

THE BRITISH ISOPOD STUDY GROUP

Newsletter of the Isopod Survey Scheme

Number 24

May 1988

EDITORIAL

This year's field meeting at the Llysdinam Field Centre was a great success although the myriapodologists had the most exciting time, with a centipede new to Britain (Andy Keay) and several new vice-county records for millipedes. The centipede and millipede atlases were distributed which should give our 'sister' schemes a boost in the same way that Paul Harding's provisional atlas gave the isopod scheme back in 1976. Apart from one rather spectacular find (Armadillidium pictum from a woodland site, see elsewhere in this newsletter), nothing really unusual turned up and as the area has been so well covered by the Ceredigion Mafia, I have not produced the usual table of records. However, I have promised Ray Woods (the local NCC officer who provided invaluable help with sites at the meeting) a list of records of all invertebrates we found during the weekend so if you have not yet sent me your lists, please do so as soon as possible.

Next year's meeting in North Devon has already been booked by John Bratton (see his note below). Further details and a booking form will appear with the next newsletter.

The success of the scheme is helped greatly by a continuous flow of records and articles for the newsletter and Isopoda. This edition of the newsletter is the most substantial for some time and contains articles covering a wide range of topics. The iridovirus, in particular, is developing into an interesting story. Is there anyone out there who would like to write an article for Isopoda on colour variation in woodlice? Talking of Isopoda, an order form for volume 2 is enclosed with this newsletter. Articles on anything to do with terrestrial or freshwater isopods (or amphipods) will be considered so please put pen to paper for volume 3. Over 100 copies of volume 1 have now been sold to isopodologists all over the world.

Over the last year, some 800 record cards have been submitted and I would like to thank everyone who has made the effort to fill these in and send them off. In no particular order, the following people have sent in records in 1987/88, Dick Jones, John Bratton, Steven Jones, Lynn Rowe, Adrian Fowles, Gordon Blower, Ian Morgan, Keith Alexander, Arthur Chater, Dave Boyce, Kefyn Catley, Dave Clements, David Bilton, Bruce Philp, Charles Rawcliffe, Colin and Anne Reid, J G Goldsmith, Doug Richardson, C M Drake, Helen Read, C J Smith, Eric Philp, Chris Hames, Adrian Rundle, G J Harris, G B Corbet, Paul Whitehead, N R Frankel, G C Slawson, C Felton, I D Wallace, George Fussey, Kathleen Goldie-Smith, P Kirby, S J Lambert, Paul Lee, L Lloyd-Evans, D W Guntrip, T C G Rich, M G Spirit, R A Chapman, B M Newman, K M Hickson and C W Plant. Apologies to anyone I have left out! A big thank you to you all!

BISG/BMG FIELD MEETING, 1989

The Hallsannery Field Centre, near Bideford, Devon, has been booked from Thursday 30 March to Sunday 2 April (Easter is early next year) with the option of people also staying on the Sunday night. The centre stands in the grounds of a Georgian estate close to the R Torridge with a wide variety of habitats in the vicinity. It can accommodate up to 45 people. Prices will be

in the range £17-£22 per night, depending on how many share a room. This in turn is controlled to some extent by how many people attend, which should make for a complicated booking form. The price includes full board with excellent and ample food, use of a lab, lecture room, lounge, pool table, tennis court, croquet lawn, etc. By next March, the staff will have had visits from heteropterists, coleopterists and dipterists, so they should be ready to progress to non-insect invertebrates. Plenty of B&B is available in the area should anyone prefer it.

A booking form will be sent out later in the year but it would be reassuring if people determined to attend would let me know now, please.

John Bratton, NCC, Northminster House, Peterborough PE1 1UA
Tel: 0733 40345 ext 2281

ARMADILLIDIUM PICTUM IN RADNORSHIRE

On 9 April 1988 on the BISG meeting, this species was found in dry, north-facing ancient Quercus petraea woodland on a rocky slope above the Afon Edw at Aberedw. The rock where the animals occurred was acidic Silurian shales, although there are more calcareous outcrops in other parts of the wood. The first specimen was found under an uprooted stump by a recently widened track, by Kefyn Catley who was searching for spiders at the time. The next sighting, of half a dozen specimens, was by David Boyce who was searching for beetles by looking under the bark and in the dry, rotten wood of a fallen oak. Most of the other 30 or so specimens we saw were found by him and Adrian Fowles in 'beetle microsites', under bark, moss mats and in dead wood on living and dead oaks, up to 1.5 m from the ground. None were found in the more usually searched 'woodlouse microsites', under fallen branches or stones on the ground. The weather was extremely cold and damp, and there had been light overnight snow.

