

## Delving in the dung

Rosemary Winnall

It was big - very big. In the farmyard over the fence from our land in Callow Hill near Bewdley there existed a long-established dung heap which belonged to Mount Pleasant Farm. In the autumn of 2015 it was extra high, standing gaunt and enticing at the back of the barn. The owners had been unable to spread it on their fields for two years, and it had accumulated into a large, rich mound (01).



01. "It was big, very big". The dung heap at Mount Pleasant Farm, autumn 2015. Rosemary Winnall.

The farm owned Dexter cattle and a pony (which were all kept in barns during the winter), sheep and hens; and they bred rabbits and guinea pigs. This resulted in a mixture of dung of many sorts, all of which ended up on this pile measuring approximately 15m long, 5m wide and 3m high.

During September and October 2015, with the kind permission of the owners, a few members of the Wyre Forest Study Group undertook a short survey of this interesting habitat of which we had very little knowledge. We visited on several occasions, searching for invertebrates using a variety of survey methods. And we found that we were not the only ones quartering the dung in search of invertebrates; we recorded Magpie *Pica pica*, Jackdaw *Coloeus monedula*, Grey Wagtail *Motacilla alba* and various social wasps, and a visit after dark gave us records of spiders such as the huge Hobo Spider *Eratigena agrestis*. We also found the Iberian Three-band Slug *Ambigolimax valentianus* and Common Pill Woodlouse *Armadillidium vulgare* going about their nocturnal forays.



02. Mick using a battery-operated pooter, 10<sup>th</sup> September 2015. Rosemary Winnall.

Mick Blythe used a battery-operated pooter (02) and a sweep net to catch flies around the dung. Using a small trowel, we excavated small holes and immediately discovered a woodlouse with which we were not familiar. It was *Porcellionides pruinosus* (03), present in extremely large numbers just beneath the surface, its pruinose body a distinctive identification feature. One larger woodlouse *Porcellio dilatatus* was recorded on the more shaded part of the heap.



03. Woodlouse *Porcellionides pruinosus*, 2<sup>nd</sup> September 2015. Rosemary Winnall.

A method of sampling that yielded a number of records involved spreading a white cloth on the ground and sprinkling trowelfuls of dung to see what emerged (04). This was a good method to find earthworms, centipedes and millipedes. Speedy Lesser Earwigs *Labia minor* (05) were also discovered with this method, along with several different beetle species.



04. Sampling using a white cloth, 29<sup>th</sup> October 2015. Rosemary Winnall.



05. Lesser Earwig *Labia minor*, 12<sup>th</sup> September 2015. Rosemary Winnall.

The temperature of the dung was taken by attaching a temperature probe to a cane marked with tape at 10cms intervals along the cane (06 & 07). This provided us with results from different parts of the heap and we recorded the average temperatures (Fig 01).



06. Using the temperature probe, 30<sup>th</sup> October 2015. Rosemary Winnall.



07. The temperature reading, 30<sup>th</sup> October 2015. Rosemary Winnall.

We also used an auger to sample the dung at depth, but we found no living invertebrates deeper than 20cms below the surface.

