricus convexus</i>	<i>Haplophthalmus danicus</i>	<i>Haplophthalmus menges</i>	<i>Ligia oceanica</i>	<i>Oniscus asellus</i>	<i>Philosotis muscorum</i>	<i>Platyarthrus hoffmannseggii</i>	<i>Porcellio dilatatus</i>	<i>Porcellio scaber</i>	<i>Porcellio spinicornis</i>	<i>Porcellionides prunosus</i>	<i>Trichoniscus pusillus</i>	<i>Trichoniscus pygmaeus</i>
Kerne Bridge 32/581188			*		*					*	*			*			*	
Lower Lydbrook Park 32/596169					*					*	*	*		*			*	*
Stony Hill Green 32/607099	*				*	*	*			*	*			*			*	*
Naa's Farm, Lydney 32/648017	*				*	*				*	*			*		*	*	*
Littledean House Hotel 32/668136	*	*			*			*		*	*	*		*	*		*	*
Plumhill Quarry 32/661171			*		*					*	*	*		*			*	*
Stenders Quarry 32/659182	*				*					*	*	*		*			*	*
River Severn, Newnham 32/699129			*		*					*	*	*		*			*	*
River Severn, Purton 32/671046	*		*		*		*		*		*			*			*	*
Dairy Farm, Lydney 32/632025		*			*					*	*	*	*	*			*	*
St. Mary's, Lydney 32/633025					*					*	*	*		*			*	*
Mill Rough Wood, Lydney 32/630040					*					*	*	*		*			*	*
Beach, Lydney 32/652015			*		*		*		*		*			*			*	*
Quarry, Barnedge Hill 32/617149	*		*	*	*					*	*	*		*			*	*
Wyevale Wood 32/332437					*					*	*	*		*			*	*
Wernewood 32/427407					*					*	*	*		*			*	*
Bearse Farm 32/568053					*					*	*	*		*			*	*
Collin Park Wood 32/750276					*					*	*	*		*			*	*
Ketford Bank 32/725307					*					*	*	*		*			*	*
The Tufts, Lydney 32/619047					*					*	*	*		*			*	*
Bromsberron Sandpit 32/738328	*				*					*	*	*		*			*	*
Rudge End Quarry 32/587353	*	*			*					*	*	*		*			*	*
Lea and Pagets Wood 32/596343					*					*	*	*		*			*	*
Lugg Meadows 32/530410					*					*	*	*		*			*	*
Awre Church 32/708080					*					*	*	*		*			*	*
Gatcombe, nr. Blakeney 32/678053					*		*			*	*	*		*			*	*
Lydney Harbour 32/648012					*			*		*	*	*		*			*	*
Nagshead Plantation 32/606098					*				*	*	*	*		*			*	*
Westbury Court Gardens 32/717138		*			*					*	*	*		*			*	*
Walney, Aylestone Hill 32/524411					*					*	*	*		*			*	*
The Weir, Swainshill 32/495419					*					*	*	*		*			*	*
Breirton Springs 32/473393					*		*			*	*	*		*			*	*
Marains inclosure 32/557122					*					*	*	*		*			*	*
Howbeach Quarry, Slade 32/648090	*				*					*	*	*		*			*	*
Colemans Wood 32/648153					*					*	*	*		*			*	*
Newent Woods 32/706221					*		*			*	*	*		*			*	*
Court Farm 32/685198	*	*			*					*	*	*		*	*		*	*
Longhope Church 32/685198		*			*					*	*	*		*	*		*	*
Hobbs Quarry 32/695195			*		*		*			*	*	*		*			*	*
Welshbury Wood 32/684153					*					*	*	*		*			*	*
Lower Ruspidge 32/653112		*			*					*	*	*		*			*	*
Shakemantle Quarry 32/654111					*					*	*	*		*			*	*
Elton 32/705146					*					*	*	*		*			*	*
Westbury on Severn 32/708143					*					*	*	*		*			*	*
Awre 32/712079					*					*	*	*		*			*	*

Compilation of records from BISG meeting @ Littledean, Gloucestershire, April, 1992.

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### Some Notes from the (far) north

Spending a year outside Britain allows one, amongst other things, to gain some familiarity with different species and habitats. Although central Sweden is not, by any stretch of the imagination, the best place in the world to collect woodlice, there are some interesting differences from the situation in northern Britain.

