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Editor's report

Geoff Oxford

Another year, another issue of *Imprint* and, I'm sorry to say, the last I will be editing. I took over as an emergency measure in 1998 when our then editor, Beryl Cronin, was for personal reasons unable to complete the editing task. Like the wartime pre-fab, temporary measures have a way of becoming permanent and I am here still, six issues later. Putting *Imprint* together has always been an enjoyable exercise but the time to do so has become increasingly rare, with other commitments taking priority. However, I am pleased to report that *Imprint* will be passing to a much safer pair of hands next year when Mary Youngman takes over. Mary has held various positions on the YMG Committee in the past, including Secretary, and now, after a well-earned break, she's back. Thank you Mary, and the best of luck.

As the Committee list at the end of this *Imprint* shows, there are other new faces involved in the running of the YMG. Jon Trail took over as Chair early in 2003, filling the vacuum left by Cara Morgan. More recently, Michael Thompson stepped down as Mammal Recorder after many years of dedicated service in this role. We are delighted that James Mortimer has agreed to replace Michael – it is difficult to imagine a more appropriate person. James, as Ecological Information Officer for the North East Yorkshire Ecological Data Centre, collects records of almost everything biological as part of his job and has ready access to a whole plethora of software to facilitate map production.

As articles in this issue show, the YMG has undertaken fieldwork this year across a wide area of Yorkshire. Special thanks must go to Ann Hanson and Rob Masheder for organising much of this activity. Part of the fieldwork has been the continuing monitoring of our reintroduced dormouse population. It is now four and a half years since the pioneer animals were first released and a preliminary analysis of some of the biological data gathered so far has permitted comparisons to be made with other populations.

Finally, the location of our indoor meetings is changing yet again. Thanks to Amy Jane Beer for negotiating a move to York College where, I hope, we will find repose for many years to come. More details on page 54.

Compiled by Geoff Oxford

Pigmy shrews in Ireland

In a recent paper, Mascheretti *et al.* (2003) use phylogenetic analysis of mitochondrial DNA sequences to investigate the perplexing question of how pigmy shrews (*Sorex minutus*) colonised Ireland. This was a topic Jeremy Searle touched on during his talk to the YMG in November. The problem is that Ireland has a peculiar mix of terrestrial mammalian species. For example, it has the stoat (*Mustela erminea*) but not the weasel (*M. nivalis*), the mountain hare (*Lepus timidus*) but not the brown hare (*L. europaeus*) and, of relevance in the present context, the pigmy shrew but not the common shrew (*Sorex araneus*) or the water shrew (*Neomys fodiens*). These odd colonisation patterns have, in the past, been explained by ephemeral land bridges between the British mainland and Ireland at the end of the last glaciation, and what are essentially ‘just-so’ stories (Yalden, 1999). The land bridge hypothesis was invented to explain the Irish mammalian fauna and as far as I am aware there is no hard evidence for such a structure. The ‘just-so’ stories are necessary to account for the sieving effect the land bridge had on the mammalian fauna of Britain at that period. Why should the stoat have crossed the bridge, while the weasel didn’t? If one thinks hard and long enough, something is sure to come to mind.

The present study used molecular markers to ask whether the pigmy shrew populations in Ireland are more closely related to the British pigmy shrew population than to populations elsewhere in the species range. If the land-bridge hypothesis is true, one would firmly expect this to be the case. The results from the analysis were unequivocal, Irish pigmy shrews are not closely allied to those in Britain. Their nearest relatives, amongst the animals sampled, came from Andorra on the French/Spanish border. So what does this imply? First, it provides no support for the land bridge. Secondly, it strongly implies that pigmy shrews were brought to Ireland by human transportation, and probably from the Iberian peninsula. There is much archaeological evidence for long-standing strong trade links between these two areas and, indeed, there are similarities in the fauna and flora of the regions that are difficult to explain by any ‘natural’ hypothesis.

I'm sure YMG readers are broad-minded enough to welcome a parallel, but non-mammalian, example to support this contention. The large house spider, *Tegenaria atrica*, is widespread throughout continental Europe including southern Ireland, but not in Britain. If this species had reached Ireland by natural means, it would have to have been from Britain across, yes, that land bridge. So why is this species not present (except for sporadic introductions) in Britain now? The explanation is almost certainly that *T. atrica* did not colonise Britain after the last ice age but was brought to Ireland at a later date by early arachnologists on a visit from the continent.

Reference

- Mascheretti, S., Rogatcheva, M. B., Gündüz, I., Fredga, K. and Searle, J.B. (2003) How did pygmy shrews colonize Ireland? Clues from a phylogenetic analysis of mitochondrial cytochrome *b* sequences. *Proc. Roy. Soc. Lond B* 270: 1593-1599.
- Yalden, D. W. (1999) *The History of British Mammals*. London, Poyser.
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Homer III – the Odyssey continues.

There have been articles in the last two editions of *Imprint* reporting the extraordinary homing ability of field mice (*Apodemus sylvaticus*) (Wright, 2001, 2002). The saga continued this year. **Homer** (must be the III by now) was displaced to a distance of 880m from Barry Wright's house in Tockwith near York but was in residence again one and a half days later. This beats the previous long-distance return record of **Bart** (860m) in 2002 (Wright 2002). What is just as remarkable is the speed at which the displaced mice returned - **Homer III** travelled back at about 24 metres per hour. This rate is similar to that of a female, **Marge**, who was released at a distance of 300m at 10.30hrs on 25 October and was recaptured back in the house at 23.30hrs the same day, an average return speed of 23 metres per hour. It would be fascinating to radio-track these homing mice to determine what, if any, environmental features they use to guide them back, and whether their journey is as the crow flies or circuitous.

References

- Wright, B. (2001) Homer's Odyssey. *Imprint*, **28**: 25-28.
- Wright, B. (2002) Homer's Odyssey: Part 2. *Imprint*, **29**: 30-32.

An evening Ousing with mammals

Robert Masheder

June saw the Mammal Group assemble for an evening stroll along the banks of the river at Newton-on-Ouse. Starting at the north end of the village we cut through to the river bank, where the public footpath crosses a number of back gardens which form a series of long thin strips down to the river. In the first garden we found the macabre body of a mole which had been turned inside out. The only species we could imagine would do such a thing was a badger. This got us off to a flying start. There were signs of excavation nearby but no sett. In places a forest of giant hogweed had grown up near the river. This is an alien species, the sap of which can produce severe skin blistering. The plants were a good 10 feet tall in places giving a surreal atmosphere, but fortunately someone had cleared the path. We searched for

footprints in the mud surrounding a small spring and pool, but none were apparent.



Brown hares

The gardens gave way to open pasture and the group paused to examine the wild flowers and insects along the wayside. Tansy was a particular target for the Oxfords in their never ending quest to track down the last haunts of the threatened tansy beetle. Others searched the river banks, wherever access allowed, for signs of otters or water voles but all they found were mink foot prints. A brown hare made a

distant appearance running across a field on the opposite bank, distinguished from the rabbits by sharp eyed members with binoculars.

The majestic trees of the Beningbrough parkland, managed by the National Trust, lined the next section of the river bank. Grey squirrels chattered from the canopy as we passed beneath and leapt athletically from branch to branch. Chattering was briefly heard coming from within one of the trees, a possible bat roost? It was about the right time for them to be getting active, but as we stood around listening intently they refused to make another sound.

Dusk was upon us as we approached the confluence of the Ouse and the Nidd. This had to be a good spot for otters to mark their territories. Sure enough just where you would expect it, on a fallen tree dipping into the water, was a single spraint and nearby some otter prints in the sand.

The light was failing so we turned back to Newton and a welcome appointment at the pub. One lucky hedgehog was the last mammal record of the day. It narrowly escaped being knocked down on the road back to the A19. We stopped to make sure it found its way to safety before heading for home.

Thanks to everyone who turned out. We shall have to do this more often.

Of mice and policemen – a survey at North Yorkshire Police HQ, Newby Wiske

Ann Hanson

Introduction

Earlier this year the Yorkshire Mammal Group was approached by North Yorkshire Police and, having established we were “Not guilty, guv’nor...”, asked to carry out a small mammal survey at their HQ at Newby Wiske, near Northallerton.

North Yorkshire Police HQ is based in an old hall with extensive grounds. Habitats include formal gardens, numerous old trees and a small area of established woodland with a large fishing pond to one side. The police are currently starting to try and manage some of the grounds for wildlife and wanted to know which species were there already and how best to encourage them. Although most of the lawns are currently mown very regularly and not suitable for small mammals, the woodland and pond area is quite wild and it was decided that this was the most suitable patch to survey. The numerous large, old trees on the site probably provide excellent sites for bats to roost and feed.

The woodland itself is a mixture of deciduous and evergreen trees, with some very old oak and yew trees. More recently the wood has been replanted in places with beech, which were not only planted in rows but also far too close together, giving an impoverished ground flora and not much in the way of an

understory. The main ground cover within the wood consists of bramble patches in the more open areas and along the edges of paths. There is also a small area of long grass, nettles and brambles adjacent to the pond. The pond is surrounded by large willow and yew trees and has little in the way of bank-side plants, although it does have some emergent vegetation in the water. It also has a good supply of fish, swan mussels and ducks!

Methods

Fifty Longworth traps were placed in the woodland and pond area, baited with wheat, peanuts, sunflower seeds and blowfly pupae, and with a ball of hay for bedding.

Forty traps were placed in groups of five in bramble patches throughout the wood. Five traps were placed in a grassy fence-line at the entrance to the wood and five in the area of long grass and brambles adjacent to the pond.

Traps were set on the evening of Friday 19 September and checked on Saturday 20 September from 9.30am onwards. They were reset on the Saturday evening and checked again on Sunday 21 September from 9.30am onwards.

Results

Weather: Heavy rain and cloud overnight, with cool, dull, dry(ish) mornings.

20/09/03

Site	Species	Sex M/F*	Age A/SA/J*	Weight (g)
Woodland bramble patches	Bank vole	M	J	13.0
	Bank vole	F	A	14.0
	Wood mouse	M	J	17.0
	Wood mouse	M	J	16.5
	Wood mouse	M	A	28.0
	Wood mouse	M	J	17.0
	Wood mouse	F	A	23.0
	Wood mouse	F	J	19.0
	Bank vole	F	A	20.5
	Wood mouse**	M	?	?
	Wood mouse	F	A	25.0
	Wood mouse	M	SA	22.0
	Wood mouse	F	J	15.5
	Wood mouse	F	J	17.5
	Wood mouse	F	J	16.0

	Wood mouse	F	J	14.0
	Wood mouse	M	A	21.0
	Wood mouse	M	SA	20.5
	Bank vole	F	J	16.0
	Wood mouse	F	A	21.0
	Wood mouse	M	A	26.0
	Wood mouse	M	A	25.0
	Wood mouse	M	J	18.0
	Bank vole	F	SA	16.0
	Bank vole	F	A	16.0
	Wood mouse**	?	?	?

For all tables:

* M = male; F = female; A= adult; SA = subadult; J = juvenile.

** Escaped during handling.

21/09/03

Site	Species	Sex M/F*	Age A/SA/J*	Weight (g)
Grassy fence-line	Wood mouse	M	J	16.0
	Common shrew	?	A	13.0
	Wood mouse**	M	A	?
Woodland bramble patches	Wood mouse	M	A	27.0
	Common shrew	?	J	8.0
	Wood mouse	F	SA	16.0
	Wood mouse	M	J	14.0
	Wood mouse	F	A	21.0
	Wood mouse	M	J	15.0
	Wood mouse	M	J	15.0
	Wood mouse	F	J	11.0
	Wood mouse	F	A	17.0
	Wood mouse	F	A	18.0
	Wood mouse	F	A	19.0
	Wood mouse	M	J	15.0
	Wood mouse**	?	J	?
	Wood mouse	M	SA	19.0
	Wood mouse	F	J	13.0
	Wood mouse	M	J	15.0
	Wood mouse	M	A	28.0
	Wood mouse	F	SA	17.0
	Wood mouse	M	A	19.0

	Wood mouse	F	SA	16.0
	Wood mouse	M	SA	15.0
	Wood mouse	F	SA	15.0
	Wood mouse	M	J	10.0
	Wood mouse	M	A	21.0
	Wood mouse**	F	A	?
	Wood mouse	M	SA	14.0
	Wood mouse	F	J	12.0
	Wood mouse	M	J	12.0
	Bank vole	F	J	10.0
	Bank vole	F	J	10.0
Long grass/brambles by pond				
	Wood mouse	M	SA	15.0
	Wood mouse	M	A	21.0
	Wood mouse	M	A	20.0
	Wood mouse	M	SA	14.0

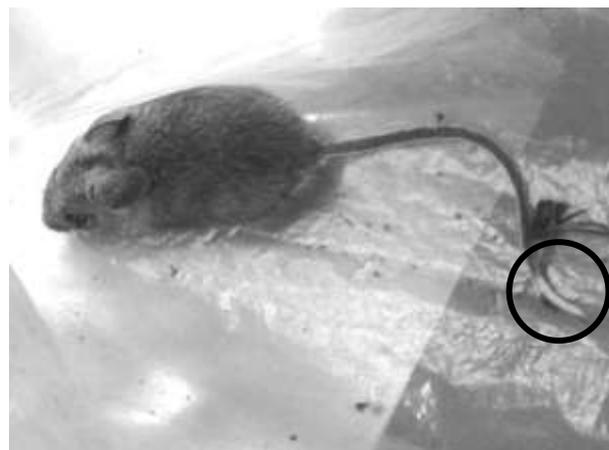
On 20 September no animals were caught in the long grass/brambles adjacent to the pond as all five traps had been rolled over, possibly by a curious badger!

