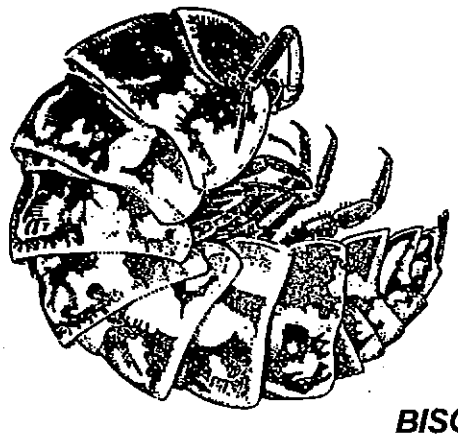
BRITISH ISOPOD STUDY GROUP

Newsletter 41

Autumn 1998



Edited by David Bilton

BISG/BMG Field Meeting, Cornwall 1998

This year's field meeting was based in deepest rural Cornwall, at the National Trust Basecamp at Chyvarloe, a few miles north of Lizard Point. We were warned that the accommodation would be a bit more spartan than that which we'd become used to in recent years – a converted barn and self-catering to boot! Undeterred, twelve participants were in residence, no doubt encouraged by tales of the strange creepy-crawlies that lurk in the far south-west. The weather was rather wet and windy, which is not conducive to collecting but, if my memory serves me correct, it dried up for a least one day. So far I have records covering nine 10km grid squares for twelve species from a mixture of coastal and inland habitats. These are summarised at 10km level in the table below (contributions from Paul Richards, John Lewis and myself).

Vice-county:	1	1	1	1	1	1	1	1	1	1	1
10km grid square 10/	32	42	52	53	54	61	62	63	64	71	72
Armadillidium album	+										
Armadillidium nasatum											
Armadillidium vulgare	+	+		+	+	+	+			+	
Ligia oceanica	+	+					+				
Oniscus asellus	+	+	+	+	+	+	+	+	+		+
Philoscia muscorum	+	+	+	+	+	+	+	+	+		
Platyarthrus hoffmannseggi	+		+	+	+		+	+		+	
Porcellio dilatatus							+				
Porcellio scaber	+	+	+	+	+	+	+	+	+	+	+
ellionides cingendus	+	+				+	+				
Trichoniscoides saeroeensis	+	+									
Trichoniscus pusillus	+	+		+	+			+	+		

Trichoniscoides saeroeensis and *Porcellionides cingendus* were both found on the coast as expected. Perhaps the best find was of *Armadillidium album* at Sennan Cove. A single female was found, concealed within a small piece of dead wood, well above the normal tide level at the base of some sand dunes. *Armadillidium vulgare* was also present, but this specimen struck me as odd (pale colour and wrong gizz!) so I collected it just in case. Most of the *Oniscus* collected were of the newly recognised *O.asellus occidentalis*, as would be expected considering the south-western distribution of this form. None the less 'intermediate' forms were also encountered, either on the coast or at synanthropic sites.

Personally I found it very hard work to find anything at all on the hard rocky coastlines and base poor soils typical of this part of Cornwall. A sentiment shared by others I gather. Oh, for a nice limestone outcrop overlain by base rich friable soil (the serpentine rocks of the Lizard, perhaps?)!

Our thanks go to Tony Barber for organising a successful meeting and to Tony's wife (whose name I forget) and Joanna Jones (Dick's wife) for taking on the unenviable task of providing breakfast and lunch for all present.

