

IMPRINT

THE YORKSHIRE MAMMAL GROUP - NEWSLETTER



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CHAIRMAN'S REPORT

1984 got off to a slow start for the Y.M.G. in several ways. Due to varying reasons two of our scheduled indoor meetings had to be changed, and the first outdoor "field day" in January was cancelled because of heavy falling snow! However, we hope to re-arrange this meeting, which was "Foraging in a North Yorkshire Forest", to a later date in the year.

Undaunted, February found Group members taking part in a short weekend trap at Tickhill Castle near Doncaster. The Bat Section were out and about looking for bat hibernation sites and our annual dinner was held during the month.

"Mad March hares" had nothing on us!

A new display, featuring the work of the Bat Section, was put together by some of our more talented members. This was taken to Yorkshire Naturalist Union meetings at York and Bradford and then set up at the Halifax Building Society, York, for a period of two weeks. The display is at present on show at the Murton Museum of Farming, just outside York.

Talks were given by Y.M.G. members at the Y.N.U. meetings and to local Cub Scouts - hopefully all budding mammalogists!

The Bat Section attended a "Bat Workers" Seminar held at the Zoological Gardens, London, and our six-monthly trap at Hopewell House Farm, Knaresborough, was carried out.

The Mammal Society Conference at Aberdeen University was attended during April. This proved to be a really enjoyable weekend with lots of interesting papers on a wide range of mammals and their behaviour.

A second highlight to this month proved to be the Family Field Day which was spent looking for otter signs. We re-visited previously "successful" areas. Conditions were ideal for finding tracks of all kinds with plenty of muddy river bank to search. The following signs were identified:

- Otter (Lutra lutra) seal.
- Fox (Vulpes vulpes) prints, scats, smell.
- Mink (Mustela vison) prints
- Rabbit (Oryctolagus cuniculus)
- Deer slots.
- Water Vole (Arvicola terrestris) prints, droppings.
- Badger (Meles meles) prints, dung pits.
- Mole (Talpa europaea) hills.

A really memorable day!

In an effort to boost membership and promote greater interest and understanding of mammals we are holding a demonstration trap. This will be at the Murton Museum of Farming in May to limited members of the general public. A Field Weekend is also planned for a visit to the Northants Bat Group.

June will bring the last indoor meeting for the Spring/Summer section of our programme, plus a Family Field Day to Garbutt Woods near Sutton Bank looking for dormice signs.

And so to holiday time

EDITOR'S REPORT

My thanks again to all contributors to the latest issue of IMPRINT. The publication seems to be developing along the lines we had hoped. Once again, however, there appears to be a heavy proportion of material on bats. This is not intentional - it merely reflects the enthusiasm of a small band of chiroptophiles! Needless to say, contributions about any mammal topics are welcome. There is still a strong regional balance in contributions from the York/Harrogate area and we would very much like to hear from other areas of this large County.

Barrie D S Smith

HOPEWELL HOUSE FARM, KNARESBOROUGH : A REPORT ON THE DEMONSTRATION FARMS PROJECT 1980-1984.

Hopewell House is an arable farm on the East side of Knaresborough (Grid Reference SE 3557). It is the site of the Demonstration Farms Project which members of the Y.M.G. and many others will know well. This is a review of the background to the Project and progress to date.

The Yorkshire Mammal Group was introduced to the Demonstration Farms Project early in 1980. The Project was then run by the Countryside Commission alone, and its literature stated that

' the Countryside Commission's Demonstration Farms Project began in 1975 and will continue for some time into the future. It is one of the most ambitious projects ever undertaken by the Commission and aims to develop practical and inexpensive solutions to counter the decline in the quality of the lowland farmed landscapes of England and Wales. The primary objective is to demonstrate these solutions to farmers and landowners and encourage them to adopt similar measures.'

The Commission noted that traditional features of the British landscape - trees, hedgerows and woodlands, as well as historical and archaeological features - were being lost because of new farming methods which rely heavily on machines, fertilisers and ever-larger fields. The Demonstration Farms Project could perhaps analyse whether modern farming methods and the needs of wildlife were really incompatible! 12 farms representative of different areas and styles of management were chosen to take part in the project from all over England and Wales. The Commission also commented that Eastern England was the most affected by new farming techniques, and that Dutch Elm disease had had a widespread effect.

In June 1980, some mammal trapping was carried out at Hopewell House Farm, and some at the neighbouring Cockstone Farm in Goldsborough. These early projects do not relate to the projects established now, and the most remarkable capture was a house mouse, Mus musculus, by a stone wall around a potato field! We were probably not aware at the time that a long and happy association with Hopewell House Farm had begun. The farm is beautiful, and we are always made welcome there.

In Spring 1981, some members of the Mammal Group met Dr Michael Usher of York University at the farm. He is responsible for co-ordinating all the biological data, and he walked around the farm with us and explained which features he thought were most significant for the Demonstration Farms Project. We chose three features that we could concentrate on, as follows:

1. The 'plantation' or 'grid' area.

This is a SE facing slope of ground, with a large pond at the S end and a ditch running NE, which is met by a gully. In 1981, this was covered with rosebay willow herb (Epilobium angustifolium) and other weeds and long grasses, as well as some conifers - some lying on the ground, and some still growing. However, it was planned that this area would not be farmed, but would be cleared and re-planted with a mixture of coniferous and deciduous trees, as recommended by the Forestry Commission. We were surprised to learn from Dr Usher that the project had experts from many different areas monitoring the farm and giving advice on several aspects of its management. These ranged from biologists and Forestry

Commission members to archaeologists and landscape architects! It was quite amusing to try and imagine how such diverse interests could be reconciled!!

As it has turned out, the choice of this area was fortuitous because in 1982 the harvest mouse (*Micromys minutus*) was captured there. It is now relatively rare in Yorkshire, although Ron Deaton of the Harrogate Naturalists says that harvest mice were well known in the Knaresborough area within recent memory.

2. Hedgerows.

The second project very relevant to the Demonstration Farms Project was to study various hedgerows at the farm. Hedgerow management is a sadly neglected skill, but a new hedge was laid along part of the farm and it was decided to compare the small mammal species there with those along two other hedges - one in poor condition and the other a well-established hedge of 600 years standing (a biologist and archaeologist managed to agree about this!). To do this a three-day 'sampling trap' was held every year. I call this a 'sampling trap' because it simply indicates which species are present and cannot indicate populations. However, one does gain an impression of the numbers of individuals which may be present.

3. The 'wet' area.

Finally, an area was to be left at the corner of a field, where drainage was a problem. It was too expensive to drain and could virtually be left as a sort of miniature nature reserve. In September 1983, harvest mouse nests were found there although no harvest mice have been trapped in this area so far. In the centre of this area is a stand of *Phalaris* grass, which we hope may long be in use as a nesting site!

I have tried to indicate all these features on the map.