The following morning I returned to show Paul Harding and Dick Jones the animals. It was slightly less cold, and the air was drier, with sunshine outside the wood. In spite of searching for as long as the previous day, we found only two A. pictum (two that had been seen the day before under the same piece of bark). The animals had disappeared from many of the other sites where we had seen them before, and could not be found elsewhere.

There seems to be two lessons, neither of them new, to be learnt from this experience. It is important to look in microsites one might normally neglect, and to remember that the 'findability' of woodlice may depend very much on the weather and not be very predictable (several BISG participants went to the coast on the 9th as the weather in Radnorshire seemed too inclement for both woodlice and humans).

Of the few sites for A. pictum in Britain, this Aberedw one seems the nearest to the woodland and dead wood habitat described by Vandell as the most characteristic for the species on the Continent. Vandell also suggests that this is the original habitat for the species, from which it colonized various others. There must be very many other similar woodland sites worth searching in mid-Wales, as well as elsewhere.

Arthur Chater, Botany Department, British Museum (Natural History), Cromwell Road, London SW7 5BD

IRIDOVIRUS AGAIN

On 6 March 1988 in litter and moss on damp, clayey soil in alder and oak woodland 1 km ENE of Lodsworth, West Sussex (41/942 234), I found a Ligidium hypnorum, 6 mm long, vividly violet coloured, along with many normal specimens and abundant normally coloured Trichoniscus pusillus. I kept the animal alive, in a 7 x 4 x 2 cm box with one T. pusillus. After about two days the violet colour almost vanished, but reappeared, though less strongly, a week later. The animal lived for 30 days and died, through my fault, of dehydration, still distinctly violet-tinged. The T. pusillus died at the same time, retaining its normal colour.

Arthur Chater, Botany Department, British Museum (Natural History), Cromwell Road, London SW7 5BD

..... AND AGAIN

On 15 March 1988, I took my first brilliant mauve specimen of Philoscia muscorum in a rotten apple log at Little Comberton, Worcs (32/96-43-). The colour faded on death and is evidently not a pigment. I note that the brilliant mauve forms of Trichoniscus pusillus occur most frequently (in my experience), in rotten elm logs. Evidently, the orange forms of some species of isopods (eg Porcellionides pruinosus) result from pigments. Although I have been admonished for keeping some isopods mounted on cards (he means me! - Editor), I have orange forms as pristine as when they were found six years ago.

Paul Whitehead, Moor Leys, Little Comberton, Pershore, Worcs WR10 3EP

WHO EATS WOODLICE - AGAIN

The correspondence 'Who eats woodlice' in the Isopod newsletter issue no 23, especially the letter concerning medicinal uses of woodlice, prompted me to refer to Zoologica Medicinalis Hibernica by John K'eogh published in 1739, which indeed contained further information under the title 'House Louse, Hoglouse or Cheeslip, in Irish [Míol Muice] milemucky [= Pig Louse] Lat. millip Asellus, Porcellio' and continues as follows

"Hog lice reduced to powder, open all obstructions of the urinary passages, and the bowels, therefore exceeding good against the stone, gravel, dropsy, cholic pleurisy and jaundice, dose from one scruple to a dram; the said powder is externally applied with honey, is useful for the disorders of the eyes, the pains of the ears, Quinsy, and a sore throat proceeding from the small pox. Hog lice wonderfully dissolve, digest, attenuate, and mundify, therefore they sweep out of the blood all tartarous and mucilaginous humours which generate the gout, stone, gravel and dropsy; the said hog lice are twice washed in wine and twice dried before they are pulverised. The ashes or salt made of them by incineration are most powerful diureticks, dose one dram taken in the decoction of parsley. The tincture extracted out of these insects, powerfully opens all opulations of the veins, bladder, and womb also is profitable against epilepsy and most disorders of the brains, and nerves. The volatile salt extracted out of them, is a great sudorific medicine, it purifies the whole mass of blood, expelling its impurities by transpiration, rheumatism, dropsy and all pains of the muscles and nerves, dose from six grams to twelve. This is a little animal, contemptible in appearance, but abounds much more in spirit, volatile salt and oil, than many other creatures, and is therefore more worthy to be taken notice of. An oil made of these lice is

good against the noise and ringing in the ears, being applied to them". There follows a recipe using "12 millipedes put in a linen cloth and infused for forty eight hours".