### Mount Pleasant Dung Temperatures, 30 Oct. 2015

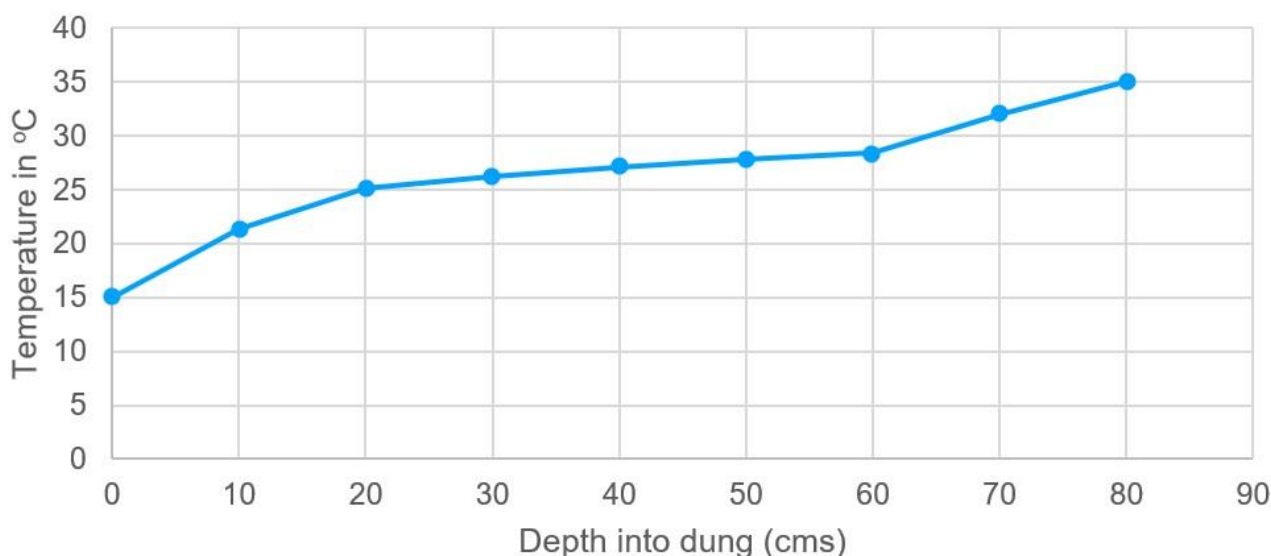


Fig. 01.

Mick Blythe wished to discover which flies were breeding in the dung so he constructed two emergence traps (08). These were positioned on top of the heap and their contents were collected every four days. Mick found a number of flies, some of which had mites or even hitch-hiking pseudoscorpions attached to their bodies (09). We also put out squares of roofing felt on top of the dung in various places and discovered pseudoscorpions and slugs by using this method.

The Mount Pleasant dung heap sampling gave us a valuable insight into life within the dung, stimulating much discussion about the use of ivermectins (drugs used for the control of parasitic worms and lice in livestock) and their impact on dung-dwelling invertebrates. It also encouraged us to record at several other farms in the area, but none were as rich or as productive as this one. We shall never look at a pile of dung in the same way again after our experience of delving in the dung!



08. The emergence trap in situ, 4<sup>th</sup> September 2015. Rosemary Winnall.



09. *Stomoxys calcitrans* with “hitch-hiking” pseudoscorpions attached, 31<sup>st</sup> October 2015. Mick Blythe.



10. *Atholus bimaculatus* from the dung heap. Rosemary Winnall.



11. *Swammerdamella brevicornis* from the dung heap. Mick Blythe.



12. Beetle *Omonadus floralis* from the Mount Pleasant dung heap. Rosemary Winnall.

#### Acknowledgements

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#### Images

01. “It was big, very big”. The dung heap at Mount Pleasant Farm, autumn 2015. Rosemary Winnall.
02. Mick using a battery-operated pooter, 10<sup>th</sup> September 2015. Rosemary Winnall.
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10. *Atholus bimaculatus* from Callow Hill dung heap. Rosemary Winnall.
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12. Beetle *Omonadus floralis* from the Mount Pleasant dung heap. Rosemary Winnall.