Results

As this project has progressed, we have benefited more and more from the generous help and support of the Harrogate Naturalists Society, and particularly Ron Deaton. I would like to express my thanks for this support, before going on to summarize the results so far. It will be noticed that traps are now held in March as well as September; these extra results should provide a better appreciation of the changing events at the farm.

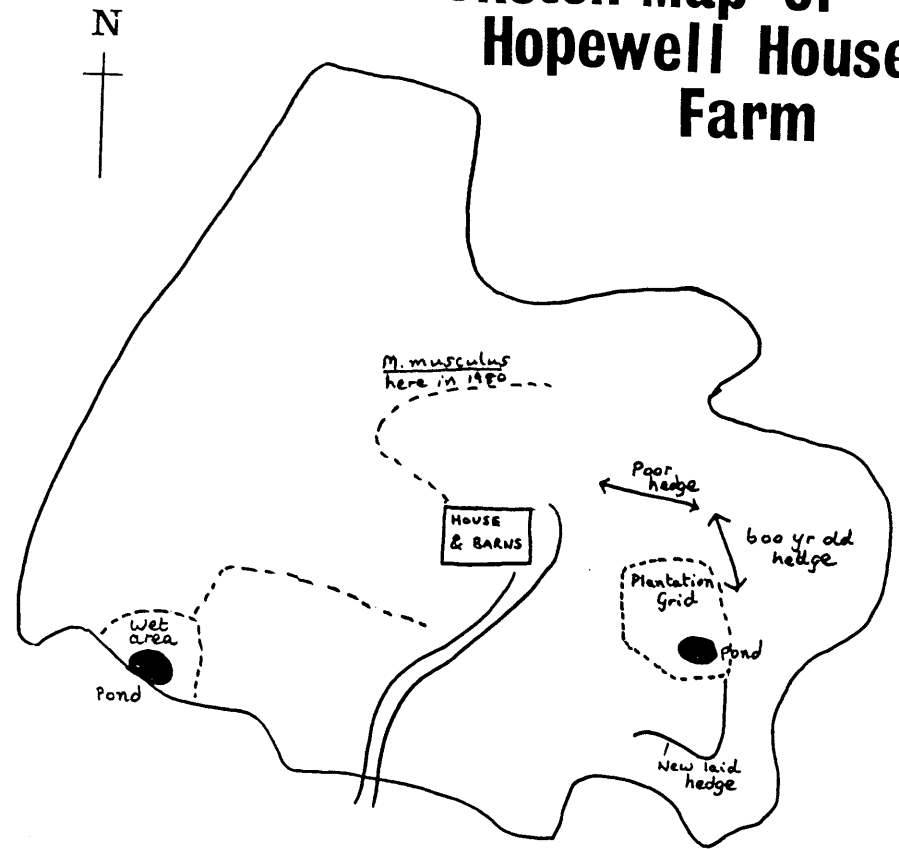
1. The plantation-grid area.

In 1981, the ground cover here was very dense indeed: fallen conifers and banks of rosebay willow herb were the dominant (and memorable!) features. A 96-trap grid was set out at ten-pace intervals with the traps set in 8 rows of 6 pairs. I tried to make 'botanical maps' of the ground cover, to provide a more accurate picture than memory can. At each trap site I noted the dominant features and then made a block diagram to illustrate what the ground cover had been like. This has been useful. A crude botanical survey showed 8 species in 1981; in 1982 this dropped to 5 (when the ground had been cleared for replanting), and in 1983 after a year's growth, the number of species present rose to 23.

Everyone who was at the 1981 trap will remember the perfectly

awful wind and rain in that remarkable September. And everyone at the 1983 September trap will remember how many mammals were caught after the first year's growth on the plantation. In particular, 104 wood mice (*Apodemus sylvaticus*) were caught - a boom population - yet notice that none were caught at the weekend trap in the following March.

Sketch Map of Hopewell House Farm

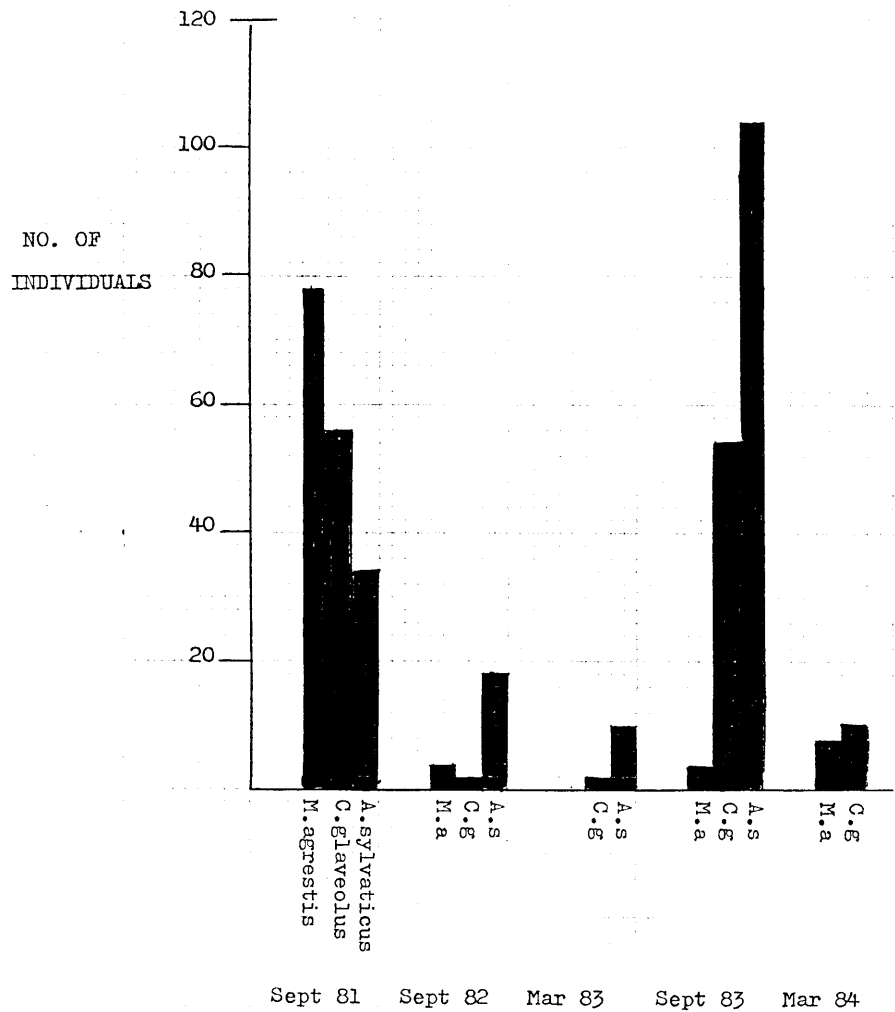


Not to scale.