The similarity in the curative properties described for woodlice between this and the extract from Linnaeus Natuurlijke Historie (1769) is interesting but not unexpected. There is no reference to a vernacular name similar to the Dutch 'pissebed' or the French 'pissenlit' which is rather surprising, given the listed effects on the urinary system. The local name 'hog louse' shows some sort of similar background as the English 'sowbug', (which is a relief as I don't think even at that date pigs were kept in the kitchen) but the other listed name 'house louses' seems more apt. The Irish name 'milemucky' actually means 'louse of the pig'.

As a final point I can add that, unlike David Hanson's test on Ligia I have had neither the need nor the inclination to test the above information (yet!).

Helena C G Ross, Curator - Mollusca & L & FW Invertebrates, Ulster Museum, Botanic Gardens, Belfast BT9 5AB

WOODLOUSE SAUCE

The following piece is an extract from Vincent M Holt's book Why not eat insects?, first published in 1885 but reprinted in more recent times by E W Classey Ltd. I am grateful to Bob George for bringing this to my attention, and to Peter Classey for permission to reproduce the item. A new reprint of this delightful book is due soon (it is also referred to in Arthur Chater's article in Isopoda volume 2). Further details are available from Classey's at PO Box 93, Faringdon, Oxon (tel: 0367 82 399).

"There are, also, thousands of members of the same family as the shrimp (Crustaceans) in every garden, namely, the common Wood-lice (Oniscus asiaticus). I have eaten these, and found that, when chewed, a flavour is developed remarkably akin to that so much appreciated in their sea cousins. Wood-lice sauce is equal, if not distinctly superior, to shrimp.

The following is the recipe: Collect a quantity of the finest wood-lice to be found (no difficult task, as they swarm under the bark of every rotten tree), and drop them into boiling water, which will kill them instantly, but not turn them red, as might be expected. At the same time put into a saucepan a quarter of a pound of fresh water, a teaspoonful of flour, a small glass of water, a little milk, some pepper and salt, and place it on the stove. As soon as the sauce is thick, take it off and put in the wood-lice. This is a very excellent sauce for fish. Try it."

Steve Hopkin

PASSIVE TRANSPORT OF WOODLICE - (1) PORCELLIONIDES PRUINOSUS AND ISLAND BIOGEOGRAPHY

In the long distant past I worked as an assistant warden for the RSPB on Havergate Island, on the Suffolk coast. I spent 6 months living in a garden shed on the island. Being an arid place, drinking water came in by boat, but water for washing was collected off every available roof.

One day in June 1969, the warden (Reg Partridge) arrived with a large, new, plastic barrel for rainwater collecting. The barrel had been bought at a well-known garden centre in Woodbridge and delivered direct to the quayside at Orford. Before installing the barrel I looked inside (just in case someone had secreted a piece of cheese in there) and to my surprise found five woodlice sliding about on the shiny plastic surface. They proved all to be female P. prunosus. I was faced with an ecological dilemma - should I release these chance arrivals, or should I protect the ecological purity of the nature reserve and collect the specimens? I decided to collect them.

Many years later I was visiting Notcutts garden centre in Woodbridge (the source of the barrel) with my wife and was pleased to find that P. prunosus was plentiful there. More recently I have re-visited Havergate Island, and was pleased not to find any P. prunosus there!

PASSIVE TRANSPORT OF WOODLICE - (2) PORCELLIO SPINICORNIS ON AN ASBESTOS ROOF

The 'barn' in my garden is a former ginger beer factory (or so the locals tell me). Being over 40 years old, its asbestos roof was falling into disrepair. Rather than buy new roof panels I decided to buy some reclaimed ones - to perpetuate the excellent patina of lichens and mosses on the roof. The reclaimed panels arrived complete with lichens, mosses and P. spinicornis, a species which I had not seen in the garden (or on the house) before. The woodlice took their chance - no attempt was made to help their introduction, but, eight years later P. spinicornis turns up everywhere - on the walls, in the loft, in the gutters and among any pile of bricks or rubble that is left undisturbed for a few months. Clearly this chance introduction was highly successful.