One wood mouse trapped on the 21 September had a white tip to its tail. This seemed to be a colour variation, rather than being due to damage or injury.

Discussion and conclusions

Three different small mammal species were captured during this trap, including 53 wood mice (*Apodemus sylvaticus*), 8 bank voles (*Clethrionomys glareolus*) and 2 common shrews (*Sorex araneus*).

The large numbers of wood mice present could have been due to an especially good breeding season, thus excluding other species from the traps by sheer weight of numbers. However, it could also be an indication that the sparse ground



White tailed wood mouse

Photo: Ann Hanson

cover in the wood is having an adverse effect on the numbers of bank voles and common shrews. Wood mice are almost completely nocturnal, whereas

bank voles and common shrews are active around the clock and may require more cover for safe diurnal activity.

The woodland could be made more suitable for a larger range of small mammal species by gradually thinning out some of the densely planted beech and allowing more ground cover to develop. Introducing an understory with species such as hazel and holly would also be beneficial, as would the planting of new oak standards to replace the old oaks as they become senile. Keeping the mature oak and yew trees is essential as they not only provide food and shelter for small mammals, but for a whole range of woodland birds and invertebrates. The older such trees become, the more valuable they are for wildlife.

Many thanks are due to everyone from the Mammal Group and North Yorkshire Police who helped with this trap in less than ideal weather! Special thanks go to Ness Burrows (and family) for both organizing the survey and for becoming such expert mouse handlers.

Special note: no mice were held in custody for longer than was necessary to satisfy our enquiries....

The small mammals of Saltmarshe Delph

Ann Hanson

Introduction

Saltmarshe Delph is a Yorkshire Wildlife Trust Reserve situated two and a half miles south-east of Howden in East Yorkshire. The reserve is a wetland of about five and a half hectares and was created during the building of the Hull to Doncaster railway line, which splits the reserve in two. The larger area is to the south-east of the railway and consists of a large water body surrounded by reedbeds and smaller pools. The smaller part of the reserve, north-west of the railway, is an area of woodland known as Willow Garth. This area has some dry woodland alongside the railway embankment and some much wetter areas with open water and reedbeds alongside the road to Saltmarshe. Excavation to clear out the water bodies within the woodland, known as the Pool and the Lagoon, were carried out about 18 months ago and the dry summer of 2003 meant that by October only the Pool contained

water. The Lagoon had become a large area of wellie-stealing mud, to be crossed at your peril. Willow Garth, as its name implies, contains within the woodland several beautiful old willow trees which have broken off and re-rooted many times over the years, giving excellent habitat for birds, small mammals and invertebrates.



Trapping at Saltmarshe Delph

Photo: Robert Masheder

Methods

Thirty five Longworth traps were set in groups of five at various locations in Willow Garth and fifteen were set in the reedbeds at the Delph. Traps were baited with wheat, sunflower seeds, peanuts and blowfly pupae, with a ball of hay for bedding.

Traps were set to catch on the evening of Friday 17 October and checked on Saturday 18 October from 9.30am onwards. Traps were reset on the Saturday evening and checked from 9.30am onward on Sunday 19 October.

Results

Weather: Cool, dry and sunny throughout; dry overnight.

18/10/03

Site	Species	Sex M/F*	Age A/SA/J*	Weight (g)
Willow Garth The Pool – waters edge	Wood mouse	F	J	16.0
	Wood mouse	M	J	17.0
	Wood mouse	M	J	16.0
	Wood mouse	F	J	15.5
	Wood mouse	M	J	15.5
Willow Garth Log piles	Common shrew	?	A	7.0
	Bank vole	M	A	19.0

	Wood mouse	F	J	15.0
	Bank vole	M	A	15.0
	Wood mouse	M	J	17.0
Willow Garth Dry Lagoon edge	Water shrew	?	A	12.0
	Wood mouse	F	J	14.0
	Wood mouse	F	SA	21.0
Willow Garth Reedbed edge – Lagoon end	Common shrew	?	A	6.0
	Bank vole	F	A	22.0
Willow Garth Large old willow tree	Wood mouse	M	A	22.0
	Wood mouse	M	SA	19.0
Willow Garth Railway embankment	Wood mouse	F	J	16.0
	Wood mouse	M	J	19.0
	Wood mouse**	M	?	?
	Wood mouse	M	SA	20.0
Willow Garth Bramble patch	Wood mouse	M	SA	19.0
	Wood mouse	M	SA	20.0
	Wood mouse	F	SA	18.0
	Wood mouse	M	J	17.0
The Delph Reedbed edge (Pete's pool)	Wood mouse	M	A	24.0
	Wood mouse	M	J	14.0
	Bank vole	F	A	13.0
	Wood mouse	F	J	16.0
	Common shrew***	?	A	6.0
	Common shrew***	?	A	6.0
The Delph Reedbed interior (near hide)	Wood mouse	M	SA	18.0
	Water shrew	?	A	11.0
	Water shrew	?	J	6.0

For all tables:

* M = male; F = female; A= adult; SA = subadult; J = juvenile.

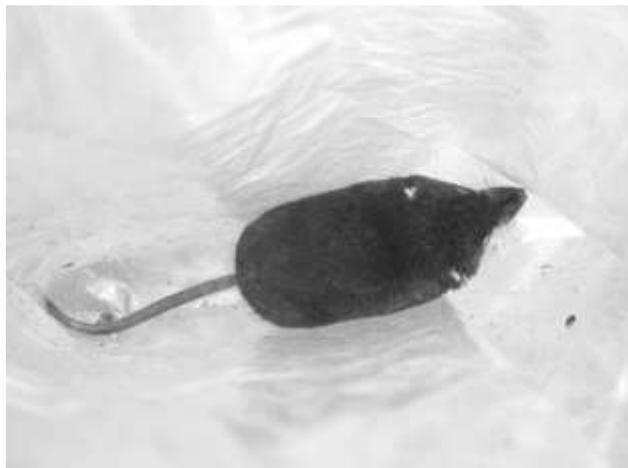
** Escaped during handling. *** Two animals in one trap.

19/10/03

Site	Species	Sex M/F*	Age A/SA/J*	Weight (g)
Willow Garth The Pool – waters edge	Wood mouse**	?	?	?
	Wood mouse	M	J	15.0
	Wood mouse	M	J	16.0
	Wood mouse**	?	?	?
	Wood mouse	F	J	15.0
Willow Garth Log piles	Bank vole	F	A	19.0
	Common shrew	?	A	7.0
	Bank vole	M	SA	15.0
	Bank vole	F	J	13.0
Willow Garth Dry Lagoon edge	Wood mouse	F	J	13.0
	Wood mouse	F	J	14.0
	Bank vole	F	J	15.0
	Wood mouse	F	J	19.0
Willow Garth Reedbed edge – Lagoon end	Common shrew	?	A	7.0
	Bank vole	M	A	20.0
	Water shrew	?	A	11.0
	Bank vole	F	J	9.0
	Wood mouse	M	J	16.0
Willow Garth Large old willow tree	Wood mouse	M	J	18.0
	Wood mouse	M	SA	20.0
	Bank vole	F	J	14.0
	Wood mouse	M	SA	19.0
Willow Garth Railway embankment	Wood mouse**	?	?	?
	Wood mouse	M	SA	18.0
	Wood mouse	F	J	15.0
	Wood mouse	F	SA	19.0
Willow Garth Bramble patch	Bank vole	M	A	21.0
	Wood mouse**	?	?	?
	Bank vole	F	A	19.0
	Wood mouse	M	J	15.0

The Delph Reedbed edge (Pete's pool)	Wood mouse**	?	?	?
	Common shrew	?	A	7.0
	Wood mouse	M	J	17.0
	Wood mouse	M	A	22.0
	Common shrew	F	A	12.0
The Delph Reedbed interior (near hide)	Wood mouse	M	J	18.0
	Wood mouse	M	J	18.0
	Bank vole	F	J	13.0
	Water shrew	?	A	10.0
	Bank vole	F	A	17.0

During this trap it was noticed that the wood mice in Willow Garth had more white fur on their legs than was normally present on wood mice elsewhere (ie: longer socks!). Also, several specimens had part of their tails missing, possibly indicating a high level of fighting within the population.



Water shrew with white ear tufts

Photo: Robert Mashedor

The adult water shrew caught in the reedbed at the Delph on 18 October not only had prominent white ear tufts, as sometimes seen in common shrews, but also had very obvious white eyebrows!

Other mammal records noted on the reserve during this trapping session were roe deer slots and fox footprints in the mud at the Lagoon and a large pile of mink scats in the hide at the Delph. This latter record could be bad news for the water voles previously recorded on the reserve. A grey squirrel was also recorded in Willow Garth.

Discussion and conclusions

Four species of small mammal were recorded during this survey, including wood mouse (*Apodemus sylvaticus*), bank vole (*Clethrionomys glareolus*), common shrew (*Sorex araneus*) and water shrew (*Neomys fodiens*).

Wood mice were the most numerous, both in Willow Garth and in the reedbed at the Delph. Bank voles and common shrews were present in smaller numbers, again at both locations. Five different individual water shrews were captured; two adults in vegetation adjacent to the dried-up Lagoon in Willow Garth and three (two adults and one juvenile) in the reedbed at the Delph.

The capture of five water shrews during such a short trapping session indicates that there is a thriving population of this less common small mammal at Saltmarshe Delph. The dry weather over the previous summer meant that the reedbed at the Delph was a lot drier than it would normally have been in October and this probably contributed to the presence of species such as wood mice and bank voles in areas from which higher water levels would normally have excluded them.

Many thanks are due to all Yorkshire Mammal Group and Yorkshire Wildlife Trust members and volunteers who helped with this trap. Special thanks go to Barry Greenacre and the reserve committee for sharing their knowledge of the site and making this a most enjoyable trapping session.

National Mammal Week event at Mount Grace Priory, North Yorkshire

Ann Hanson

Introduction

In 2003 National Mammal Week ran from 5 to 13 July and groups all over the country held events to raise awareness and inform the public about British mammals. This year, the Yorkshire Mammal Group ran a weekend event at Mount Grace Priory, near Osmotherley, on 5 and 6 July. Activities during the weekend included small mammal trapping in the grounds, owl pellet analysis, slide shows and mammal displays. We were also hoping to



Mount Grace Priory

locate the elusive stoats which live at the priory and were made famous in a BBC documentary several years ago.

Mount Grace Priory is owned by the National Trust and run by English Heritage. It is a 14th century ruin, once inhabited by hermit-like Carthusian monks. The property consists of a manor house and gardens, the priory ruins and large areas of grass, scrub and disused fishponds. It is a haven for wildlife and every encouragement is given to mammals and birds by the sympathetic management of the site.

Small Mammal Trapping

Fifty Longworth traps were placed at several different locations within the priory grounds on the afternoon of Thursday 3 July. Traps were baited with wheat, peanuts, sunflower seeds and blowfly pupae, with a ball of hay for bedding. They were left closed with a scattering of food around them to allow small mammals in the vicinity to get used to them and were opened and set to catch on the evening of Friday 4 July. Traps were checked on Saturday 5 July from 10.00am onwards and again in the afternoon from 4.30pm onwards and any small mammals captured were shown to members of the public. The same procedure was followed on Sunday 6 July. An extremely good turnout of interested adults and children accompanied us for all trap rounds, learning about our native small mammals along the way.