Fig. 1

The best estimate of population numbers was the Hayne's Index, as long as several mammals had been caught. We are limited by our marking techniques, but perhaps these could be improved in future traps. I have summarized the results as histograms of the actual

numbers caught (not estimates). Where only a small number of animals were caught, these have been tabulated. By now, we have caught six species of mammals in this area.



S.araneus	6	11	4	7	1
S.minutus	0	0	0	0	2
M.minutus	0	1	1	0	1
	Sept 81	Sept 82	Mar 83	Sept 84	Mar 84

Tab. 1

2. Hedgerows.

The three different hedgerow sites - the poor hedge (dominated by elderberry which tends to block the light from all other species) - the 600 year old hedge, and the new hedge - were trapped every September over 2-3 days, with 24 traps set in pairs along the hedge. In September 1983, I noticed that the results for each type of hedge looked similar, and the hedges themselves looked more alike. I hope that the hedges will be maintained and cared for in the future.

I have tabulated numbers of species and total numbers of individuals, since these must have some significance in comparing the different hedgerow sites. The theory is that the 600 year old hedge and newly laid hedge should provide better ground cover and more food, because of the variety of species present. At first, the results seemed to support this idea, but the 1983 results do not. But note that these took place over a shorter period.

In October 1983, my students supplemented our results with some botanical surveys, which I include here.

	POOR HEDGE			NEW LAID HEDGE			600 YEAR OLD HEDGE		
	1981	1982	1983	1981	1982	1983	1981	1982	1983
<u>Clethrionomys glareolus</u>	10	9	13	11	8	8	21	15	15
<u>Microtus agrestis</u>	1	0	0	2	0	0	7	1	0
<u>Apodemus sylvaticus</u>	0	10	24	2	3	14	2	21	14
<u>Mus musculus</u>	0	0	0	1	0	0	1	0	0
<u>Sorex araneus</u>	1	3	0	1	1	0	0	6	2
<u>Sorex minutus</u>	0	0	0	0	0	0	0	0	0
TOTAL INDIVIDUALS	12	22	37	17	12	22	31	43	31
TOTAL SPECIES	3	3	2	5	3	2	4	4	3

Tab 2

Botanical survey.

Each hedge was surveyed by dividing it into 25 metre lengths, and noting the woody perennials occurring along each stretch. Each is supposed to represent 100 years in the life of the hedge. For instance,

the average number of species along the 600 year old hedge was 6.5 per 25 metres; it is therefore judged to be 650 years old.

In this case the species noted were as follows: alder, beech, blackthorn, elderberry, field maple, hawthorn, hazel, oak, sycamore and wild rose.

Along the poor hedge the average number of species per 25 metres was 4, including the following species: alder, blackthorn, elderberry (too often), hawthorn, hazel, holly, raspberry and wild rose.

Finally, along the new hedge 3 species occurred per 25 metres, and the following species were noted: alder, blackthorn, elderberry, hawthorn, holly and wild rose.

3. The 'wet' area.

Like the hedgerows, 2-3 day 'specimen traps' were carried out in 1981 and 1982. In 1983, no trapping was carried out at the wet area because of the large number of animals at the plantation grid area. In September, however, harvest mouse nests were found in this area and in October, two short trap sessions were held - 48 traps set at various sites for 5 hours. Voles, mice and shrews were caught, but no harvest mice - as yet. It was noticeable that the drainage of this area had been improved; the pond at the corner had been enlarged. Again, one wonders what the future holds for this site.

I have tabulated the results as for the hedgerows.

	September 1981	September 1982	September 1983 *
<u>C.glareolus</u>	7	0	12
<u>M.agrestis</u>	2	0	4
<u>A.sylvaticus</u>	7	2	0
<u>S.araneus</u>	3	4	1
<u>S.minutus</u>	1	0	0

* Recaptures unmarked.

Summary

This work, which really began in 1981, will have to continue for some time yet before conclusions can be drawn from the results. The next trapping session will be in September and will last 4 days, again with co-operation between the Yorkshire Mammal Group, Harrogate

Naturalists and the College of Ripon and York, St John. The hedgerow and wet area specimen traps should return to normal this year. It is interesting to notice that piebald shrews have been trapped at the grid area - Ron Deaton knows of another piebald population at Knaresborough ringing station, 2 km away. Also, we are fortunate in having caught the harvest mouse, now relatively rare. This should have some significance in future plans for the farm.

The Countryside Commission was reorganized in 1983, and for some time the situation was confused. Dr Usher wrote and said that he found the data fascinating, and would continue to support us with funds from the British Ecological Society if no other resources could be found. In June 1983, he wrote again to say that the project is now supported by Cobham Resource Consultants, in collaboration with the Countryside Commission. I hope that in future our results may provide more interesting data on the wildlife at the farm and that the original aim of the Demonstration Farms Project will be achieved: to encourage imaginative and careful management of hedgerows and woodland areas, and preserve wildlife where this is possible.

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A PRICE ON THEIR HEADS



The expansion of deer populations in Britain during recent years has been truly remarkable. Afforestation has provided the habitat, legislation the welfare and deer enthusiasts the interest and concern. This fascination with deer can be accounted for by their graceful form and elusive nature. An obsession with dewy-eyes, dappled coats and spindly legs gives rise to the condition widely referred to as Bambi syndrome whilst the trophy hunter is blind to all but the antlers.

Antlers have exerted a powerful influence on man since prehistoric times: useful as tools and artefacts, symbols of masculinity and adornments of Shinto shrines, Hindu temples, homes, palaces and saloon bars from Vienna to Vancouver.

The Roe deer (*Capreolus capreolus*) is the most numerous deer in Yorkshire. In the last twenty-five years it has colonised plantations from the Tees to the Humber and reports suggest expansion into South Yorkshire and beyond. Corpora lutea counts on ovaries taken from does culled in forests of the North York Moors confirm the highest fertility yet found in Roe deer in the United Kingdom. This level of productivity is the result of an improving diversity in forest habitat owing to a succession of mature plantations being felled and replanted. Every effort is being made to stem the rise in population in order to avoid unacceptable levels of browsing damage on young trees and the need to protect the crop with fencing. Deer fences are expensive and they exclude the animal from the richest feed areas.

Deer culling affords an unequalled opportunity to study deer in the wild and to examine them, albeit dead, at close quarters. Roe does are protected by Law in England and Wales from the beginning of March to the end of October and bucks from the first of November to the end of March. In other words, does are not shot when heavily pregnant or with dependent young and bucks when in velvet.

Roebuck grow their antlers during the winter months and the majority of mature bucks are clean of velvet by April. The process of antler growth is triggered by hormone secretion. Occasionally things go wrong as when a buck is unable through deformity or accident to produce the hormone which switches off antler growth. In such cases an ugly mass of antler tissue is produced and the animal is called a perruque. The condition is rare and only one has been recorded from the North York Moors found dead in Wykeham forest in April 1979.