Paul T Harding, Biological Records Centre

WET WOODLICE!

This article was prompted by the finding of an Androniscus dentiger crawling about on a rock submerged in a local stream and far removed from the bank.

The ancestors of terrestrial isopods (woodlice) are thought to have invaded land directly via the seashore without first passing through freshwater. Woodlice tend to be thought of as terrestrial, but many species occupy wet habitats. Modern-day woodlice occupy a wide variety of habitats ranging from the upper seashore, marshes and terrestrial habitats through to deserts. A number of genera are amphibious and can live in water for long periods, eg Ligia and Ligidium in this country, and many more in subtropical and tropical areas. In Australia, the genus Haloniscus can live permanently in inland salt lakes.

According to A Kaestner (Invertebrate Zoology 3. Crustacea. London: Interscience Publishers, p 431, 1970) Ligia and Ligidium survived in aerated water for 80 days, the former in saltwater, Trachelipus rathkei was kept for almost two months in freshwater, Porcellio scaber and Oniscus asellus for one month and Cylisticus for a few hours. Unfortunately he does not give a reference to this work. In pilot experiments carried out at Nottingham Porcellio scaber survived for less than 12 hours in distilled water and tapwater and less than 24 hours in water with a conductivity of 5000 μS (tap water being 500 μS). Trichoniscus pusillus survived less than 24 hours in distilled water, three days in tapwater and four days in salty water. The results were similar for Androniscus dentiger in distilled and tapwater, but a number survived for 12 days in salty water and one individual survived 21

days. They did not try to crawl out of the experimental vessels, but remained submerged all the time! The aquatic isopod, Asellus aquaticus, tends to emerge from experimental containers containing unoxxygenated water if it does not like the conditions and 'prefers' death from desiccation rather than that from hypoxia!

If anybody else has found woodlice (other than Ligia) in water I should be interested to hear from them.

David Holdich, Department of Zoology, The University, Nottingham NG7 2RD

EXTRAORDINARY NUMBERS OF PLATYARTHURUS HOFFMANNSEGGI IN ONE ANTS' NEST

A visit, after prolonged heavy rain, on January 2 1988, to an area of rough pasture near Machynys, Llanelli (vc 44, 21/511 982, 8 m asl), clearly illustrated the relative ease by which certain subterranean invertebrates can be sampled after such adverse weather conditions. The recent deluge had substantially raised the water table which had driven many soil-dwelling invertebrates to take refuge at, or near, the surface.

Whilst collecting myriapods and Coleoptera by turning over some of the large number of stones at this site, it was found that one stone (c. 30 cm x 30 cm) had, on its undersurface, large numbers of the acknowledged myrmecophile Platyarthrus hoffmannseggi. In fact, several counts produced totals that averaged about 145 individuals! The woodlice, of greatly varying sizes, were nearly all clinging to the underside of the stone with only a few (<10) actually on the surface of the ants' nest below. The ants (Lasius niger) were quite torpid and tightly clustered. In fact, when disturbed by gentle prodding, it was noticed that Platyarthrus was far more active than the ants themselves, raising the question as to whether the woodlouse is more tolerant of lower temperatures than the host ant species, allowing Platyarthrus to continue feeding during at least part of the winter?

Nearby (about 2 m away), another stone of approximately the same size as the previous rock, was found to cover another ants' nest, but this time, the species was Lasius flavus. Under this stone, only 13 specimens of Platyarthrus were found though as only a few ants were visible, it is quite possible that at this exact site, the water table was lower than at the other ants' surface. The nest was not disturbed to see whether this was in fact the case.

Normally, Platyarthrus can be quite difficult to locate during the cold, often freezing conditions of mid-winter. In the writer's opinion, the optimum period to locate Platyarthrus is in warm, damp springtime (especially March/April) when the increased activity of the ants seems to be paralleled by the woodlice.