Traps were set in groups of five, ten or fifteen in as many different habitats as possible, including blackthorn scrub, long grass, fishpond edge, tussock sedges by the stream, azaleas in the gardens and bracken in the woodland edge above the priory ruins.

Results

Weather: Overcast and warm throughout; some rain overnight.

05/07/03 – morning

Site	Species	Sex M/F*	Age A/SA/J*	Weight (g)
Woodland edge/bracken near spring	Wood mouse	M	A	34.0
	Wood mouse	F	J	12.0
	Wood mouse	F	A	29.0
	Common shrew	?	A	9.0
Woodland edge/bracken near rabbit warren	Wood mouse	M	SA	18.0
	Wood mouse	M	J	8.0

	Wood mouse**	M	A	?
	Wood mouse	M	SA	17.0
Blackthorn scrub near ruins	Wood mouse	F	SA	14.0
	Wood mouse	M	SA	19.0
	Wood mouse	M	A	31.0
	Wood mouse	F	A	29.0
Long grass – slope bottom	Common shrew	?	A	12.5
	Common shrew	?	A	9.0
	Wood mouse	F	SA	19.0
	Common shrew	?	A	15.0
Fishpond edge	Bank vole	M	A	21.0
	Common shrew	?	A	12.0
	Common shrew	?	A	14.0
Tussock sedges by stream	Bank vole	F	A	16.0
	Bank vole	M	A	16.0
	Common shrew**	?	A	?
	Wood mouse	M	A	25.0
	Bank vole	M	A	20.5
	Wood mouse	M	A	25.0
	Bank vole	M	A	17.0
	Common shrew	?	A	10.0
Azaleas in garden	Wood mouse	F	SA	19.0
	Bank vole	F	A	25.0
	Wood mouse	M	A	21.0

For all tables:

* M = male; F = female; A= adult; SA = subadult; J = juvenile.

** Escaped during handling.

05/07/03 – afternoon

Site	Species	Sex M/F*	Age A/SA/J*	Weight (g)
Woodland edge/bracken near spring	Bank vole	M	A	24.0
	Common shrew	?	A	10.0
Woodland edge/bracken near rabbit warren	Common shrew	?	A	10.0
Blackthorn scrub near ruins	Wood mouse	M	A	31.0

	Common shrew	?	A	9.5
Long grass – slope bottom	Common shrew	?	A	14.0
	Common shrew	?	A	12.0
Fishpond edge	Common shrew	?	A	13.0
Tussock sedges by stream	Bank vole	F	A	25.0
	Bank vole	M	A	22.0
	Bank vole	F	A	23.5
Azaleas in garden	Bank vole	M	J	10.5

06/07/03 - morning

Site	Species	Sex M/F*	Age A/SA/J*	Weight (g)
Woodland edge/bracken near spring	Common shrew**	?	?	?
	Wood mouse	F	A	29.0
	Wood mouse	M	A	27.5
	Wood mouse**	?	?	?
Woodland edge/bracken near rabbit warren	Wood mouse	M	SA	19.0
	Wood mouse	M	A	31.0
	Wood mouse	M	A	29.0
	Wood mouse	F	J	9.5
Blackthorn scrub near ruins	Wood mouse	M	SA	13.0
	Wood mouse	M	SA	16.0
	Wood mouse	M	SA	13.0
	Common shrew	?	A	6.0
	Wood mouse	M	A	26.0
Long grass - slope bottom	Common shrew	?	A	13.0
	Wood mouse	M	A	17.0
	Common shrew	?	A	10.5
	Common shrew	?	A	13.0
	Common shrew	?	A	8.0
	Wood mouse	M	A	25.0
	Wood mouse	M	A	24.0
	Wood mouse	F	SA	16.0
	Bank vole	M	A	22.0
Fishpond edge	Bank vole	M	A	21.0
	Bank vole	M	A	21.0
Tussock sedges by stream	Wood mouse	F	A	19.0

	Common shrew	?	A	8.0
	Wood mouse	M	J	14.0
	Common shrew	?	A	8.0
	Wood mouse	M	A	24.0
	Wood mouse	F	A	21.0
	Bank vole	M	A	19.0
	Wood mouse	M	SA	17.0
Azaleas in garden	Wood mouse	M	A	19.0
	Wood mouse	F	A	17.0
	Wood mouse	M	A	21.0

06/07/03 – afternoon

Site	Species	Sex M/F*	Age A/SA/J*	Weight (g)
Woodland edge/bracken near rabbit warren	Bank vole	F	A	14.0
Long grass – slope bottom	Bank vole	M	A	19.0
	Bank vole	M	A	18.0
	Common shrew	?	A	14.0
Fishpond edge	Common shrew	?	A	10.0
Tussock sedges by stream	Bank vole	F	A	23.0
	Bank vole	M	A	22.0
	Common shrew	?	A	8.0

Three species of small mammal were caught at Mount Grace Priory, including wood mouse (*Apodemus sylvaticus*), bank vole (*Clethrionomys glareolus*) and common shrew (*Sorex araneus*). Wood mice were most numerous in the morning catches, but almost absent in the afternoon trapping sessions, reflecting their mainly nocturnal habits. Bank voles and common shrews were trapped in



Bank vole

Photo: Ann Hanson

approximately the same numbers at both morning and afternoon sessions, indicating that they are active throughout the day and night. It was also noticeable that wood mice were found in all the habitats surveyed, except the fishpond edge. They were generally more numerous in woodland edge and scrub or shrub habitats but less abundant in grassy and wet areas. Bank voles and common shrews however, seemed to be more numerous in the grassy and wet habitats, possibly indicating that a degree of habitat partitioning was taking place.

Owl pellet analysis

A large bag of long eared owl (*Asio otus*) pellets from Foxglove Covert, a nature reserve near Catterick, were kindly supplied by Derek Capes. Twenty-five pellets were analysed over the weekend and mammal skulls identified using a key from the Mammal Society book on *How to Find and Identify Mammals*. A collection of previously prepared small mammal skulls were also on hand for reference purposes.

Results

Thirty-two small mammal skulls were extracted from the pellets. The skulls were identified as 29 field voles (*Microtus agrestis*) and three wood mice (*Apodemus sylvaticus*). Most pellets only contained one skull, with five pellets containing two skulls and a single pellet containing the remains of three field voles – a hefty meal indeed! These results demonstrate the importance of field voles to avian predators.

Conclusions

The weekend event at Mount Grace Priory was a huge success, with an excellent turnout from the general public and the YMG. A few lucky Mammal Group helpers had the added bonus of being able to camp in the priory grounds on the Saturday night, keeping an eager eye out for the stoats and deer which are occasionally seen by the English Heritage staff who work there. Sadly the stoats decided not to put in an appearance, but it was still a fairly magical place to spend the night.

Many thanks are due to all helpers from the Mammal Group who worked so hard to make the weekend a success. Also, thanks to all English Heritage staff who were so helpful (and long-suffering about our ever-changing timetable) both before and during the weekend. Special thanks go to Derek Capes for both supplying the owl pellets and for his extremely capable

assistance with the small mammal trapping. Last, but not least, thanks to Becci Wright at Mount Grace for suggesting this event in the first place.

YMG annual mammal recording for 2003

Michael Thompson

Since its foundation, the Yorkshire Mammal Group has recorded the mammals of Yorkshire, particularly around York and in North Yorkshire. Various recording schemes had been tried, such as on cards or pinned maps, but none of these were very satisfactory and were difficult to maintain and keep up-to-date. However, with the onset of computerised records, recording became better established. In the early 1990s the Mammal Society launched its *Look out for Mammals* programme, which included field identification meetings and a software computer program. In 1997, at one of the Group's indoor meetings held at the University of York, Gillie Sargent of the Mammal Society demonstrated the computer program to the membership. I decided that I would acquire the software for my personal mammal records, but it soon became obvious that I should extend it to include the Yorkshire Mammal Group's records, starting with those from 1995. Contact was made with the Mammal Society's headquarters in London and it was decided that the Mammal Group should take on the recording of mammals within the boundaries of North Yorkshire. Using DMAP, the boundaries of the county were indicated on the monitor, together with the tetrad records.

Mammal computer recording started in 1997 and, after some initial teething problems, all seemed to be going well. From the start there seemed to be an incompatibility between the *Look out for Mammals* programme and the *Recorder 2000* programme, in that the direct exporting of records from the former to the latter was impossible. However, the hard disc on my personal computer crashed in July 2003 due to a mechanical fault. Geoff Oxford contacted the electronics workshop in the Department of Biology, University of York to see if any of the data could be rescued. Unfortunately this proved impossible.

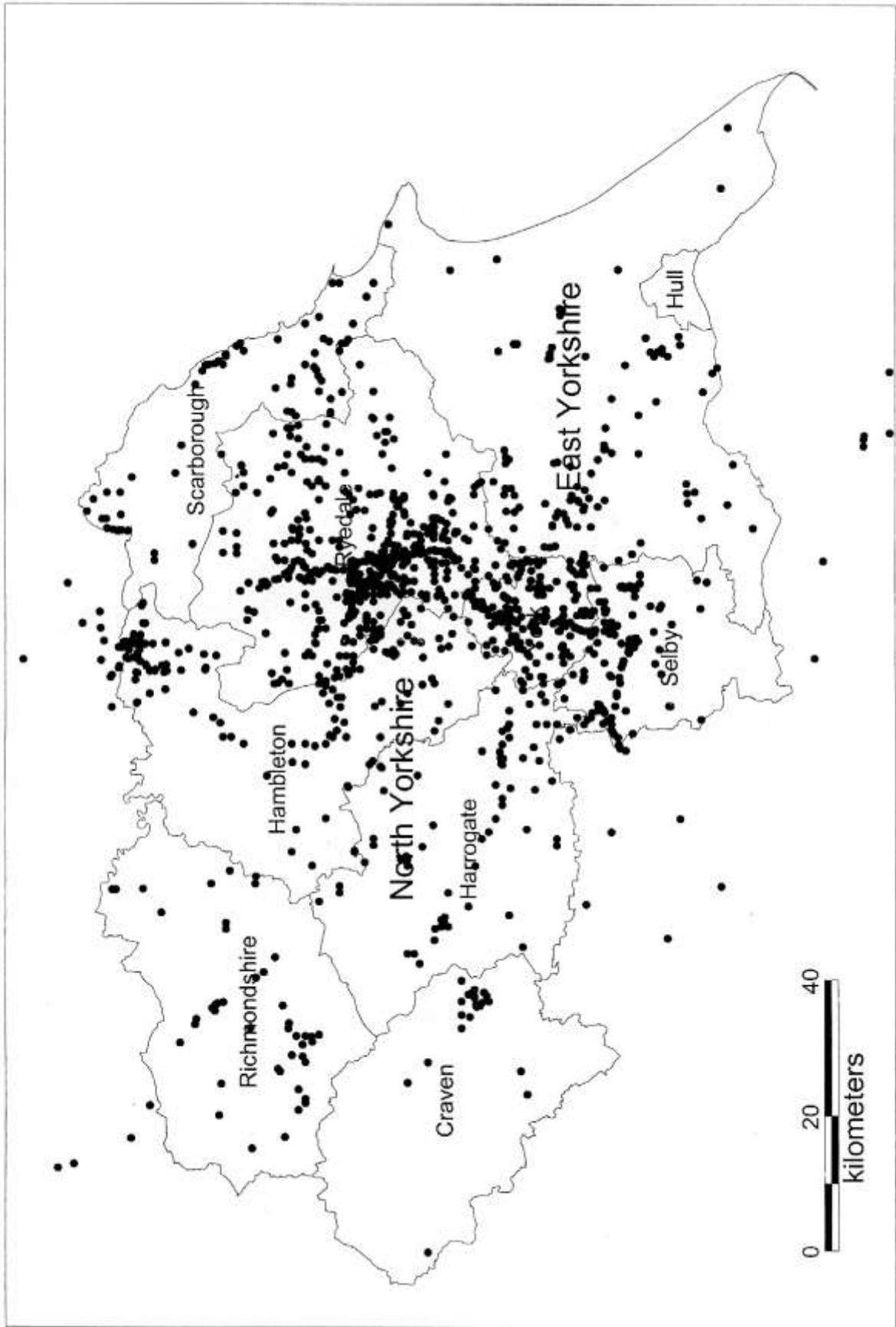
With the crash went all the records, but not before the majority had been transferred to the main computer at the North and East Yorkshire Ecological Data Centre (NEYEDC) at St. William's College, York. James Mortimer, the Ecological Information Officer at the Centre and member of the YMG, came

out to Slingsby and transferred the Mammal Group's records to a lap top using Access, before transferring them to the Data Centre's computer, thereby overcoming the incompatibility previously described. This happened on 17 February this year, and in all 1847 records were transferred. Thus, as mentioned in the last edition of *Imprint*, the problem was solved.