Surprisingly, perruques because of their rarity and their hideous bulk are considered as exceptionally valuable stalking trophies particularly on the Continent. Deformities of this kind are more common in Roe than in other species of deer as are antlered does. Reindeer or Caribou (*Rangifer tarandus*) is the only species where the female has achieved a semblance of equality by normally producing antlers, though of inferior quality to those of the male. Just three does out of the several hundred culled on the North York Moors in the last ten years have had knobbly pedicle growth protruding from the skull. Although induced by the presence of male hormone all three of these animals were fertile.

Misshapen antlers may be the result of parasites, frost or

physical damage. It is interesting that an accident to one side of the body commonly causes deformity in the antler of the opposite side. Generations of stalkers have believed that careful removal of poorer specimens will eventually lead to improved antler conformation but the size and weight of antler is influenced more by the quality of feed than by any other factor.

Antlers are ephemeral: borne for little over half the year, each pair unique both to the individual and the season, once cast rarely discovered, to be chewed, gnawed and the remains interred.

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ANALYSIS OF BARN OWL (TYTO ALBA) PELLETS COLLECTED FROM A ROOST NEAR
MARKINGTON, NORTH YORKSHIRE, ON 4 FEBRUARY 1984.

Abbreviations:	CS	Common Shrew	(<u>Sorex araneus</u>)
	WS	Water Shrew	(<u>Neomys fodiens</u>)
	WM	Wood Mouse	(<u>Apodemus sylvaticus</u>)
	HM	House Mouse	(<u>Mus musculus</u>)
	CR	Common Rat	(<u>Rattus norvegicus</u>)
	BV	Bank Vole	(<u>Clethrionomys glareolus</u>)
	FV	Field Vole	(<u>Microtus agrestis</u>)

Pellet	CS	WS	WM	HM	CR	BV	FV	Total
1							4	4
2	1					2	3	6
3					1	3	1	5
4	1					2	3	5
5			3				1	7
6	4		1	1			1	5
7	2		2	1			1	4
8			1		1		1	3
9							2	2
10			1				2	4
11	1						2	4
12	2				1			1
13			1				3	3
14	1						3	3
15						2	1	3
16						1	4	5
17							3	3
18			2			1	2	6
19		1	1				2	3
20			4					4
21			1				2	4
22	1						2	3
23	1							3
24	1		2					3
25			3				2	3
26	1						2	3
27			1				2	3
28	1						2	2
29							1	2
30	1							
Loose	1		1		1		1	4
Total	19	1	24	2	4	11	51	112
Percentage	17.0	0.9	21.4	1.8	3.6	9.8	45.5	100

FIELD IDENTIFICATION OF BANK AND SHORT-TAILED VOLES

Identification of bank and short-tailed voles in the field during small mammal trapping can often be a source of confusion. The following table is a reminder of the salient points to look for:

Bank Vole - <u>Clethrionomys glareolus</u>	Short-tailed Vole - <u>Microtus agrestis</u>
Head and body length 80-110 mm	Head and body length 90-130 mm
Tail length 35-65 mm	Tail length 30-45 mm
Tail half length of head/body.	Tail 30% of head/body.
Pelage - rich reddish upper surface but young more grey.	Pelage - greyish brown, never reddish.
Ventrally silver grey-creamy buff.	Ventrally pure grey sometimes tinged buff.
Ears slightly prominent.	Ears small not prominent.
Eyes larger than <u>M.agrestis</u> .	Eyes smaller than <u>C.glareolus</u> .
Molars with rounded edges.	Molars sharply angled.
No additional lobe on second upper cheek tooth as in <u>M.agrestis</u> .	Second upper cheek tooth has additional lobe on inner side at hind end.

Corbet G B and Southern H N
The Handbook of British Mammals. Mammal Society Second Edition 1977.

Corbet G B and Ovenden D
Mammals of Britain and Europe. Collins 1980.

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HARROGATE AND DISTRICT NATURALISTS' SOCIETY FIELD MEETING -
REVIEW OF MAMMALS

A group of enthusiasts, skilfully led by Colin Slator, spent a rewarding day searching for mammal prints along both banks of a seven kilometre stretch of the River Ure on 7 April 1984.

The Ure is one of the few remaining haunts of the otter (Lutra lutra) in Yorkshire and everyone was delighted to see half a dozen sets of fresh prints during the search. No other signs of otter were found and it was thought that the prints were probably evidence of the recent passage of a single animal.

In contrast, prints of American mink (Mustela vison) were found on almost every area of exposed sand and mud. A mink was actually seen in a patch of willow scrub and another, which had been shot, dangled on a riverside gibbet. Although mink were first recorded on the Ure as long ago as 1965 it wasn't until 1978 that they featured in the Harrogate and District Naturalists' Society Annual Report for this particular stretch of the river. In less than ten years they have apparently become the most abundant predatory mammal in the area and what, one wonders, will be their status in another decade!

A melanistic rabbit (Oryctolagus cuniculus) was momentarily thought to be a mink but there was no similar confusion when the group spotted a brown hare (Lepus capensis) casually loping over a field planted with winter wheat.

Heaps of earth in the reverside meadows betrayed the presence of moles (Talpa europaea) and almost as revealing were the characteristic five-toed prints of badger (Meles meles). Recent excavation of sandy spoil at a sett overlooking the river indicated occupation and several well-used latrines immediately alongside the sett were thought to be a pointer to the presence of cubs.

Scats, prints and the pungent aroma of fox (Vulpes vulpes) were detected in several places but signs of a mammal we expected to see quite a lot of - the water vole (Arvicola terrestris) - were confined to an area where the action of the river had created a stretch of slack water. Common rat (Rattus norvegicus) appeared to be equally scarce and only one set of prints were located.

Two roe deer (Capreolus capreolus) were seen in a field alongside the river in late afternoon and, predictably, numerous slots were found nearby.

To round off a most enjoyable day four species of small mammal - common shrew (Sorex araneus), wood mouse (Apodemus sylvaticus), bank vole (Clethrionomys glareolus) and field vole (Microtus agrestis) - were live-trapped in riverside woodland. A grey squirrel (Sciurus carolinensis) seen in the same wood brought the day's mammal tally to a satisfying fifteen species.

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Bat News



DEVELOPMENT OF BAT STUDIES IN BRITAIN

The fact that all bats received protection under the Wildlife and Countryside Act 1981 was the stimulus needed to highlight the plight of bats and to awaken a latent interest that many people have in wishing to protect our diminishing wildlife. Prior to the Act, only a handful of people nationally had been interested in studying these elusive animals and consequently our knowledge of their distribution and natural history was minimal. In the past two years the number of people making regular observations on bats has increased from about 15 to perhaps over 300 at present.

Of particular interest in Yorkshire is the fact that some of the research results on the distribution of Pipistrelle colonies around York was valuable evidence used in discussions which led to the protection of all bat species. Yorkshire has a very strong history of bat studies over the past 100 years perhaps above any other county. I hope this lead may continue.