Steve Gregory, Northmoor Trust, Little Wittenham, Nr. Abingdon, Oxon, OX14 4RA

Isopod Populations- Friston Forest, East Sussex

In the Summer of 1989 we sampled ten one square metre quadrats in an attempt to estimate the isopod population in Friston Forest. This forest in a plantation of approximately 1,900 acres, located on the South Downs, about 10km west of Eastbourne. Planting of the forest began in 1927 primarily with beech and pine. Over the years most if the pine has been removed so that today this is a largely broadleaf forest. In the forest there are approximately 0.5cm of humus and leaves on top of a rendzine-type soil (Andover series). Quadrats were selected at random, and the only isopod collected was *Oniscus asellus* L. Sampling produced a mean isopod density of 6 per square metre, with a standard deviation of 5.5. Since Friston Forest is approximately 796 hectares in area, it may be assumed that the population in the Forest is approximately 80 million. The study also showed that isopods are not uniformly distributed throughout the site (numbers varied between 0 and 20 per quadrat). This may be due to the former presence of pine trees resulting in acidic humus deposition in places.
William F. Rapp & Janet L.C. Rapp, 430 Ivy Avenue, Crete, Nebraska 68333, USA.

Proceedings of the 4th Symposium on the Biology of Terrestrial Isopods

This symposium took place in Haifa in February 1997. The proceedings are now available as a special issue of the Israeli Journal of Zoology. This runs to over 200 pages, and contains diverse contributions on systematics, genetics, biogeography, population ecology, ecotoxicology and physiology. I haven't received my copy yet, but at $30 to private individuals it looks well worth the money!
Copies or details are available from: LPPL, POB 35409, Jerusalem 91352, Israel.

Ants Meet a Sticky End

A recent study has thrown much light on the nature and function of the sticky material many isopods secrete from their uropods. Deslippe *et al.* (1996) have conducted work on the production, chemistry and defensive significance of this secretion, which is produced by glands opening on both the exopod and endopod in *Oniscus asellus*. Grooves on the outer edge of the uropods channel the secretion to the uropod tips, where it collects as small droplets. Droplets can be pulled out into long threads which rapidly coagulate. Chemical analysis showed the secretion to be proteinaceous, being produced by the woodlouse as a low molecular weight material which undergoes polymerisation and/or cross-linking upon emission and after stretching. Mass of secretion produced was significantly related to body length in both sexes, with males consistently secreting more than females. Behavioural trials with relatively large predatory ants showed that the insects reacted immediately on exposure to uropod secretions, withdrawing from the woodlouse and rapidly becoming entangled as the secretion hardened. Nineteen out of twenty ants survived the experience, being able to disentangle themselves by biting through secretion threads, and being visibly free of secretion after 24 hours. Smaller ants became entangled in clusters of up to twenty individuals, but also apparently survived the experience. Secretions are compared to other glue-like compounds found in cockroaches, caterpillars, geophilomorph centipedes and onychophorans.
Reference: Deslippe, R.J., Jelinski, L. & Eisner, T. 1996. Defense by use of a proteinaceous glue: woodlice vs. ants. *Zoology* **99**: 205-210.

BISG/BMG Field Meeting 1999

The meeting next year will take place in Northumberland, which should provide quite a contrast to the far south west in terms of both the fauna and the ambient temperature! Please see the enclosed booking form for details.

Records, correspondence, articles etc. to:

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Second International Isopod Conference July 1998

The Second International Isopod Conference is to be held immediately prior to the International Crustacean Conference and will be held at the
University of Amsterdam, Netherlands, on 16-18 July 1998, hosted by Prof. Fred Schram.

Not to be confused with the terrestrial isopod conferences (most recently in Israel in February 1997), this is the second international conference
devoted to isopods in general and will, inevitably, have a marine bias (unless we flood it with contributions on terrestrial isopods!).
A registration form and call for papers is now circulating. For further details contact:
Brian Kensley, NHB-163, Smithsonian Institution, Washington, D.C. 20560, USA (Phone 202-357-4666, FAX 202-357-3043, Email KENSLEY@NMNH.SI.EDU).

Abstracts of papers/posters must be sent to Brian Kensley by 31 March 1998 at the latest. There is a registration fee of 50 US dollars, for which you
get coffees, lunches and a T-shirt (sic!). There will be student hostel accommodation on offer and local hotels are in the range of 65-115 DFL/night
for B&B. For more details on accommodation contact Prof. Fred Schram (Email on SCHRAM:@IOL.UVA.NL).

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