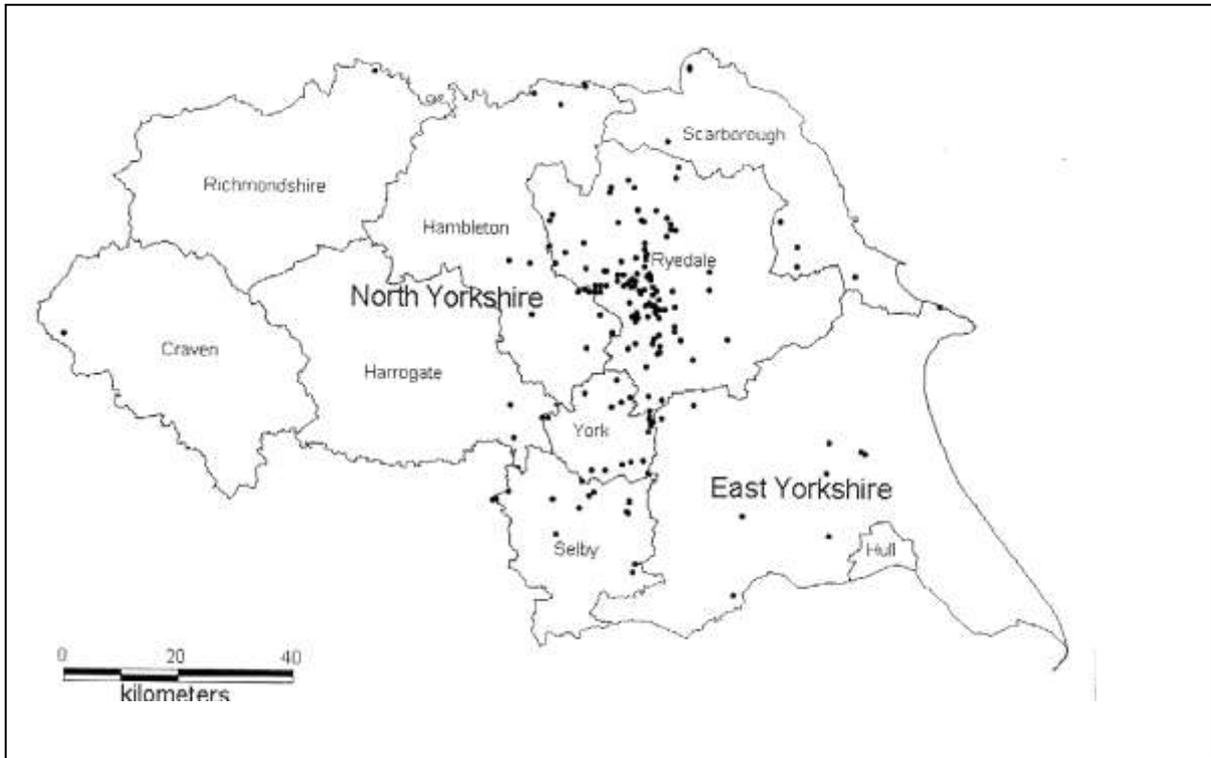
In last year's report there were 1552 records entered, so by the time of the transfer to the Data Centre, a further 295 had been added. A few more records were added between 17 February and the crash, but these were then lost completely. Figure 1 (below) shows the distribution of the YMG records in North Yorkshire, with a spattering of records from East Yorkshire. It has been produced by the Data Centre and, because it has a GIS backing, it shows the north Yorkshire district council boundaries. Most records received from the membership are back-dated by one or two years, so there have been very few 2003 entries. The map shows that most records have come from the middle and the north east of the county, with many less from the Yorkshire Dales. In this report, unlike previous reports, analysis of the mammalian orders has not been possible. One interesting record, sent in by Robert Masheder, was of a common seal *Phoca vitulina* seen at Linton Weir on the River Ouse in the winter. It was photographed and published in a local newspaper. It makes the 34th species of mammal to be recorded in the area covered by the YMG. As in previous years, records are skewed towards the larger mammals, and such an obvious mammal as the mole. Again, the majority of bat records are held by John Drewett on his computer. The maps below show the distributions of the brown hare and roe deer to date.

It has been suggested that by 2005, when we have ten years of records entered into the system, the YMG should possibly publish a booklet on the distribution of mammals in North Yorkshire. To do this would require an extra effort by the membership, for, at the moment, only few members submit records. Having completed six years of computer recording for the YMG, and having established it as the best method of recording and retaining records, I think it is time for me to hand it on to someone else and make a fresh start. James Mortimer has agreed to take over from me and arrangements are being made to transfer the records to him. I thank those members who have submitted records to me over the years.

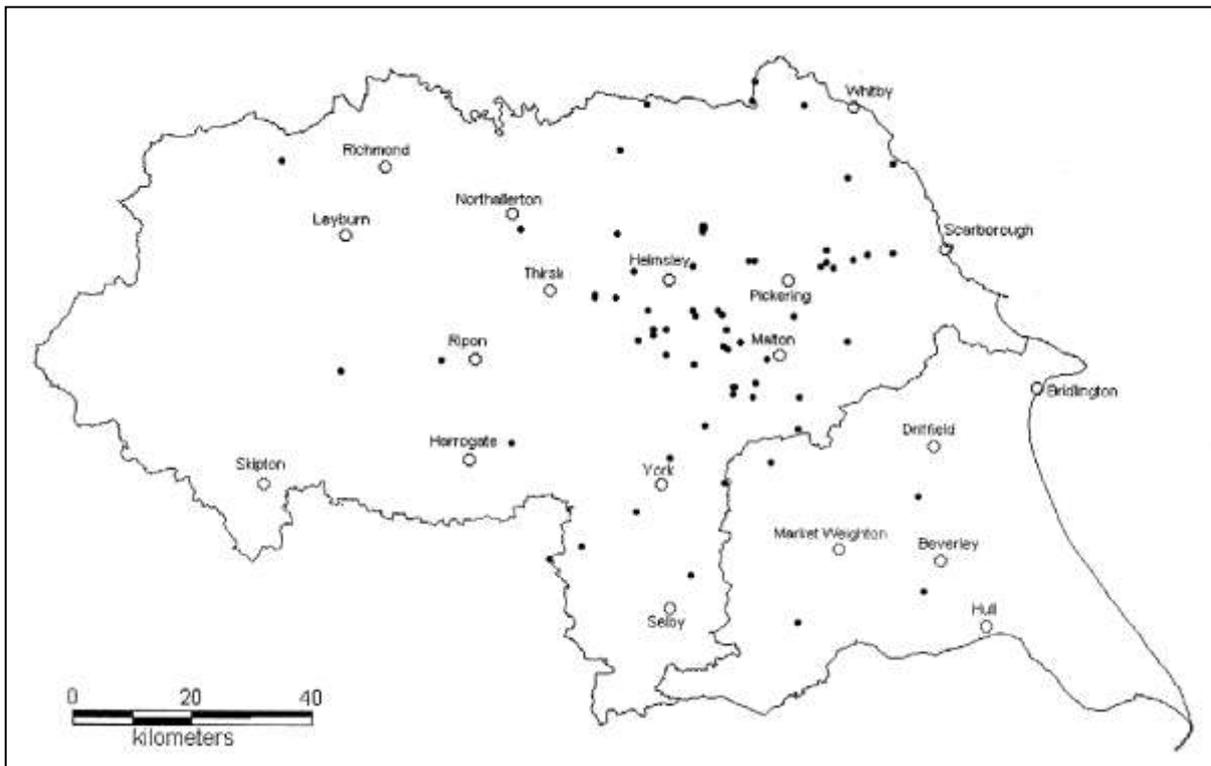
Distribution of Yorkshire Mammal Group records



Brown hare (*Lepus europaeus*) records



Roe deer (*Capreolus capreolus*) records



Yorkshire dormouse update, 2003

Geoff Oxford

Since 1999, members of the Yorkshire Mammal Group have been monitoring a population of the common dormouse (*Muscardinus avellanarius*) reintroduced into a wooded location in North Yorkshire (Oxford, 1999a and b, 2000, 2002). The background to the project, the 'soft release' techniques used and numbers and sources of animals introduced are described in Oxford (1999a). Monthly monitoring takes place between May and October by examining 152 (in 2003 reduced to 142) special dormouse nesting boxes wired to coppice hazel trunks in an approximate grid across the woodland. In 2003, the survey was started in April, a month earlier than usual. On each occasion the presence or absence of dormouse nests was recorded in each of the numbered boxes (Plate 1) and if dormice themselves were present, their sex, stage of development, activity (torpid/active) and weight were noted.



Dormouse box *in situ*

Photo: Geoff Oxford

The number of dormouse nests and animals found in 2003 are shown in Table 1, with equivalent data for 2000 and 2002 for comparison. Data for 2001 were collected only in October because of the Foot and Mouth Disease outbreak.

The drop in nest number between April and May, 2003, was a result of a few damp and mouldy overwintering nests being removed from the boxes. The first evidence for breeding was in August when three females plus their litters were recorded, and the last litter was found in September.

The number of litters found over the full survey years are now sufficient ($n = 13$) to allow a preliminary analysis of the distribution of new nests by month, and of mean litter sizes. The production of litters during the year in the North

Table 1. Nest and dormouse records for the years with full surveys

Month	2000		2002		2003	
	No. nests	No. mice	No. nests	No. mice	No. nests	No. mice
April	-	-	-	-	12	1
May	23	5	6	1 (+ 1 dead)	9	4
June	20	4	6	2	9	4
July	17	4	6	9	8	3
August	24	18 inc. 3P	7	5	10	17 inc. 5P
September	27	19 inc. 5P	10	14 inc. 5P	11	10
October	33	20	16	10	14	6

P = 'pinkies' – young who have yet to develop fur.

Yorkshire population is shown in Figure 1. There is clearly a single peak of reproduction beginning in August (one litter in July) and gradually declining over September and October. In most years box checks were discontinued after October but in 2000 an additional mid-November survey was made; no new litters were recorded. Corbet & Harris (1991) mention young being

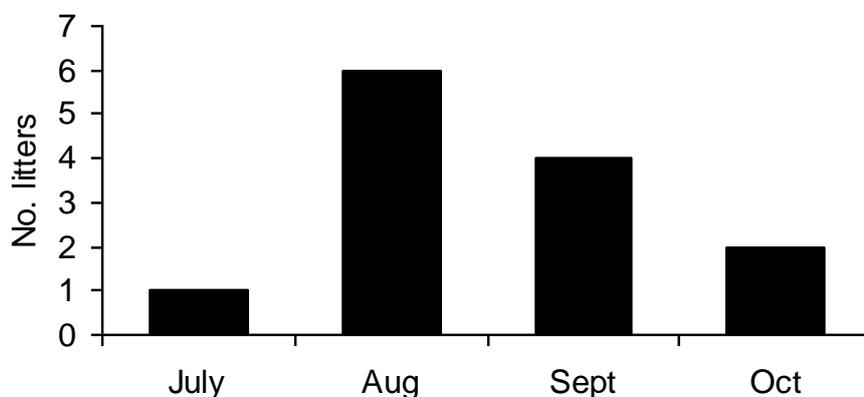


Fig. 1 Distribution of litters by month

found in Britain between May to September, exceptionally October. The occurrence of two new nests (15%) in October, and this far north, may reflect the trend towards warmer autumns. The distribution of the number of young per litter is given in Figure 2 for all cases ($n = 12$) when full counts were made. The lower sample size here (12 rather than 13) is because one litter containing very small pinkies was not disturbed for counting. The mean litter size is 4.9 (median = 5), range 4 to 7. The median litter sizes quoted in Corbet & Harris (1991) for Britain is 4 (max. 9) and means for Germany and

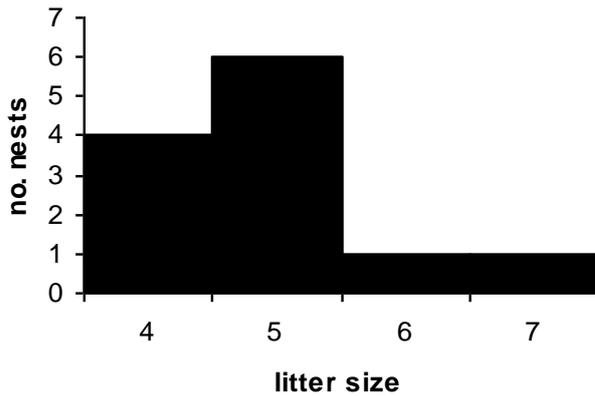


Fig. 2 Distribution of litter sizes

Czechoslovakia 3.7 and 4.7, respectively. Juškaitis (1997) gives an annual mean for a Lithuanian population of 3.9 (range 1 to 7), although the litter size also depends on female age with older animals producing larger litters. The mean litter size for dormice in the North Yorkshire population is therefore very much in line with these other

estimates and provides no indication that the population is, in any sense, struggling.