Ian Morgan, 4 Erw-Las, Llwynhendy, Llanelli, Dyfed

ARMADILLIDIUM NASATUM (BUDDE-LUND) IN CARMARTHEN, VC 44

Since the publication of 'Woodlice in Britain and Ireland' (Harding & Sutton 1985) when no records for A. nasatum were shown for vc 44, this species has been recorded at four localities in the vice-county.

The sites where A. nasatum was recorded include both natural coastal grassland and scrub; and also man-influenced habitats. These sites are described below:

1. Marros 22/205075 - occurs sparsely in rabbit-grazed coastal grassland, sheltering under stones and wood. The ground flora indicates a neutral base-rich status.
2. Ferryside 22/363094 to St Ishmaels 22363083 - (both coastal) here it is frequently found on a small area of dune grassland, on sunny hedgerow banks and in an old churchyard. The underlying strata is the old red sandstone, which gives rise to moderately base-rich soils.
3. Mynydd-y-Garreg 22/440093 - an old, disused carboniferous limestone quarry (150 m asl, 5 km from coast). Further inland along the same limestone ridge, no colonies of A. nasatum have been found, though A. depressum occurs at two sites, and A. vulgare is common. On the south-west facing slopes of Mynydd-y-Garreg, A. nasatum is common on sunny scree banks.
4. Glynea, Bynes 22/558989 - extremely abundant on waste industrial ground, under old ironworks slag heaps and other stones etc on dry grassland. The site is again coastal.

At all the above localities A. vulgare is frequent to common.

Two distinct habitats are occupied by A. nasatum in Carmarthen:

1. Semi-natural coastal grassland and scrub
2. Synanthropic habitats - a. limestone quarry
b. dry industrial wasteground

No indoor occurrences have been noted in vc 44, though it has been observed by the author in adjacent Glamorgan vc 41, where A. nasatum occupies heated greenhouses at Singleton Park, Swansea 21/629926.

Ian Morgan, 4 Erw-Las, Llwynhendy, Llanelli, Dyfed

A RECORD OF CYLISTICUS CONVEXUS (DE GEER) IN THE MERSEY ESTUARY

The Seaforth Dock Pools at the mouth of the River Mersey (33/313973) are interesting sites with a generally rich and important biota. Leased from the Mersey Docks and Harbour Company by the Lancashire Trust for Nature Conservation, their future cannot be regarded as secure.

Developed on the southernmost extension of the Lancashire coastal dune system, relics of this fauna and flora still persist, virtually within the city of Liverpool.

The most seaward extension of the site, has, like much of the rest of it, been modified by tipping. In this area the fill is dominantly of rock with a high proportion of ferrous-metal waste. When I last visited the site on 24.8.87 this area was saturated with water and I collected a large specimen of C. convexus under a plank. C. convexus is a coastal species tolerant of exposure and site-disturbance which will also accept similar conditions inland. As far as is known this is the only modern record for the Lancashire coast, although Harding and Sutton (1985) show pre-1970 records on the Wirral peninsula and north of the River Ribble.

The site is approximately 5 m OD above sea-level and the associated fauna is limited but unusual. It includes the sandhopper Orchestia gammarella (Pal.)

behaving terrestrially, a situation unusual but not unknown in Britain. Associated beetles include Bembidion tetracolum Say (eurytopic), Trechus obtusus Er. (tolerates bare, exposed, mineral substrates), Olisthopus rotundatus Pk. and Simplocaria semistriata F. (both tolerant of acid and neutral substrates).

Reference

HARDING, P.T. & SUTTON, S.L. 1985. Woodlice in Britain and Ireland : distribution and habitat. Huntingdon: Institute of Terrestrial Ecology.

P F Whitehead, Moor Leys, Little Comberton, Pershore, Worcs WR10 3EP

AN IMPORTANT EXTENSION TO THE RANGE OF PORCELLIONIDES CINGENDUS (KINAHAN)

On 6 November 1987, in an unexpected and significant encounter, I located a number of specimens of P. cingendus in the parish of Oxenton, Gloucestershire, 32/9330.

They were localized amongst tinder dry elm logs dumped with rock and clay on a rank roadside verge. None of the material had been tipped in recent years, and there is no reason to assume importation of it from afar. The ground is a heavy wet clay, developed, evidently in situ, from bedrock.