There is a tremendous amount of very valuable work that can be done by corporate groups and individuals. The Bat Section of the Yorkshire Mammal Group is already involved in the vital work of providing help and advice to people who have bats either in unwanted places or in areas subject to development or imminent destruction. The importance of this work cannot be stressed too strongly, because not only has it immediate conservation value in protecting bats and preventing their deliberate or accidental deaths, but the public relations side of these contacts will aid the process of changing people's attitude to bats.

Apart from this "fire brigade" action of dealing with threatened colonies, there is an endless variety of projects which amateur groups can undertake. At the simplest level, it would be very interesting to thoroughly survey the distribution and abundance of species throughout

an area so that this could be correlated with habitat types. This is really an extension of the sort of work Michael Thompson has undertaken on his Pipistrelles, but it need not involve mark and recapture. More detailed work could be undertaken on specific colonies. It would be useful to know the foraging range of the various bat species in differing habitats and under different weather conditions. For example, it can be relatively easy studying Daubenton's colonies in bridges or adjacent to rivers to establish their feeding range by marking them with reflective material and record them as they fly and feed up and down the rivers. Yorkshire is the northern range of a number of species in Britain and it would be particularly useful to know something of the status of species like Barbastelle, Noctule, Leisler's and Lesser Horseshoe bats.

Because of the lack of detailed knowledge of the distribution and abundance of the various species throughout Britain, it is impossible for us to be thoroughly objective when it comes to making decisions as to what finance and other resources should be devoted to protecting sites as they become threatened. Clearly our decisions are based on current knowledge, but in the case of bats, our data base is known to be extremely small. I am now greatly excited by the prospect of a deluge of new scientific information about bats originating from the bat groups, and this information will greatly aid the long-term conservation of bats in Britain.

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BAT BOXES : THEIR FUNCTION AND IMPORTANCE

Bat boxes are designed to simulate tree holes and if correctly sited may be accepted by most British species of bat for roosting and hibernating. One box has been known to hold up to 65 bats.

The main reason for providing bat boxes is to help prevent further declines in bat populations which are thought to have been caused by the loss of natural roosts and feeding habitat. Bats are essentially creatures of woodland and are particularly abundant in riparian habitat, especially in the lowlands. Formerly the only natural roosts would have been caves and hollow trees, but bats have colonised all kinds of man-made structures including tunnels, mineshafts and buildings. With the loss of forests and woodland during the last 3,000 years, bats have had to adapt to using different roost sites. Modern forest management generally requires the removal of diseased or hollow trees and hence in certain areas provision of artificial roosting boxes helps to redress the balance and can be effective in increasing the density of bats.

Apart from hollow trees, natural caves are a limited resource which seasonally contains large numbers of various species of bat, but in these sites the bats have been continually disturbed by cavers and archaeologists or the caves have been developed for tourism, and these activities have led to the depopulation of those sites. Similarly, man-made tunnels such as railway tunnels, cellars, mineshafts are continually being blocked or filled in, usually for reasons of safety, without any consideration for the bats that have adopted them. Also, bats are frequently killed by vandals. Not only are the roost sites disappearing but with changes in farming methods, including the use of insecticides, insect populations have declined substantially and no doubt bats have suffered from lack of food as well as accumulations of pesticide which is thought to have killed some bats.

Bats are heterothermic which means their body temperature is not constant but depends on the temperature around them and on food availability. Roosts are chosen with great care, usually based on temperature regime and proximity to adequate feeding areas. In order to achieve sufficient variety of temperature regime and proximity to feeding areas, bat boxes should be placed in a variety of sites to accommodate the variety of environments that the bats require seasonally. Generally, boxes should be situated facing from south-east to south-west for use in spring and summer, and north for autumn and winter. In fact boxes made of thin (2.5 cm thick) timber will not be used during periods of hard frost as the internal temperatures of the box will be too low. Boxes with a southerly aspect should receive direct sunlight for part of the day - mornings if possible - and they need to be clear of crowding branches or obstructions but sited in sheltered areas, preferably in clearings. Height above the ground is not important but Noctules and fast flying bats prefer roosts over 5 m above the ground, while Long-eareds and Pipistrelles will adopt them even within 1.5 m above the ground.

Box shape is not critical but front to back depth should not exceed 10 cm internally and a 10 cm cube box internally has proved to be readily adopted by bats. Very rough sawn timber, about 2.5 mm thick, should be used, but boxes constructed of thicker timber, say 10 cm thick will provide greater insulation and may be used for hibernation.

Bats consume vast numbers of insects, including many garden pests. Boxes placed in sheltered areas where there is a lack of alternative roost sites and where there is an abundant supply of insects, stand most chance of being adopted by bats. In the north of England there are fewer species of bat than in the south, but nevertheless bat boxes have

still been shown to be a useful conservation tool, especially in conifer plantations.

Since 1975, large bat box projects involving the Forestry Commission in various areas around Britain were designed to assess the conservation value of providing boxes in conifer plantations. The results from 6 forests from the north of Scotland to the south of England have shown that bats will roost and breed in artificial boxes. Over half of Britain's bat species have adopted these boxes, including one extremely rare species, the Leisler's, (Nyctalus leisleri) at Cannock and Thetford. As a result of these experiments the Forestry Commission is providing boxes over a wider area as a conservation management tool. Smaller schemes are being run by local groups, county councils and individuals throughout the country and this is a valuable PR exercise for bats.

Little is known about the historic changes in the abundance of bats and much research needs to be done. An intensive national bat box scheme might be likely to show whether the bats could come to terms with the change in habitat and whether the declines could be halted by the provision of roosts. However, lack of food might be one of the most important factors now limiting the abundance of bats.

Sheila Walsh
3a Winchester Avenue
York

BAT BOX PROJECT

Bat boxes can be installed at any time but they should be inspected at least monthly from March to December. If only one or two boxes have been placed in a domestic garden, the owner may not be expected to obtain a licence to enable him to inspect his boxes (and therefore disturb bats which is a licensable activity), but if a large number of boxes are placed especially in nature reserves or other public sites then the person undertaking the scheme and carrying out inspections should obtain a relevant licence. In any project, notes should be kept as to the date and siting of each box, the dates of inspection and whether signs of bats were present. Boxes not apparently used for two years or so could be moved to a new and hopefully better location. It is always worth keeping detailed records of the siting of boxes and proximity to buildings and other potential roost sites so that a picture may be developed as to the most effective sitings for boxes.