Population trends in dormice are monitored in Britain by calculating per 50 boxes the mean number of animals weighing seven or more grams during the October census. Mice less than seven grams are considered unlikely to overwinter successfully. The trend discussed last year (Oxford, 2002) is extended to include 2003 in Figure 3. The 'all boxes' bars are based on the total numbers of boxes available in the wood. This was 152 for all years except 2003 when a row of ten boxes occupying a more exposed location, and which had never been used by dormice, was removed in June 2003. The '142 boxes' bars represent the mean numbers per 50 boxes when this row of 10 is ignored in all samples. The differences are minor. The data for 1999 were gathered just after the releases and may be unrepresentative. Peak numbers occurred in 2000 and dropped to about half in the subsequent three years.

Information on mean numbers of animals over seven grams in weight found in the October survey for all sites annually monitored for dormice is reviewed each year in *The Dormouse Monitor*. From 2000 onwards, numbers and weights of these October animals have also been provided for ten randomly-selected sites for the current and the preceding year to identify patterns of change. Interestingly 2001 was a poor year in terms of numbers for virtually all sites (nine out of the 10 for which data are given) compared to 2000. Many sites recorded only half the number of animals in 2001 compared with 2000, and this was also the case for our own population. The comparison between the ten sites in 2001 and 2002 showed no consistent trends.

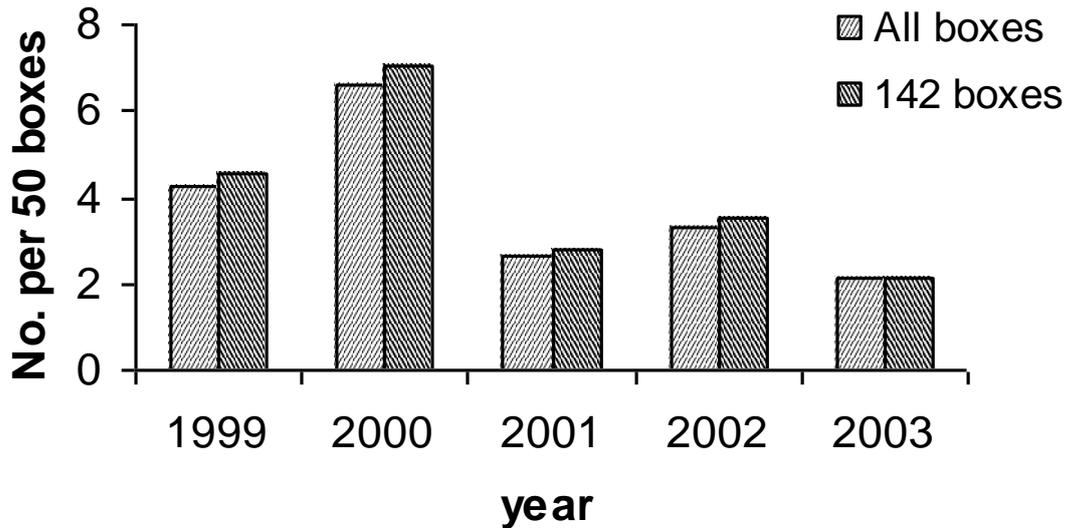


Fig. 3 Numbers of mice per 50 boxes on October (see text for details)

In terms of weight, data for the North Yorkshire population and for these ten random sites, extracted from the histograms in the *Monitor* (April 2002 and April 2003), are shown in Figure 4. Despite the number of animals from the random sites being considerably lower in 2001 than in 2000, their mean weight was higher. Comparisons of mean weights between 2001 and 2002,

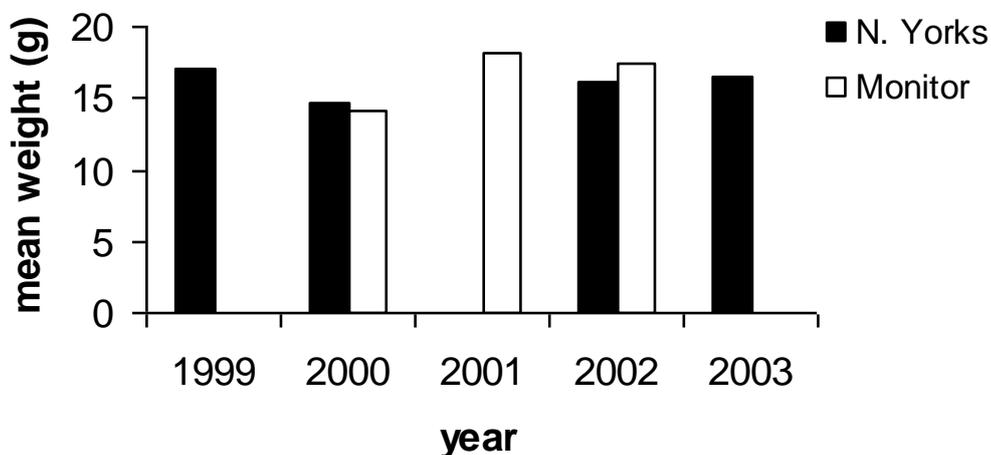


Fig. 4 Average weights of dormice in October

as for the numbers, showed no trend. The North Yorkshire animals were slightly heavier, on average, than the mean across the ten random sites in 2000 but slightly lighter in 2002. There is no information on the weights of North Yorkshire animals in October 2001.

The sex ratio over all years and for all ages of animals in North Yorkshire is 49 : 51, males : females, obviously very close to equality. Corbet & Harris (1991) report that males predominate in nest boxes and among live-trapped adults (ratio, 1.4 : 1) but in his demographic study of dormice in Lithuania, Juškaitis (1999) found a nest-box sex ratio very close to 1 : 1.

This is the first time data other than numbers have been analysed for the reintroduced population in North Yorkshire, and where comparisons have been made with other dormouse populations in the UK. As far as it is possible to tell, our population seems to be tracking national trends in terms of numbers and weights in October, but these comparisons are of course over a very small number of years. The dramatic fall in numbers between 2000 and 2001 commented on in previous reports seems not to be so worrying when placed in a national context. Litter sizes, breeding season and sex ratio are also entirely consistent with those found elsewhere. On this evidence there is no reason to be despondent about our Yorkshire dormouse population - but it's early days yet!

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Notes from the north – 2002/ 2003

Derek E. Capes

The following notes are given as a review of my own activities in the field over the past year in and around the area of Great Ayton, a village some 10 miles south of Middlesbrough and on the edge of the Cleveland Hills and North York Moors National Park. They are written primarily for my own benefit but may be of wider interest. Any comments, queries or suggestions from others with shared experiences would be most welcome.

1) Otter Survey

The examination of a number of sites on the River Leven and some of the streams which feed it from the North York Moors has continued. The work was started in 2000 with just two sites as part of the Durham Wildlife Trust Otters and Rivers Project investigating the status of the otter on the River Tees, of which the Leven is a tributary. Surveying in 2001 was interrupted by Foot and Mouth restrictions but the number of sites examined each month was progressively increased to nine from January 2002. In April 2003 a further upstream site was added.

Almost all indications of otter presence have been spraints. because few of the sites have sandy or muddy areas. In some cases, suitable stones have been placed under bridges to induce sprainting and this has proved successful. Spraints are marked with a coloured spot of poster paint so that they can be distinguished and discounted as recent in subsequent months. The number of fresh spraints is recorded.

The results so far show that there is a population of otters on the Leven system. The deposition of spraints since January 2002 shows wide variation, ranging from 100% of sites with positive signs of otter presence / month, to 20%. No month since January 2002 has shown no activity, although both August in 2000 and 2001 did so, albeit with a lower number of sites surveyed. Since January 2002, greatest sprainting activity appears to be outside the summer months but a few more years data will be required before firm conclusions can be reached.

2) Foxglove Covert

Last year the Ministry of Defence put out an appeal for assistance from people with an interest in mammals to carry out work on some of their land. I responded and was asked to get in touch with Major Tony Crease at Foxglove Covert, Catterick Garrison. The reserve was originally set up by a small, but persistent group of bird-ringing enthusiasts from an area of some 30 hectares behind the Cambrai Barracks. Its development over the past 11 years from an area of neglected and overgrown wasteland to its present official status as a Local Nature Reserve is a fascinating story. Extensive work has been carried out to develop a wide range of habitats e.g. broadleaved, conifer, mixed, coppiced hazel, willow carr and heathland, with wetlands, a small river and lake, primarily to attract a variety of bird species but inevitably countless other plants and animals have benefited too. The great advantage is that the reserve is not accessible to the general public for security reasons, but permission is readily given for individuals or groups to visit by arrangement. A recent development was the opening of an impressive visitors centre complete with study facilities which is used by local school parties, students and specialist study groups.

I made a visit on a wet day in January to get some idea of the area and assess what might be done. Risedale Beck passes through the reserve on its way to the Swale so I walked along a length of the banks looking for spraints, but there were none to be seen on this occasion. There were numerous gnawed remnants of fir cones, rabbit droppings and molehills and foxes were present from their scent. Actual sightings amounted to two grey squirrels and a pair of roe deer seen in the woodland. Some of the hazel nut shells were taken away to see if they had been eaten by dormice but this was not the case. Water voles have been reported in the wetland area but mink have also subsequently been thought to be present.

Considering the wide variety of habitat and the area to be covered, together with the distance from home, I did not feel able to undertake a small mammal trapping programme but suggested the possibility of recovering owl pellets as a means of determining the identity of small mammals present. This was agreed and Tony collected some long eared owl and kestrel pellets while clearing out nesting boxes. Some of these were analysed at our Mammal Event at Mount Grace Priory recently (see page 16).

3) Small Mammal Trapping

In last year's *Imprint* I described my first tentative efforts with Longworth traps loaned to me by the Yorkshire Mammal Group (Capes, 2001). I carried on during the course of the summer to complete a further four sessions with a dozen traps and, for the record, give the results in the accompanying tables.

A brief description of the sites, not given in the tables might be appropriate and also brief comments and the results obtained. The second session was carried out in the garden and grounds of a cottage below the northern edge of the North York Moors. The grounds comprise a small informal plantation of mixed conifers and indigenous broad-leaved trees planted about 15 - 20 years ago. A narrow, shallow, largely overgrown stream runs through the site which is bounded by a mostly hawthorn hedge with sheep-grazed fields beyond. The cottage garden proved to be the most productive area on the site but in the vegetable garden, where small animals had been seen and were something of a pest, none were caught. The overall result was 13 bank voles, four common shrews and two wood mice.

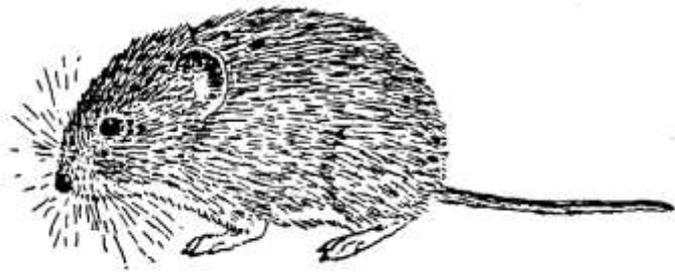
The next venue was a small strip of farmland at Nunthorpe approximately eight miles south of Middlesbrough. The terrain is flat and prior to draining for agricultural use would have been wet and marshy. It is drained by a series of small shallow streams known as Stells. Over the past few years, one of the local farmers has been developing a conservation area in a narrow strip bounded by the Main Stell on one side and a hawthorn/blackthorn hedge and a number of mature broadleaf trees on the other. Within the area different habitats have been created; a shrubby patch, a pond, trees and a hay meadow with the objective of producing a diverse habitat for wildlife, especially butterflies.

The weather for this trapping session was far from ideal with strong winds and rain, indeed heavy rain at some periods, so much so, that one trap at the side of the Stell had to be removed to avoid it becoming submerged. Plastic "cloches" (builders merchants sandbags) were used to provide some protection to the trapped animals from water ingress.