So far I have recorded nine species in the vicinity of Uppsala, these being Haplophthalmus danicus, Trichoniscus pusillus, T. pygmaeus, Oniscus asellus, Porcellio scaber, P. spinicornis, Trachelipus rathkei, Cylisticus convexus and Armadillidium pictum. It is very striking that T. rathkei is the most abundant species in almost any situation here. Very unusual for someone from Britain is the fact that A. pictum is common in deciduous woodlands here, being found in good numbers under boulders and below bark on mossy dead logs. An aggregation of over seventy individuals was found in one site under the bark of an oak log, some 1.5m off the ground. It seems to have a preference for fairly well drained sites, but there is nothing at all special about these habitats! A trip to the southern Baltic Island of Öland enabled me to collect on the Alvar, a vast open limestone steppe, with thin soil, and virtually no tree cover for hundreds of square miles. Here Porcellio spinicornis was extremely abundant, in what must be considered a natural situation, together with more Trachelipus (in wetter parts), and the centipedes Pachymerium ferrugineum, Geophilus proximus and Lithobius curtipes. The last species is obviously not a woodland animal outside Britain! Round the edges of the alvar, where there is more soil and a scattering of woodland, Armadillidium pulchellum could be found under virtually every stone turned, together with the eastern European Armadillidium opacum, which looks rather like a dull, mottled vulgare which has forgotten how to roll up properly.

D.T.B.

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### Shetland Woodlice

Having saved all my pennies, I bought a plane ticket to Shetland for a three week visit in July/August 1991. My first week was spent on Fair Isle, the second on the mainland, with a lazy amble round Unst, Fetlar and Yell during the final week. On consulting the distribution maps in Woodlice in Britain and Ireland I found that only four species had previously been recorded in Shetland, these being: Oniscus asellus, Porcellio scaber, Trichoniscus pusillus and Ligia oceanica.

Fair Isle is spread over four 10km squares, although most of the island is in just one of these. I spent several half-days combing the small areas of terra firma in the other three 10km squares, and managed to record the four common species in most of them. This small island has steep cliffs, so access to the shore was limited mainly to two landing beaches in the north-west, and an area of low lying coast to the south. There is a woodland (30m square plantation of shrubby trees), two churches, a graveyard, about 40 crofts, plus miles of windswept grassland on the island. Although I scoured the island for six days – under constant aerial bombardment from the skuas – I only managed to double its isopod list, with the addition of three small woodlice:

Trichoniscus pusillus, T. pygmaeus and Trichoniscoides saeroeensis. The single female of this last species was taken from under a large rock in a gully, along with small numbers of T. pusillus.

After I was delivered to the southern tip of the mainland by the twice-weekly Fair Isle ferry, I picked up a hire car and set off for Lerwick. My first stop was at the large coastal cemetery which looked very tidy, but, turning over a few pieces of concrete revealed a few bright red specimens of Androniscus dentiger. This species proved to be quite common around the town, being found in several churchyards, Gilberston Park and in the grounds of Fort Charlotte. The only other record also came from a synanthropic site – a pile of rubble adjacent to the harbour behind Scalloway Castle, on the west coast. Further along the shore of Scalloway harbour I pulled up a large piece of embedded concrete to reveal two specimens of Trichoniscoides saeroeensis. This species was also recorded from beneath stones on a metre-high cliff adjacent to Burraview harbour. All three sites for this species in Shetland had one main feature in common – they were all relatively sheltered from the full force of the sea gales.

Haplophthalmus mengei was found at five sites in Shetland: three churchyards, one cemetery and a working farm. It was either found under stones or rotting wood (including wooden grave "stones"). Although beaches and other natural habitats were searched, the species was only found in habitats created by humans.

I had several hours to kill whilst waiting for my girlfriend, Elizabeth, to arrive at a fog-bound Sumburgh airport, so I paid a visit to Sumburgh farm, where I discovered Porcellio spinicornis to be very common under stones and other farm debris. I presume this species could be found at other farms and on older buildings around the large centres of population.

Unfortunately my collecting was somewhat curtailed during the final week because, for some reason, Elizabeth doesn't like to look under every rock we find – I'm afraid she's a bit of a funny sort of person really!!