Dr R E Stebbings
Institute of Terrestrial Ecology
Monkswood Experimental Station
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BATS OF THE NETHERLANDS - JANUARY 1984

As a result of preliminary discussions at the Second European Symposium on Bat Research held in Bonn in September 1983, a group of British and Dutch mammalogists met in the Netherlands to look at bat hibernation sites. The British party, which was led by Dr Robert Stebbings, consisted of Sheila Walsh, Tony Hutson, and myself. We all met up at Dr Aldo Voute's house at Soestduinen near Soest, where we stayed for two nights of our four-day visit. Aldo Voute, the leading Dutch authority on bats, is a senior lecturer in the Department of Animal Ecology and Taxonomy at Utrecht University. Other members of the Dutch party were Peter Lina, Gerhard Glas, and Eddie De Grood.

The British party arrived at the Hook of Holland on the morning of January 15th, and during the afternoon of that day were shown around the nature reserve on the polder Zuidelijk-Flevoland by Aldo Voute. Here we saw a variety of ducks and waders, including the avocet (Recurvirostra avosetta). We were also pleased to sight roe deer (Cap reolus capreolus). One amongst a party of three, was an animal in its darker winter pelage. All of them were out in the open, with no obvious shelter for them to take refuge in.

The following day most of the party assembled outside Aldo Voute's house, before we were taken to an early nineteenth century fortress Rhijnauwen, near Bunnik, east of Utrecht. In the now closed-off officer and soldiers barracks, we were shown a number of hibernating bats. These included Daubenton's Bat (Myotis daubentoni), Whiskered Bat (M.mystacinus), Natterer's Bat (M.nattereri), and Brown Long-eared Bat (Plecotus auritus). Most were easily visible, either behind shutters, in cracks in the masonry or simply on wall surfaces. By mid morning, when the inspection of this site was completed, we moved off to examine one of several ice houses in the Netherlands, which is known to contain hibernating bats. This ice house, in which Dr Voute has placed instruments to measure humidity and ambient temperatures, was within the grounds of a country house near Linschoten, west of Utrecht. The site contained a number of hibernating M.daubentoni, which appears to be the most common species in the Netherlands.

After a lunch break in a small cafe north of Den Haag, we inspected the tunnel systems of the Second World War bunker complex under the sand dunes at Wassenaarse Slag. The whole area was now under the Department of Forestry. We were shown around the complex of tunnels by one of the forest workers; access being through a locked grill. The tunnels had been cleared of sand in recent years by Dutch students. Bats, hibernating singly or in small groups of two or three, were present in good numbers, and, according to our Dutch guides, were increasing in number.

Besides the four species already described, the rare Pond Bat, (Myotis dasycneme), was present. According to Daan (1980), only two nursery colonies of M.dasycneme are known within the Netherlands, and except for Denmark, no other ones are known in Western Europe. The numbers of hibernating Pond Bats at this site currently was 14, and increasing in numbers. We emerged from the tunnels in the late afternoon with a howling gale in progress. Aldo Voute then drove us in his motorised caravan across the Netherlands to the small village of Sibbe, near Maastricht. There we spent the night in a small hotel.

Next day the party was joined by Eddie De Grood, who is the Curator of Natural History at the Maastricht Museum. He guided us around the first of the artificially created tunnels, dug out, over the past few centuries, to collect building materials and lime for agricultural

purposes, from the limestone hills surrounding Maastricht. These extensive systems, some 500 kilometres in length, have over many years been major hibernating sites for bats from a very wide area. Over the centuries local inhabitants have used the disused tunnels for growing mushrooms, as refuges during various European wars, or simply to plaster the walls with graffiti. Some of the wall drawings are of great historical interest and the Dutch authorities are, where possible, trying to preserve them. None of this human activity has, until recent times, prevented the bats from using the caves for hibernation. However, in recent years, the number of hibernating bats has declined, partially due to disappearing habitat in their summer range and partially due to the tunnel systems being destroyed gradually by quarrying activities on both the Dutch and Belgian sides of the border. The quarry we were shown at Saint Pietersberg was very extensive, and halfway up the quarry walls we could see the open ends of the mediaeval tunnel systems.

In the first cave near Bemelen we were shown good numbers of M.daubentoni, and M.mystacinus, as well as a few M.dasychneme, M.nattereri, and P.auritus. The new species for some of the British party was Geoffroy's Bat or the Notch-eared Bat, (Myotis emarginatus). Daan (1980) describes M.emarginatus as a species on sharp decline in the hibernating caves between 1940 and 1950, but that the numbers were now more stable. There were no known summer roosts in the area.

We lunched in the Natural History Museum at Maastricht, before going on first to view the Saint Pietersberg quarries and then to enter the tunnelling systems on the Belgian side of the border. These caves, known as "Ternaaien Boven" and "Caestert" had more than 1,000 bats hibernating in them, often high in the ceilings over 40 m above us. Urine staining and hollowing out of the ceilings indicated that in the past large numbers of bats, mostly the Mouse-eared bat, (Myotis myotis), congregated in these areas. We were also shown a disused Lesser Horseshoe (Rhinolophus hipposideros) hibernation roost. Today, unfortunately, M.myotis has shown a continuously sharp decline in the caves (Daan 1980). A few were present when we inspected the caves, one was observed closely at eye level, without disturbing it. Again another new species for all the British present, except Bob Stebbings.

We again emerged at dusk, tired and delighted at our finds, before going down to the little Belgian village of Kanne for a much welcomed meal. That evening we returned to Utrecht and the Voute's home for our final night in the Netherlands. Next morning we returned to Harwich via the Hook of Holland.

Dr Michael J A Thompson
35 Mill Lane
Wigginton
York

BAT SECTION REPORT

This is a short report about the work of our relatively new Bat Section since the last issue of Imprint.

During the winter months the Section has been far from idle. Firstly, it was necessary to follow up one or two reports made to the NCC in the autumn by householders who had been hosting bats during the summer which we had been unable to deal with last year. These were in the Selby and Thirsk areas. All were in favour of the bats returning in 1984, but in the Thirsk area, during one of our visits, we discovered quite by chance another householder who definitely did not want the bats to return to her roof and this case was subsequently dealt with by the NCC.

Some members of the Section also visited a few Ice Houses in the vicinity of York as possible places for hibernating bats but without success. We did, however, find that bats were still hibernating in Crayke Church and in addition we found them in the Churches at Stillingleet and Bubwith. Unfortunately they were too high in the roof to be able to identify the species. Other Churches visited bore no visible signs of bats.

Dr Bob Stebbings again took some members to Windypits and caves near York looking for the Lesser Horseshoe Bat (Rhinolophus hipposideros) but found none, and he also gave us a talk, with slides, on British bats and their identification features. Two members accompanied him on a visit to The Netherlands to meet bat experts there and to make searches in that country.

There has been interest shown by Radio York, and coverage was also given by Yorkshire Television on two occasions - once at Fountains Abbey near Ripon where bats have summer roosts; workmen were busy pointing up the roof area where the roosts were located and the visit resulted in their being instructed to leave some entrance holes open - and again at Settle where bats roost in an old railway building which was due for demolition.