It was anticipated that field voles would be encountered in the traditionally maintained meadowland on this site as earlier work on owl pellets from the nearby farm had shown this species to comprise approximately 90% of the diet. However, none was caught. Indeed the two traps in the coarse

grass meadow failed to take any animals, although for reasons not immediately apparent, the same habitat divided by a coarse mesh wire fence yielded animals each time, i.e., two common shrews and two bank voles. Overall, common shrews were the most commonly captured species at this site with 11 caught, together with five bank voles and four wood mice.

The fourth survey site was only a few hundred metres from the first site on the outskirts of Great Ayton. It was in a large garden which had natural wild areas of grassy slopes, shrubby patches, mature trees and a small stream (but a



Bank vole

different stream to the first site). The reason it was chosen was to determine whether water shrew, found at the first site were also to be found in this stream too. There had also been reports by the gardener of harvest mice nests in earlier years.

The session yielded 18 bank voles, six wood mice and two common shrews. The two sought-after species did not materialise on this occasion. The traps by the stream resulted in one (dead) common shrew, and those in the Montbretia clump in the garden where the harvest mice nests were claimed to have been, took two bank voles. There was no evidence of nests this year and the difficulties of taking harvest mice by trapping is recognised.

A final survey was done in September when the site at Nunthorpe was revisited to see what difference a period of fine weather would make to the results and whether field voles would put in an appearance. Exactly the same trap positions were used as before.

The session was notable for the high yield, 36 animals from a potential maximum of 48, and at seven trap locations, an animal was caught in each of the four twelve-hour periods. Two trap locations however, failed to catch anything throughout the 48 hour session – those in the hay meadow again! As before, the trap by the wire fence produced an animal each time. As before, field voles were noticeable by their absence from the results. In all, 20 common shrews, 12 bank voles, three wood mice and one water shrew were trapped.

Acknowledgements: The writer is grateful to the following for use of their land as survey sites; Mr & Mrs B. Marsay, Mr & Mrs R Wilson, and Mr & Mrs G Irvine.

Reference

Capes, D. E. (2001) An initial survey of the small mammal population of a site near Great Ayton, North Yorkshire. *Imprint*, **29**: 25-30.

Trapping results:

MamTrap No: 2002/1

Trapper(s): D. Capes

Date: 24/25/26 June 2002

Weather: warm, Dry, slight shower 4th period

Location: Dykes Lane, Great Ayton. NZ577110, Alt. (m): 120

Description of Trap Location	<u>Day 1</u>		<u>Day 2</u>	
	am	pm	am	pm
Trap Opened				
Trap No.				
1 Wooded, alongside stone wall	BV	-	-	-
2 Wooded, among tree roots	-	-	BV	FV
3 Wooded, under vegetation	-	-	-	-
4 Wooded, under vegetation	-	-	BV	CS
5 Stream side, against stone wall to bridge	-	-	WM	WM
6 Stream side, against stone wall to bridge	WM	-	WM	-
7 Stream side, under vegetation	BV	-	-	-
8 Stream side, under vegetation	-	-	WS	WS
9 Meadow, next to mixed hedge, tall grass	BV	FV	FV	BV
10 Meadow, next to mixed hedge, tall grass	-	-	BV	BV
11 Meadow, between wall and tree	BV	BV	-	-
12 Meadow, between wall and tree	-	-	BV	BV
Total No. (%) / half day session	5 (41)	2 (16)	8 (67)	7 (58)
No.species / half day session	2	2	4	5
Overall total (%)	22 (46)			
Overall No. species	5			

Species: No. (%)	
Bank Vole	12 (54.5)
Wood Mouse	4 (18.2)
Field Vole	3 (13.6)
Water Shrew	2 (9.1)
Common Shrew	1 (4.5)

MamTrap No: 2002/2

Trapper(s): D. Capes, Marjory & Rachel Marsay

Date: 14/15/16 July 2002

Weather: Warm, bright periods, odd shower

Location: Rose cottage, Ingleby Greenhow. NZ 576045, Alt. (m) : 150

Description of Trap Location	<u>Day 1</u>		<u>Day 2</u>	
	am	pm	am	pm
Trap Opened				
Trap No.				
1 Cottage garden, next to hedge	BV	BV	CS*	BV
2 Cottage garden flower bed, adj. path	CS	BV	BV	BV
3 Vegetable garden, next to shed	-	-	-	-
4 Vegetable garden, near manure heap	-	-	-	-
5 Stream side, overhanging vegetation	-	-	-	BV
6 Stream side, overhanging vegetation	-	-	BV	-
7 Hawthorn hedgeside, grassland behind	-	-	WM	-
8 Hawthorn hedgeside, grassland behind	WM	-	BV	CS
9 Woodpile in young mixed woodland	CS	BV	-	BV
10 Opposite side of same woodpile	-	-	-	BV
11 Streamside in wood adj to footbridge	-	-	-	-
12 Next to tree roots in wood by bridge	-	-	-	BV
Total No. (%) / half day session	4 (33), 3 (25), 5 (41), 7 (58)			
No.species / half day session	3	1	3	2

Overall total (%)	19 (39)
Overall No. species	3
Species No. (%)	
Bank Vole	13 (68.4)
Common Shrew	4 (21)
Wood Mouse	2 (10.5)

Key * dead

MamTrap No: 2002/3

Trapper(s): D. Capes, Marjorie Irvine

Date: 8/9/10 August 2002

Weather: Windy, overcast, heavy rain in last 3 periods

Location: Wilson's Farm, Nunthorpe Village. NZ551132, Alt. (m): 85

Description of Trap Location	<u>Day 1</u>		<u>Day 2</u>	
	am	pm	am	pm
Trap Opened				
Trap No.				
1 Coarse grass near to blackthorn hedge	BV	CS	CS	BV
2 Coarse grass near to hawthorn hedge	WM	-	BV	-
3 Coarse grass at foot of small oak	-	-	-	-
4 Coarse grass under hawthorn and holly	CS	CS	-	CS

5	Pondside, reedy area beyond earth bank	-	-	-	-
6	Pondside, reedy area adjacent to pond	WM	-	WM	CS
7	By stream, close to water level	WM	X	X	X
8	At foot of sapling pear tree	-	CS*	CS	CS
9	In bottom of hawthorn hedge	-	-	-	-
10	In coarse grass meadow	-	-	-	-
11	In coarse grass meadow	-	-	-	-
12	In coarse grass meadow, adj wire fence	CS	BV	CS	BV
Total No. (%) / half day session		6 (50)	4 (36)	5 (45)	6(45)
No.species / half day session		3	3	3	2
Overall total (%)		20 (44)			
Overall No. species		3			
Species No. (%)	Common Shrew	11 (55)			
	Bank Vole	5 (25)			
	Wood Mouse	4 (20)			

Key: * dead
X trap removed to prevent inundation by rising water level

MamTrap No: 2002/4

Trapper(s): D. Capes, Marjorie Irvine

Date: 12/13/14 August 2002

Weather: Fine, warm and dry

Location: Dykes Lane, Great Ayton. NZ579109, Alt. (m) : 130

Description of Trap Location	Day 1		Day 2	
	am	pm	am	pm
Trap Opened				
Trap No.				
1 Under streamside vegetation	CS*	-	-	-
2 Under streamside vegetation	-	-	-	-
3 Under streamside vegetation	WM	-	WM	-
4 Top of tree shaded slope, adj roots	WM	-	BV	BV
5 Foot of tree shaded slope, adj woodpile	WM	BV	WM	-
6 Foot of oak on tree shaded slope	-	-	WM	-
7 South facing grassy slope, adj woodpile	BV	BV	BV	BV
8 South facing grassy slope in long grass	BV	BV	BV	BV
9 South facing grassy slope in long grass	BV	BV	CS	BV
10 Montbretia clump in flower garden	-	-	-	BV
11 Behind Montbretia clump	-	-	BV	-
12 Next to compost bin in garden	BV	BV	-	-
Total No. (%) / half day session	8 (66)	5 (41)	8 (66)	5(41)
No.species / half day session	3	1	3	1

Overall total (%)	26 (54)
Overall No. species	3
Species No. (%)	Bank Vole 18 (69)
	Wood Mouse 6 (23)
	Common Shrew 2 (8)

Key: * dead

MamTrap No: 2002/5

Trapper(s): D. Capes, Regan Early

Date: 2/3/4 September 2002

Weather: Fine, dry

Location: Wilson's Farm, Nunthorpe Village. NZ551132, Alt. (m) : 85

Trap Opened Trap No.	Description of Trap Location	<u>Day 1</u>		<u>Day 2</u>	
		am	pm	am	pm
1	Coarse grass near to blackthorn hedge	BV	CS	BV	CS
2	Coarse grass near to hawthorn hedge	-	-	BV	CS
3	Coarse grass at foot of small oak	CS*	CS	CS	CS*
4	Coarse grass under hawthorn and holly	BV	CS	BV	CS
5	Pondside, reedy area beyond earth bank	BV	WS	CS	CS
6	Pondside, reedy area adjacent to pond	WM	CS	WM	CS
7	By stream, close to water level	WM	-	BV	BV
8	At foot of sapling pear tree	CS	CS	CS	CS
9	In bottom of hawthorn hedge, by meadow	CS	-	CS	CS
10	In coarse meadow grass	-	-	-	-
11	In coarse meadow grass	-	-	-	-
12	In coarse meadow grass,adj to wire fence	BV	BV	BV	BV
Total No. (%) / half day session		9 (75)	7 (58)	10 (83)	10 (83)
No.species / half day session		3	3	3	2

Overall total (%)	36 (75)
Overall No. species	4

Species No. (%)	Common Shrew	20 (55)
	Bank Vole	12 (33)
	Wood Mouse	3 (8)
	Water Shrew	1 (3)

Key: * dead

To what extent do pathogens and parasites contribute to the current, reported decline in numbers of the British hedgehog?

Toni Bunnell

Between 1998 and 2000 I took in 168 wild hedgehogs from York RSPCA Animal Home, of which 61% were nestlings, 25% juveniles and 14% adults. More male nestlings arrived compared with females (1.5 : 1), while in juveniles and adults the sex ratio was 1:1. The hedgehogs were orphaned, sick or injured and all those successfully rehabilitated were returned back to the wild.

The incidence of disease and injury over the three-year period was documented, the most common ailments being malnutrition (27%) and dehydration (15%). Ticks were found in 14% of all animals, nematodes in 11%, ringworm in 4% and sarcoptic mange in 6%. Road accidents and other injuries affected 4%. Nestlings suffered primarily from nest disturbance, bite wounds from domestic animals, prolonged absence from the mother and accidental entrapment. The overall survival rate was 94% and 84%, 48 hours and 20 days after admission respectively.

It is often thought that pathogens and parasites are responsible for the death of hedgehogs. In actual fact, pathogens and parasites exist within hedgehogs, and indeed humans, and remain asymptomatic, causing no problems for the greater majority of the time. It is only when adverse conditions such as drought, exposure to poisons, and the absence of sufficient suitable food, are prevalent that the hedgehog begins to suffer from the effect of an unacceptably high burden of pathogens and/or parasites.

If survival conditions are optimal for a hedgehog it will have an immune system that functions well. This will offer resistance and prevent the number of pathogens/parasites from increasing beyond a certain level. Once the immune system is compromised by, for instance, exposure to adverse conditions, the levels of disease-causing agents will escalate, producing symptomatic illness. As Pasteur once said:

"It's not the pathogen that's important, it's the medium that it lands on."

In countries such as Germany and New Zealand, the hedgehog has been reported to show no signs of decline and thrives well. Indeed, its success in New Zealand, where it is an introduced species, has led to a research study being conducted to determine the effects, if any, of hedgehogs on the numbers of ground-nesting birds. Hedgehogs in countries where they survive well are prone to the same/similar pathogens and parasites as the British hedgehog. However, they are not subject to habitat fragmentation and all the other problems caused by living in close proximity to humans in the small island which is Britain. These problems include accidental entrapment in buildings, injury from garden strimmers, poisoning from ingestion of slug pellets and deliberate abuse of the animals.

Returning to the original question, I would suggest that pathogens and parasites, *per se*, are not responsible for deaths in the British hedgehog and its reported decline as a species, but rather that the relentless depletion and fragmentation of suitable foraging and nesting sites is one of the main culprits (road kills aside). Any situation that leads to malnutrition, dehydration, and diminished immune status, will leave the way open for increased burdening by opportunistic pathogens and parasites.

This article is based on a paper originally published in the journal *Lutra*:

Bunnell T. (2001) The incidence of disease and injury in displaced wild hedgehogs (*Erinaceus europaeus*). *Lutra*, **44**: 3 - 14.