Jon Daws, April 1992.

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### The second best isopod record for 1991?

While visiting The Wirral, Merseyside, during the last few days of October 1991, Porcellio laevis cropped up at two of the dairy farms I visited, and a single specimen was found at some old stables. At one farm a single P. laevis was found under a piece of sleeper, supported on a small pile of bricks, together with two P. dilatatus.

Unfortunately I didn't have a chance to visit more farms, but Porcellio laevis may prove to be quite common when I return in the Spring of 1992. This distribution is quite interesting, as I have visited over 70 farms in Leicestershire, and still not recorded this isopod for the county.

The other interesting find of the holiday was Porcellionides cingendus, which occurred in good numbers on a covered reservoir at Caldby Hill Country Park.

Jon Daws, Jan. 1992.

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### Porcellio laevis – First Welsh records.

On Saturday 21 March 1992, I delivered my sister and young nephew to Liverpool for a spot of sightseeing(!) – whilst I sloped off to pursue Wirral's woodlouse populations once more.

My attempts to search the clay cliffs on the west coast were defeated by a force nine wind, which blew sand, seaspray and myself all over the place. The Welsh coast opposite looked as though it might offer more protection from the elements, so I set off on the loop roads to the Clwyd coast.

Just before I reached Flint I noticed a large farm set back from the road with a herd of Friesians grazing their way up and down the sloping field. The bemused farmer of Oakholt Farm gave his permission for me to wander around the outside of his outbuildings. A juvenile Porcellio dilatatus and several Porcellionides pruniosus were under the first stone I lifted from amongst the manure and straw. It wasn't until I started to pull mortar and loose bricks out of a cattle shed wall that I found two large specimens of Porcellio laevis.

As I made my way back to Liverpool, I stopped off at Old Marsh Farm, Sealand, just inside the Welsh border. This derelict farm is waiting to be converted into expensive flatlets, but this has been delayed because of a proposed road widening scheme. On the floor of an old milking parlour there was a 6" – 1' layer of packed hay and manure which still retained some moisture. I managed to pull up a large section of this to reveal several specimens of P. dilatatus and P. laevis.

I'm confident that, having found P. laevis at both farms I visited, this species will turn out to be quite common in North Wales, at least where dairy herds are present.

Jon Daws, April 1992.

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### Halophiloscia couchi in Kent

After failing to get an invite to a wedding, I ran my girlfriend to Canterbury on Friday 10 April 1992 to see the couple tie the knot the following day. After exchanging a few pleasantries and shaking a lot of hands, I made my escape and fled south to Folkestone.

East of the town where the cliffs start to rise, I walked along the sea wall until I came to where it ended in a landslide. Once on the rocky beach I crunched through the shingle to a large, flat boulder, which I flipped over to reveal a single Halophiloscia couchi on the underside. The next flipped boulder produced another specimen, at which point I plodded a little further up the beach to look for the small white species, Trichoniscoides and Haplophthalmus.....and failed to find any.

Having Bed and Breakfasted in Deal on Friday night, I set off to find more sites for H. couchi. My first stop was at Kingsdown, just south of Deal. Again I started flipping large boulders over, on or just above the high tide mark, but unlike the previous evening the tide was quite low, and nothing was found. Eventually I located a hole at the base of the chalk cliff, full of seaweed on top of small rocks. Several minutes of pulling handfuls of weed out of the crack revealed several hundred rove beetles, and a single specimen of H. couchi.

A drive north to more chalk cliffs, this time just west of Pegwell, I found a car park with a Viking long boat at one end! A walk beneath the small cliffs turned up another hole full of seaweed, from which – after a minute of searching – I found two specimens of H. couchi.

I did try several other beaches north of Pegwell, but they either had a seawall, or the cliffs were made of crumbling sandstone, which didn't seem to provide the right habitat – or perhaps I wasn't trying hard enough!

Jon Daws, April 1992.

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**Record cards, newsletter articles, specimens etc. to:**

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**Blank cards can be obtained from:**

Biological Records Centre,  
Monks Wood Experimental Station,  
Abbots Ripton,  
Huntingdon,  
Cambs PE17 2LS.

Tel. 04873 381  
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**A Key to the Woodlice of Britain and Ireland from:**

The Field Studies Council,  
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