This record is important in a number of ways. Not only does it extend the range of this 'Lusitanian' taxon inland and to the north-east; it also creates problems in attempting to explain its origin some 150 km from the next nearest record. Under-recording cannot be the sole explanation of this.

P. cingendus is clearly thermophilous, having an Atlantic type of distribution, dominantly in those south-western areas of Britain and Ireland that have mild winters and a relatively low annual temperature range.

The site is within an area of slight continentality, having an average annual range of temperature of 13°C, but usually with warm summers, and presumably sufficient day degrees to meet the requirements of P. cingendus.

To explain the arrival of P. cingendus at the site is more difficult. The area is drained by the Dean Brook and River Swilgate, and it is likely that, in historic times, their ability to drain low-lying land nearby and to the south of Tewkesbury must have been severely impeded by flooding, to which the area still is prone.

Further back in time, during the post-glacial climatic climax that characterized the period known to archaeologists as the Bronze Age, the whole area held prolific alluvial forest with a specialized biota. Is it just possible that P. cingendus is here a true relict species? No doubt the publication of this record will evoke further discussion of the matter.

The fauna in the immediate area of the isopods was not distinguished. Associated isopods included Haplophthalmus danicus Budde-Lund (determined by reference to male pereopods), Oniscus asellus L., Philoscia muscorum (Scop.), Armadillidium vulgare (Lat.) and Porcellio scaber (Lat.). Trichoniscus pusillus Brandt was abundant close by and the saprophagous snails Ena obscura (Müller) and Trichia striolata (Pfeiffer) were frequent. The staphylinid beetle Othius punctulatus (Goeze) is a shade-loving species whilst the carabid beetle Metabletus truncatellus (L.) usually characterizes tussocky grassland on soils of unvarying dampness. A further carabid Pterostichus vernalis Panzer is characteristic of alluvial meadows.

P F Whitehead, Moor Leys, Little Comberton, Pershore, Worcs WR10 3EP

BISG PRIZE CROSSWORD - RESULTS

The number of entries was a bit disappointing and only one person got all the correct answers. Paul Lee was presented with the £5 prize at the Llysdinam meeting. The solution is given below.

Clues across

2. Album
4. Crustacea
11. Km
12. Pygmaeus
13. Ova
14. Meta
15. Ethanol
16. Ten
17. Brood
20. Second
21. Sarsi
22. Ligia
24. Albidus
27. Pooter
29. Seven
31. OS
33. Oniscus
36. Pleon
37. Laevis

Clues down

1. Ecology
3. BISG
5. Antennae
6. Armadillidium
7. Dysdera
8. Spinicornis
9. Habitat
10. Easter
18. Ligidium
19. Monks
20. Scaber
23. Iso
25. Isopoda
26. Uro
28. Telson
30. Eluma
32. Cu
34. Soil
35. Sp

TELEVISION COLUMN

Looking after sick children at home is invariably a tedious business. However, a recent stint in the Hopkin household looking after my measles-ridden boys had a unexpected bonus in the shape of the children's ITV programme 'Creepy Crawlies'. The series is set in an imaginary garden and stars a number of stylized invertebrates including a snail ('Mr Harrison') and a beetle ('Lambeth') who embark on a variety of adventures in quite realistic stop-go animation (similar to the technique used to produce movement in characters such as Postman Pat). However, the star of the programme is undoubtedly 'Anorak', a bug-eyed Oniscus-lookalike. This woodlouse has aspirations towards being an Armadillidium since, at the slightest provocation, it rolls into a ball and hurtles off screen at breakneck speed only to return a few seconds later laying waste to everything in its path. Not to be missed!

Steve Hopkin

ADDRESSES

All completed record cards, enquiries concerning the Isopod Survey Scheme and articles for inclusion in the newsletter or Isopoda should be sent to me at the following address:

Dr Steve Hopkin, Department of Pure and Applied Zoology, University of Reading, PO Box 228, Whiteknights, Reading RG6 2AJ

Supplies of blank recording cards are available free from:
Biological Records Centre, Monks Wood Experimental Station, Abbots Ripton,
Huntingdon, Cambs PE17 2LS

Newsletter 24 edited by Steve Hopkin

Newsletter 25 will appear in October 1988. Articles for inclusion to me by 30 September please.