The Bat Conservation Trust National Conference

Robert Masheder

The University of York was the venue for this years National Bat Conference, with about 200 delegates turning up to a good balance of speakers and workshops organised by the Bat Conservation Trust (BCT).

Opening speakers, Zoltán Nagy and Abigél Szodoray-Parádi talked of bat conservation in Romania where BCT has been training local volunteers to survey cave systems, some of which hold roosts of 40,000+ bats. The audience gasped at the size of these colonies, yet there is still no wildlife legislation to protect them. A reminder of how far we have come in the last 25 years.

David Hill of the University of Sussex has been luring little tube-nosed bats (*Murina ussuriensis*) into mist nets in the lowland rain forest of Yakushima, Japan. Pre-recorded bat vocalisations were played to draw the bats in. The technique proved very successful for a species which is normally difficult to trap.

For a number of years, one of the functions of the Royal Society for the Protection of Birds (RSPB) has been the enforcement of the wildlife legislation protecting birds. A role which has been very successful, with prosecutions under international CITES law on trade in rare species, and under the Wildlife and Countryside Act, particularly the theft of eggs. For the last two years Joan Childs of the RSPB Investigations Unit has been seconded to BCT to investigate bat crime. The results of her work are quite alarming with 144 incidents recorded in the two years. That most of the offences involved roosts and therefore whole colonies, was particularly troubling. The value of close relationship between bat workers, statutory agencies and the police was stressed, to establish trust. Prosecution is not the only option. A uniformed police officer turning up with a bat worker on a building site does much to focus the mind of developers. The results of the work have been published in a joint report *Bat Crime – is the legislation protecting bats?* available from BCT or online in Acrobat PDF format at www.bats.org.uk.

Stephanie Wray of Cresswells environmental consultants reviewed the scope of work necessary to map the flight paths and foraging habitats used by a colony of greater horseshoe bats (*Rhinolophus ferrumequinum*). Teams of up to eight bat workers visited sites between 10 and 20 times. It was noted that commuting routes and foraging areas changed with the season, presumably a response to the availability of favoured food, demonstrating that good coverage throughout the year is essential.

Monitoring the effectiveness of mitigation, designed to protect bat roosts during development, was the subject of a talk by Barry Collins of North Nottinghamshire Bat Group. The study focused on five common operations and their impact on existing roosts. Timber treatment and maintenance work in churches fared well with most roosts surviving. Soffit board replacement was particularly bad with 75% of roosts being lost. Re-roofing of houses also had a detrimental impact with 36% of roosts being lost.

Miriam Glendell from Dartmoor National Park Authority has responsibility for protected species mitigation in planning applications. Experience of many site inspections and follow up visits has led her to the conclusion that

all mitigation should require a survey by an approved bat worker; architects drawings clearly and carefully describing the mitigation; a bat worker report on the work undertaken; and a follow-up survey the following year.

Phil Richardson works closely with the National Trust, which has many important roosts in its properties. Loft spaces need to be above a minimum size for some bats, but fire regulations resulted in new internal walls being required in some properties. Phil described an innovative design, which he has introduced, for a fire proof bat door which automatically shuts when the fire alarm goes off. The idea works well, but needs refining as staff forgot to reopen the doors after the weekly fire alarm test.

Margaret and Peter Andrews have been using the latest ultrasound recording technology linked to infra-red cameras to study the vocalisations of greater horseshoe bats in the roost. They identified two distinctive groups of calls high frequency (81-84 kHz) echolocation and low frequency (1-39 kHz) social calls.

Nicola Green a student at Leeds University looked at swarming in Natterer's bats in the autumn. The bats travel long distances (up to 70km) to a limited number of cave and mine sites, where they spent many hours swarming around the entrances. Genetic studies indicate that this is a mating event and is thought to be important in maintaining genetic diversity within the species.

Vic Simpson's dream on retirement was to convert his garage into a pathology lab for studying bats. His dream has become a reality with a small grant and he is now carrying out post mortems. He has been looking at haemoparasites, trying to build a picture of normal levels so that it will be possible in the future to see when excessive levels have resulted in death. Vic has also been sending samples of bats to be tested for rabies.

Sharon Brookes from the Rabies Research and Diagnostics Group gave a summary of the more intensive testing programme for bats which has been taking place in recent years. Out of about 200 bats sampled each year only 2 (Sussex and Lancashire 1996 and 2002) have proved positive, both in Daubenton's bats. Bat workers are still being strongly recommended to have rabies inoculations, despite the fact that post exposure treatment, if timely, is effective in protecting humans. More bats are needed so that a better picture of the species and geographical distribution of rabies in bats can be built up.

As host, John Drewett gave a summary of the species of bat found in the county and the work of the North Yorkshire Bat Group, as well as leading a bat walk around the university campus.

There were many interesting workshops organised for the delegates on subjects as wide ranging as bat first aid, gardening for bats and the use of fiberscopes.

The BCT conference was a great place to meet and exchange ideas with other batty people. It was a bit expensive, but packed with interesting talks and to be recommended to anyone with deep pockets!

The European brown bear

Michael Thompson

By the time we set off to look for brown bears *Ursus arctos*, it was dark and raining heavily. But, undeterred, we reached our destination just after midnight. The small Romanian town of Brasov is situated in the eastern Carpathian mountains, in which the densely forested mountain slopes impinge on the outer fringes of the town. These outer suburbs consist of unattractive, poorly constructed, blocks of flats erected during the period of the communist regime of Ceausescu. The residents, during daylight hours, place their domestic rubbish in large communal wheeled- bins, with sliding tops. It is to these bins that the brown bears come to feed in the early hours of the morning, and have now been doing so for sometime; so much so, that their presence has become a tourist attraction.

On our arrival, in our ten-seater tour minibus, we bumped over the wet cobbles looking at all the bins we could find, but, after completing three circuits, we found no bears. We were about to give up, when the tour leader, Keith, said we would have another go. No sooner than we reached, yet again, the first bin, then we saw our first bear. In the half-light from the street lamps, we could make out the dark figure of an immature male bear standing on his hind legs rummaging in a bin. My first impression was that of a large hairy human. The bear seemed unperturbed by our presence, in spite of a powerful torch being shone on him. Soon we were joined by a Dutch saloon car, whose occupants were bear watching, and then a full coach load of Germans turned up. We moved on to the next set of bins.

At the next site, we found several bins were in a half enclosure, the back wall being right up against the mountain slope, and it was here that our party was

rewarded with excellent views of the brown bear. A large, fully mature female was poking her nose into a bin, using the back wall as a stance.

Behind her, but slightly reluctant to join in, were three cubs, one of which was limping presumably due an injury. The female, who seemed slightly agitated because of the minibus, extracted food items from the rubbish and presented some of it to the cubs. From the size of the cubs and the visibility of her nipples, it seemed that she was still breast feeding. From time to time, the cubs, followed by the female, would rush up the slope and disappear into the undergrowth, only to reappear. Eventually, the family disappeared for good, but we knew that there were still bears about from the constant barking of the neighbourhood dogs. We left the site well after 1.00 am to return to our hotel.

The temptation had been to go and pick up one of the cubs, but to do so would have been extremely dangerous, for, under such provocation, the female would attack. The local residents, according to our Romanian guide, Tudor, avoid the bins at night for this reason. These brown bears, it would seem, are still entirely wild. However, like our urban foxes, they are becoming used to human beings in a process scientifically called synanthropization. This process is not without its dangers as both become increasingly tolerate of each other. In recent years, according to James Roberts, author of a book on Romania's wildlife, an average of four people are killed in Romania by the brown bear. These rogue bears are sought out and shot.

In Britain the European brown bear used to be part of our native fauna, but it ceased to exist in the wild many, many centuries ago. Archaeological evidence of this species was found at the Star Carr Mesolithic site in Yorkshire. Bears were imported into Britain for entertainment and bear baiting in the Middle Ages. However, throughout Europe in the last 50 years there has been a 100% increase in the brown bear population, with 60% or 7500 of them to be found in the Carpathians. Thirty percent of Romania is covered by dense forest, some of which are felled for commercial reasons, but much remains in its virgin state and is not accessible. These forests make an ideal habitat for this large European carnivore, in which it feeds on berries, small mammals, domestic livestock, deer and carrion. A mature adult, which is Europe's largest and most dangerous mammal, can weigh in at 450 kg. The Romanian tourist trade sees the brown bear as a money spinner, bringing in eco-tourists from around the world to see them. The European brown bear is protected by the Bern Convention, but, even so, its numbers have to be

controlled. Culling, under licence, is carried out by the Romanians, and the meat is used for human consumption and hides sold on. At the end of tour dinner, the party was served up with bear salami in a Romanian restaurant; some present refused to eat it!

Hopewell House Farm - getting results?

John Drewett

The main project undertaken by the North Yorkshire Bat Group over the past year has been a survey of Hopewell House Farm, Knaresborough. The farm is used as a demonstration farm by the Farming & Wildlife Advisory Group, to show others how farming and conservation can go hand in hand. The land is farmed commercially, but full advantage is taken of grants for conservation, so there is a good network of hedgerows, small woodlands, wetlands and ditches with broad headlands around fields and permissive paths for walkers and horse-riders.

The wildlife on the farm has been surveyed regularly for the past 20 years or so, but only very limited information was available on the bats present. Ironically, after a summer of work, we still have only limited information about roosts, although we do know more about feeding areas and can probably make some useful suggestions for improving the bat potential.

What was known before we started is that there is a brown long-eared bat roost in one of the barns. That is still there. You can see the bats hanging up and flying about, see their droppings on the floor and occasionally find a dead bat, but understanding more about them is not so easy. Long-eared bats call too quietly to be picked up easily on the detector and wait until it is really dark before emerging, making them difficult to track. Having seen the bats in the barn one evening, I stood outside watching for emergence, but saw nothing. A check inside later on confirmed they had left. At dawn I watched



for swarming at the roost entrance. There was none, but there was swarming in an adjacent modern barn. After a while these vanished and did not appear in their original roost. What is going on?

One of the principles of surveying small bats in the countryside is that they follow linear features like hedgerows, rather than fly across open fields. Therefore, by having observers stand at hedgerow junctions it is possible to identify the direction from which bats have appeared and follow a line back along a hedgerow to eventually, perhaps after several nights, locate the roosts from which they emerged.

Although we found plenty of bats commuting and feeding along hedgerows we failed to find any other roosts. There were several routes used by Pipistrelle and Whiskered / Brandt's bats and the occasional other species, but that is all. It could be that there are few suitable roosting places on the farm, or that there are better ones elsewhere. It seems that one stream of Pipistrelles originate from off site, probably roosting in a house in Knaresborough, but coming to Hopewell House to enjoy the good feeding provided by the conservation measures.

The full survey report and analysis has yet to be completed and will, together with the surveys of other groups of wildlife, help to show the benefits and failings of current conservation support systems. Unlike birds or plants, it is not always easy to obtain quick and meaningful results from bat surveys, so it is likely that we will go back to the farm from time to time over coming years to refine our knowledge of its bat fauna.

Many thanks to everyone who contributed to this survey.

Surveying bridges for bats

John Drewett

In York, Clifton Bridge, a modern concrete structure over the River Ouse, is home to three species of bat. Gaining access through the gaps where the piers meet the decking, one of the landward piers supports Common Pipistrelles, the next pier Daubenton's and the next, over the centre of the river, Noctules. This is excellent for bat walks because not only do the bats emerge from different piers, but each species emerges at a different time, giving us an unusual level of confidence in our identification. It is also unusual, not just in supporting such a variety of bats, but also in being one of only a handful of Noctule roosts in Britain not in a tree.

Whilst living in a bridge gives bats some degree of security and an often ready source of food in terms of insects flying over the river outside their 'front door', it does bring with it certain hazards, not least of which is the risk of losing your home, or perhaps being forever entombed in it, when the bridge is repaired. Several years ago I approached North Yorkshire County Council to discuss these problems.

Whilst a previous survey had identified around 15 bridges that were known bat roosts and these had been advised to the Council, most repairs were being undertaken with no prior investigation as to whether bats were present. With routine repairs, strengthening works to meet higher weight limits and other maintenance and safety programmes this can mean between 50 and 100 bridges being repaired each year.

Initially an ad-hoc system was established whereby the Bat Group (mostly me) carried out surveys on bridges that the Council told us they were working on. Although an improvement on nothing, this was in no way tackling the problem. It was not clear how the list of bridges we were told about was selected and as the whole thing was voluntary it relied on finding time to do the surveys amid all the other pressures on time in a normal life. Inevitably some bridges were repaired before they were surveyed and others never were surveyed.