In November we were faced with the task of carrying for a young injured Pipistrelle bat (Pipistrellus pipistrellus) which had been found impaled on a car radio aerial and consequently was unable to fly. We managed to keep him alive on mealworms, pupae, liver, milk and water for seven weeks but unfortunately he died just before Christmas.

We also had an urgent call from the NCC to go to Cherry Burton House North of York, where woodmen felling trees had found four bats hibernating in a hollow log cut from a tree. These were Noctules (Nyctalus noctula) which had survived a drop of seventy feet when the branch was cut! The log was re-sited nearer the house where it was warmer and safer and we were told the next day that the bats had flown off the same evening to find another place to hibernate.

A further call from the NCC requested us to visit a converted water mill near Harrogate where the owner thought there were bats in the loft. Investigation proved no bat evidence but certainly signs of rats! However, the owner is very pro-bat and happy to encourage them, so purchased two bat boxes from us. (Incidentally, the bat boxes made for our Section by a local craftsman are becoming very popular.)

Also during the winter months a second member applied for, and received, a Ringing Licence, so the 1984 season should be most

interesting as there is a new ringing project in the area under consideration.

The Bat Section has figured in three exhibitions recently. The first was at the YNU Symposium in York on 3 February when a talk was given by one of our members and a visual display mounted. The display was taken a week later to Bradford for another Symposium, and then it was placed in the window of the Halifax Building Society in York. So we have certainly been trying to keep bats in the public eye!

Our latest call, just before going to print, was from a Vet who has a weekly programme on Yorkshire Television (and who was present during the visit to Fountains Abbey) to tell us that he had had an injured bat brought to him. He was hoping to nurse it back to health and sought our advice as to feeding it and so on.

Finally, all members of the Section attended the Bat Workers Seminar at London Zoo on Saturday 17 March which proved to be both informative and stimulating.

So we are now gearing ourselves to the coming months and eagerly looking forward to resuming our bat surveys.

Edna Shann
Bat Section Co-ordinator
100 York Road
Tadcaster
North Yorkshire
LS24 8AS

DURHAM BAT GROUP REPORT 1983

This publication summarizes the aims and work of the Durham Bat Group during its first season. It is a well presented and clearly set out document and includes interesting data, distribution maps of six species and historical records for the County. It ought to be a useful blueprint for any Bat Group interested in publishing a report. It is available from the Durham Bat Group, c/o Durham County Conservation Trust, 52 Old Elvet, Durham.

Editor

RINGWORM IN SMALL MAMMALS

Ringworm is an infection of both man and animals caused by a variety of different fungi including geophilic, zoophilic and anthropophilic species. One group of these organisms, the Trichophyton mentagrophytes group are thought to have as their natural hosts small wild mammals. This group comprises one of the commoner causes of ringworm in man and is thought to be transmitted from rodents to man by an intermediate host such as a cat or dog.

We are at present engaged in a taxonomic study of some of these zoophilic fungi and are keen to obtain the help of field workers in obtaining specimens from small mammals. It would also be interesting to know whether any field workers have contracted a ringworm infection which may be associated with handling these animals. The animals we are interested in include bank voles, wood mice, hedgehogs, rats and other small mammals.

The procedure is simple. A nylon toothbrush (which we will supply) is passed through the fur of the mammal several times, replaced in its container and returned, with details of the animal, to this laboratory for fungal studies.

Would anyone who thinks they can help in this way kindly contact me at the address given below.

Dr Carole Davis
Mycological Reference Laboratory
London School of Hygiene and Tropical Medicine
Keppel Street (Gower Street)
London WC1E 7HT

EXTRA-TERRESTRIAL MAMMAL WATCHING

Monitoring of the movements of small terrestrial mammals by radio-telemetry is well-established. Use of this technique for marine mammals, especially whales, has proved more difficult. Attachment of a small radio transmitter presents problems! Dr Bruce Mate of Oregon State University has now overcome these difficulties and developed them in a spectacular way. He has monitored movement of the Humpbacked Whale (Megaptera novaeangliae) by attachment of a small suction-cup transmitter, monitoring via satellites. In this way he has determined movements over six days, speed of movement and diving behaviour.

(Bioscience 34 (2) (1982))

HARVEST MICE AND MODERN FARMING PRACTICE

The occurrence of harvest mouse (Micromys minutus) was confirmed at Hopewell House Farm, Knaresborough, when single individuals were trapped on the 10th and 11th March. This repeated the results from the same grid in March 1983 when a harvest mouse was taken in a Longworth Trap.

The habitat where the animals were taken offers little cover but Corbet and Southern (Handbook of British Mammals 1977) suggest that they may use the runway systems of other small mammals after vegetation die-back in winter.

The harvest mouse might seem particularly vulnerable to modern farming practices but according to Stephen Harris they avoid the effects of crop-spraying by occupying undisturbed waste ground, embankments and verges, building nests in low-stemmed weeds. They may also be less vulnerable to the attacks of raptors like kestrel (Falco tinnunculus).

Dr Harris has also found that harvest mice can also escape the devastations of the combine harvester. It can survive even close-cutting by dropping to the ground as it feels the vibrations of the approaching harvester. Even adults (at a maximum weight of 6 g) can avoid the cutting blades by crouching down and the machines may pass harmlessly overhead.

Barrie D S Smith

NEW BADGER PROTECTION ORGANIZATION

A new organization 'Badger' has been set up principally to lobby for public support in badger conservation and to pressurize for more research into the badger/cattle TB controversy. A Research Fund Appeal has been launched and a pamphlet has recently become available. Co-founders include Spike Milligan, Ian Hunter Darling and Richard Ford. The founder Secretary, Jean Brewster Price formerly of Haworth has promised an article on progress for a future edition of Imprint. Further details on 'Badger' from Ms Brewster Price, The Paddock, Westonbirt, Near Tetbury, Gloucestershire, GL8 8QJ.

A useful book on the TB controversy is published by the Avon Trust and is entitled "Badgers without bias. An objective look at the controversy about tuberculosis in badgers and cattle." by Robert W Howard (1981).

MAMMALS OF THE FALKLAND ISLANDS

My thanks to Mr C Waud of St Mary's Bourne, Andover, Hants, for his correspondence on mammals which he encountered whilst serving in the Falkland Islands during the last World War. These included the Leopard Seal (Hydrurga leptonyx) which grow to a maximum 350 cms and prey on penguins and other seals. Mr Waud draws attention to their ferocious nature and believes they can be a real threat to man, given the opportunity. Southern Sea Lions (Arctocephalus australis) were seen in large herds and were readily approachable. They reach lengths of 1.5 m - 2 m. The Southern Elephant Seal (Mirounga leonina) occurs in subantarctic waters but was not seen during Mr Waud's visit. Other seals were present around the Stanley area and various species of whale were seen in surrounding waters but rarely close to shore.