Species recorded from Mount Pleasant Dung heap - SO74747337 - Autumn 2015					
Annelida	<i>Eisenia fetida</i>	Manure Worm	Isodopa	<i>Armadillidium vulgare</i>	Pill Woodlouse
Arachnida	<i>Eratigena agrestis</i>	Hobo Spider	Isodopa	<i>Porcellio dilatatus</i>	a woodlouse
Arachnida	<i>Lamprochernes nodosus</i>	Pseudoscorpion	Isodopa	<i>Porcellio scaber</i>	Rough Woodlouse
Arachnida	<i>Ostearius melanopygius</i>	A spider	Isodopa	<i>Porcellionides pruinosus</i>	a woodlouse
Dermaptera	<i>Labia minor</i>	Lesser Earwig	Diptera	<i>Coboldia fuscipes</i>	Scatopsidae
Hymenoptera	<i>Lasius niger</i>	Small Black Ant	Diptera	<i>Culicoides obsoletus</i>	Ceratopogonidae
Coleoptera	<i>Atholus bimaculatus</i>	Hister Beetle	Diptera	<i>Desmometopa sordida</i>	Milichiidae
Coleoptera	<i>Atholus duodecimstriatus</i>	Hister Beetle	Diptera	<i>Drapetis assimilis</i>	Hybotidae
Coleoptera	<i>Cilea silphoides</i>	Staphylinid Beetle	Diptera	<i>Ectaetia clavipes</i>	Scatopsidae
Coleoptera	<i>Hister bissexstriatus</i>	Hister Beetle	Diptera	<i>Fannia manicata</i>	Fanniidae
Coleoptera	<i>Hister unicolor</i>	Hister Beetle	Diptera	<i>Forcipomyia bipunctata</i>	Ceratopogonidae
Coleoptera	<i>Lathrobium sp.</i>	Staphylinid Beetle	Diptera	<i>Ischiolepta denticulata</i>	Sphaeroceridae
Coleoptera	<i>Loricera pilicornis</i>	Carabid beetle	Diptera	<i>Ischiolepta scabricula</i>	Sphaeroceridae
Coleoptera	<i>Margarinotus purpurascens</i>	Hister Beetle	Diptera	<i>Minilimosina sp.poss. baculum</i>	Sphaeroceridae
Coleoptera	<i>Omonadus floralis</i>	Beetle	Diptera	<i>Physiphora alceae</i>	Ulidiidae
Coleoptera	<i>Oxytelus laqueatus</i>	Staphylinid Beetle	Diptera	<i>Pseudocollinella septentrionalis</i>	Sphaeroceridae
Coleoptera	<i>Oxytelus sculptus</i>	Staphylinid Beetle	Diptera	<i>Psychoda albipennis</i>	Psychodidae
Coleoptera	<i>Paradromius linearis</i>	beetle	Diptera	<i>Pullimosina heteroneura</i>	Sphaeroceridae
Coleoptera	<i>Philonthus spinipes</i>	Staphylinid Beetle	Diptera	<i>Pullimosina vulgesta</i>	Sphaeroceridae
Coleoptera	<i>Philonthus varians</i>	Staphylinid Beetle	Diptera	<i>Sphaerocera monilis</i>	Sphaeroceridae
Coleoptera	<i>Ptiliidae beetle</i>	Feather-wing beetle	Diptera	<i>Stomoxys calcitrans</i>	Muscidae
Coleoptera	<i>Quedius cinctus</i>	Staphylinid Beetle	Diptera	<i>Swammerdamella brevicornis</i>	Scatopsidae
Coleoptera	<i>Stenus similis</i>	Staphylinid Beetle	Diptera	<i>Syrirta pipiens</i>	Syrphidae
Coleoptera	<i>Sunius propinquus</i>	Staphylinid Beetle	Diptera	<i>Trachypella leucoptera</i>	Sphaeroceridae
Coleoptera	<i>Quedius cruentus</i>	Staphylinid Beetle	Diptera	<i>Trachypella lineafrons</i>	Sphaeroceridae
Coleoptera	<i>Tachyporus transversalis?</i>	Staphylinid Beetle	Diptera	Undetermined sp.	Phoridae
Coleoptera	<i>Trechus quadristriatus</i>	Carabid beetle	Diptera	Undetermined sp.	Sciaridae
Myriapoda	<i>Cryptops hortensis</i>	a centipede	Mollusca	<i>Ambigolimax valentianus</i>	Iberian 3-band Slug
Diplopoda	<i>Cylindroiulus punctatus</i>	Snake Millipede	Mollusca	<i>Deroceras reticulatus</i>	Netted Field Slug
Diplopoda	<i>Tachypodoiulus niger</i>	White-legged Snake Millipede	Fungi	<i>Peziza vesiculosa</i>	Blistered Cup
<b>Recorders:</b> Mike Averill, John Bingham, Denise Bingham, Mick Blythe, Susan Limbrey, Mervyn Needham, Brett Westwood, Rosemary Winnall					

Table 01. List of species from Mount Pleasant dung heap, autumn 2015.