Things improved considerably when the County Council employed their first Ecologist, Kirsty Maddocks. A meeting soon after she took up her post led to a more formal procedure for advising us of works, although the actual surveys remained voluntary. With time it was agreed that the Council would pay a flat rate per bridge surveyed. Initially it was envisaged that this payment would be to the Bat Group who would provide the volunteers, but it soon became apparent that finding enough volunteers to carry out what probably amounted to at least 100 nights work each summer and ensuring that they carried out surveys sufficiently in advance of proposed works was not a viable option. Hence, the project became one of the contracts operated by my consultancy.



Kexby Bridge, N. Yorkshire,
home to Daubenton's bat

Photo: Geoff Oxford

Apart from the value of carrying out the surveys for the welfare of bats, there are good legal reasons for doing the work. All bats and their roosts are protected under the Wildlife & Countryside Act 1981 (as amended) and under European legislation. This makes it illegal to intentionally or recklessly do anything that would harm bats or their roosts. Because bats are known to use structures such as bridges, not making an effort to find out if they are present would, in itself be reckless were a roost to be lost or damaged. In addition, away from private dwelling houses a licence is required from DEFRA for anything that might impact on European protected species.

Now, each spring, once the County Council budgets have been finalised, a list of the coming seasons bridge works is provided giving their location, intended timing of works and a brief outline of what work is proposed. These details are fed into a computer route finder to determine the shortest distance between the bridges and over a number of days all the bridges on the list are visited. These are daytime visits during which a survey form is partly completed giving general information about the bridges and surrounding

habitats. Any crevices with potential for roosting bats are identified and photographed.

Following these initial visits a proportion of the bridges can be discounted from any further survey work because they have no suitable roosting places - they may have no crevices, be too insubstantial or flood repeatedly. The remaining bridges are visited at night over the summer months - either at dusk or dawn - to check for emerging or returning bats. These surveys are prioritised according to the planned sequence of works. Once each survey is complete the survey report form is copied to the County Council.

Although bridge works are generally essential and may be required to meet standards set out in legislation, this does not mean that conservation legislation can be ignored. If bats are present a licence from DEFRA must be obtained unless the works can be carried out in a way that will not impact on the bats. It may be possible to re-time the works, avoid infilling bat roosts or change the design of the works, but either way there is likely to be a time and cost implication.

A major difficulty with bats (or any other wildlife) is that whilst the presence of bats can sometimes be confirmed, their absence cannot. A limitation of our surveys is that they only really relate to the date they were carried out. Sometimes we will return several times to be as certain as possible, but ideally the bridges should be surveyed at different seasons and in different conditions, but that is rarely possible.

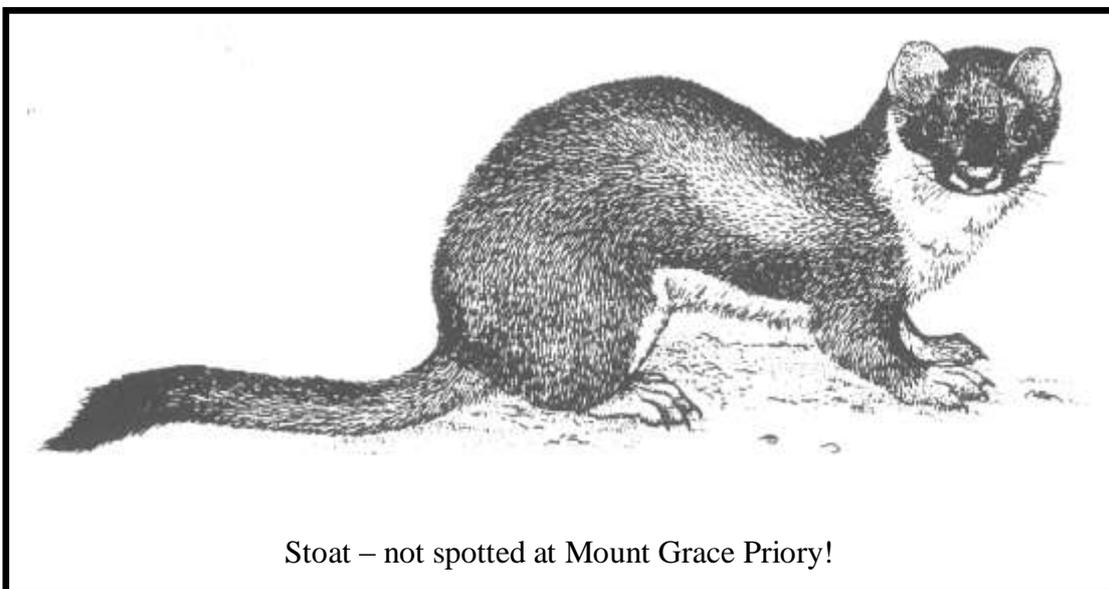
A 'maybe' answer is not much help to the engineers, so advice to the County Council has been standardised into three statements. The most straightforward cases are where there is either no bat potential, or where a roost is present. Where there is potential, but no conclusive proof, we try to ensure the retention of the most likely crevices and ask the engineers to proceed with caution.

The cautionary approach works remarkably well. Work stops immediately if bats are found. Often a quick check will reveal only an individual bat temporarily residing there, but at Masham it led to a six week delay while a licence was obtained after bats moved into a crevice low down in one of the north piers. Although that roost site was lost the overall benefit to bat conservation was positive. The lost roost was so close to water level that it would have been submerged several times a year, but three other roosts are now known at the bridge, two of Soprano Pipistrelles and one of Daubenton's.

Whilst the surveys highlight bat roosts and ensure these are properly protected, the project also has some more widespread benefits. Many North Yorkshire bridges have been widened in the past. From the top this is generally not evident, but widening was often achieved by building another structure alongside and linking the two (in some cases three) structures together. Over time the joint between these sections opens and can be quite deep - ideal for bats. Crevices like this which run the length of the bridge do not need to be filled to maintain the integrity of the bridge, but in the past were filled when carrying out other pointing. In some cases, previously filled widening joints have been opened up again to the benefit of bat populations.

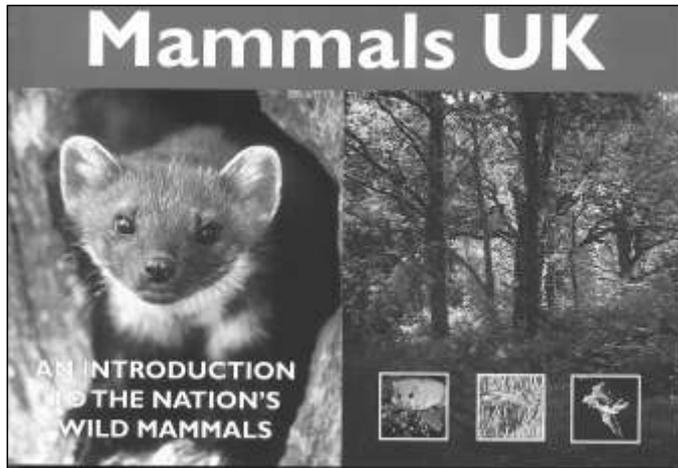
One option which has so far only rarely been tried is the installation of purpose-built roosting places in a bridge. When Mercury Bridge in Richmond collapsed during floods in June 2000 there was no knowledge as to whether bats had roosted there or not. However, such a major rebuilding project made the installation of roost units quite a simple task and it is to the credit of the County Council for taking the initiative. Probably due to the design of the access provided for the bats these appear to have not been used, but it is hoped that modifications can be made at some future date and at least valuable design lessons have been learned by all concerned.

As with any project there are always improvements that can be made and each year we identify and implement some adaptations to make the process more effective and complete. None of this would be possible without the co-operation and assistance of Kirsty Maddocks (NYCC Ecologist), John Smith (NYCC Client Unit) and the staff and engineers of Mouchel who carry out much of the bridge maintenance programme.



Stoat – not spotted at Mount Grace Priory!

Book reviews



Mammals UK - An Introduction to the Nation's Wild Mammals. Clare Poland Bowen. PTES/Mammals Trust UK., London. 2001. 84pp. Price £5.65, paperback. ISBN 0 9540043 0 2.

As a beginner's guide to British mammals, this is a very helpful and informative little handbook,

and one which must surely leave any first-time reader confident in a new raft of mammalian knowledge. In total, 65 wild mammals are described and these include both native and introduced species as well as some extinct in Britain. Escaped domestic animals now living feral existences, island sub-species and temporary visiting cetaceans are not described.

Information on each species appears on a single page and is presented very clearly with a photograph (although in the case of extinct mammals – these are shown as watercolours), a brief descriptive text, vital statistics, tracks and trails, breeding habits and dietary items illustrated by good line drawings. Distribution maps, the species' status, predators & threats and habitat requirements all appear in a separately tinted block on the extreme right of each page. This lay-out makes for very easy assimilable knowledge – if only it was all wholly accurate.

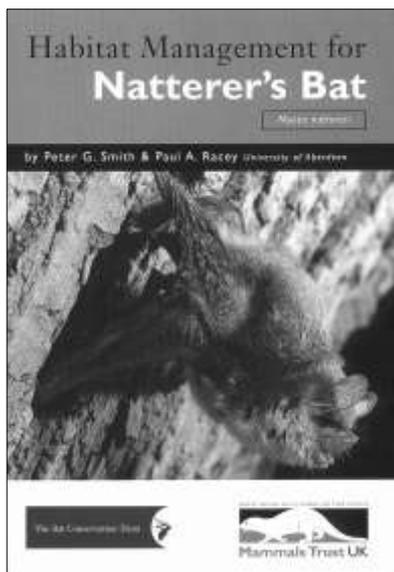
To those who know a little about mammals these inaccuracies are an annoyance. I was alarmed to discover on reading the very first page covering hedgehogs, that the legs of a hedgehog are covered with 'dense, sharp brown spines' and that at birth young hedgehogs are covered with short white spines. Actually, Clare, on both counts, they're not! Pat Morris wrote the preface to this handbook, but did he read any of the drafts? Clearly not the one on hedgehogs!

I was disappointed that some of the British sub-species were not given even brief notes or even an explanation of how sub-species differ from main species. Anyone who has heard of the Skomer Vole and the Orkney Vole

will only find information on the former by reading one of the ‘did you know.....?’ boxes, while the latter gets full page coverage. The ‘did you know.....?’ boxes, in most instances contain some wonderful gems of wisdom, although not all of these are correct. The page after the hedgehog, on the mole, claims that moles find it difficult to turn round in their tunnels – wrong again, Clare!

These niggles aside – the handbook should perhaps be on every generalist’s bookshelf, at least until the fourth edition of *The Handbook of British Mammals* is available. It would also make a useful addition to Primary teachers’ bookshelves, because the information is so easy to digest in a hurry.

Roma Oxford



Habitat Management for Natterer’s Bat. Peter G. Smith & Paul A. Racey.

Mammals Trust UK, London. 2002. Price £2.00, paperback. ISBN 0 540043 3 7.

This is a short, easily read, booklet, which is well illustrated with photographs and sketches. It touches on such topics as populations, distribution, home ranges, different types of roosts and foraging methods for Natterer’s (*Myotis nattereri*) bats.

The booklet also briefly discusses the threats that Natterer’s face, for example, loss of habitat, in particular, loss of mature trees and old heavily timbered barns. A section details specific conservation measures that could be implemented to benefit Natterer’s bat populations and also states the legal protection afforded to them.

The booklet is most suitable for those with little or no prior knowledge of Natterer’s bat natural history but it is well referenced which will hopefully encourage people to delve deeper.

Denise Ray

Yorkshire Mammal Group programme, 2004

January 8*	<i>AGM and social</i>
February 5	TBC
March 4	<i>Big cats and mystery beasts in the British countryside</i> Eddie Bell, Durham Police
April 1	<i>The seal population on the Tees Estuary</i> Rebecca Turner, INCA
May 6	<i>The YMG debate</i>
June 3	<i>The work of the OUF</i> Ashley Leiman, Orang Utan Foundation
July-September	Field meetings, details TBC
October 7	<i>Hedgehogs in the Hebrides – the story so far</i> Steve Carter, Royal Holloway, University of London
November 4	<i>Elephant conservation</i> Ann Hanson, YMG
December 2	<i>Wildlife through a lens</i> Laurie Campbell, Wildlife photographer

* Note - meeting held on the second Thursday of the month, all others are on the first Thursday.

Indoor meetings are held in York College (Further & Higher Education Site), Science Block Room L001, and start at 7.30pm.