Mr Waud also refers to the White or Falklands Fox (Canis antarcticus) also known as the Warrah. It was the only endemic mammal before being exterminated early after settlement of the Falklands because of its threat to sheep. Its confiding nature made it an easy target. Mr Waud may be interested to know that the Falkland Islands Trust set up in 1981 started a new Journal called 'The Warrah' in 1982.

Editor

MARINE CONSERVATION

The Marine Conservation Society is the new name for the former Underwater Conservation Society. The Society previously catered for divers but the name change means a broadening of horizons to include anyone with interests in the sea and marine conservation. Further details are available from Dr David Moss, Maths Department, University Manchester M13 9PL.

Following concern by the York Branch of the British Sub-Aqua Club about the over use of the Flamborough Head region, a voluntary marine reserve to protect wildlife is to be set up. The British Sub-Aqua Club Branch will also survey the area to provide data on sublittoral and intertidal zone habitats and the distribution of species. Further details on the proposed Marine Park are available from Mr L Stokoe, 76 Queen Victoria Street, York YO2 1HN.

SHEEP-GOAT CHIMAERAS

A one year old sheep-goat chimaera received much media publicity recently. It was produced by combining one 8-cell sheep embryo with three 8-cell goat embryos. It exhibits a mixture of hairy and woolly areas in the coat and the goat-like horns are twisted as in sheep. The blood contains sheep and goat red bloodcells. This experiment and others like it may improve the chances of successful hybridization between species considered incompatible and permit interspecific embryo transplantation. Chimaeras produced by embryo manipulation are already described between the two mice species, Mus musculus and Mus caroli.

(Nature 307 (1984))



- 8-15 June British Mammals in the Field.
At Preston Montford Field Centre (in
conjunction with the University of
Birmingham Extramural Department). £110
- 10-15 June Small Mammals at Flatford.
At Flatford Mill Field Centre, Essex. £88
- 27 July - 3 August Definitely Different.
(A mostly Mammals Course)
At Slapton Lea Field Centre, Devon, with
Nick Symons. £112
- 29 August - 2 September Bat Ecology.
At Orierton Field Centre, Pembrokeshire,
with Dr Bob Stebbings. £115
- 17-19 October The Red Deer of Exmoor.
At Leonard Wills Field Centre, Somerset,
with Dick Lloyd. £45 (£25 non-residents).
- 5-9 November British Mammals in the Field.
At Preston Montford Field Centre, Shropshire.
£88
- 25-30 November Small Mammals at Flatford.
At Flatford Mill Field Centre. £88

Details of any of these Courses are available from:

Edward Jackson
Deputy Warden
Malham Tarn Field Centre
Settle
Yorkshire
BD24 9PU

Mammal Crossword



MAMMAL CROSSWORD 2 : ANSWERS

Across

1. Pine Marten
5. Llama
6. Bats
8. Claw
10. Tiger
11. It
12. Tenrec
16. Koala
18. Vixen
20. Noctule

Down

1. Polecat
2. Nyala
3. Meal
4. Rabbit
7. Toes
9. Warren
10. Tick
13. Exit
14. Ra
15. Hare
17. Opt
19. No

REVIEWS

PINE MARTEN SURVEY OF SCOTLAND, ENGLAND AND WALES 1980-1982

K A Velander. Vincent Wildlife Trust 1983.

Kathy Carmichael nee Velander presents a useful survey of the distribution of an elusive and poorly known animal : the pine marten. The work (not surprisingly) concentrates heavily on Scotland. It confirms the extension of range in parts of Scotland but it is interesting to note the shrinkage of the population in areas of Sutherland which, in the 1920s formed its main stronghold.

Careful habitat surveys confirm that mixed conifer plantations are the most frequently used habitats. They highlight the importance of cover to the pine marten. An attempt is made to relate vegetational characteristics to the presence of martens. Mortality surveys show that the major cause of known mortality is keeping activity. Distribution maps include the known distribution in Yorkshire. It shows the disjunct occurrence in the north and south of the county but no details are provided and we must wait for Colin Howes report on distribution in Yorkshire currently in preparation.

The publication is attractively produced on high quality paper with the contents sparingly spread over 28 A4 pages. There are 8 full page maps and a sizeable appendix. There are, however, only nine pages of text and at a price of £2 this might deter some potential purchasers.

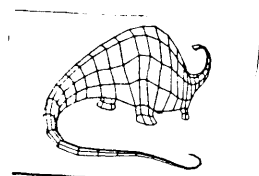
Barrie D S Smith

A NEW LOOK AT THE DINOSAURS - YORKSHIRE MUSEUM, YORK.

4 April - 28 October

It is good to see a major exhibition like this one staged in the provinces. Let us hope that there will be more of them. Certainly this one seemed popular and at times, elbowing away brownies and schoolteachers seemed the only way to see the exhibits!

The exhibition has been mounted in association with the British Museum (Natural History) and is presented in a clear and fairly imaginative way and includes a 'live' dinosaur habitat of cycads, ferns and gingkoes complete with synthesized roarings by the beasts themselves. The youngsters at the exhibit seemed to enjoy it and concepts like evolution are presented in an easily assimilated form. The mammalogist is not forgotten and that particular stem of the dinosaurs line is represented. One exhibit shows how intelligent dinosaurs might have developed without the ultimate domination by mammals



A NEW LOOK AT THE **DINOSAURS**

A major exhibition mounted in association with the British Museum (Natural History)

The Yorkshire Museum, York
4th April to 28th October
1984.

including man. This humanoid-looking reptile seems straight out of a Doctor Who set!

It is unfortunate that despite all the good points my overall impression was one of disappointment. Perhaps I overlooked the size constraints of the Yorkshire Museum, but nevertheless I could not help wondering where are all the dinosaurs? Admittedly there is the single dominating Iguanodon skeleton along with models, fossil footprints, eggs and coprolites but whilst appreciating the problems of transporting a Diplodocus or Stegosaurus across Lendal Bridge I still expected more whole skeletons and the tremendous diversity of dinosaur morphology did not, for me, come over.

In conclusion I must nevertheless urge everyone to judge the exhibition for themselves if only as a vote of confidence for the presentation of such exhibitions north of Watford.

Barrie D S Smith

NEW YNU PUBLICATION



Those of you who are not individual members of the YNU might have missed the publication of the new Bulletin. Number 1 was published early in 1984 and there will be an autumn edition. It has been felt for some time that there has been a need for such a publication in addition to the now nationally acclaimed journal the Naturalist. The Bulletin includes material previously channelled into the Newsletter and in addition will include regular features and additional items. In the Editor's words "the Bulletin is intended as a focus and forum for the expression and discussion of all such aspects of the Society's life

whether manifested in the enthusiastic delight of a child at its first sighting of a kingfisher diving or in the considerations raised by a local floral or faunal survey".

The first issue contains two items of mammal interest in the inimitable style of Colin Howes, on 'free-range' gerbils and porpoises (one recorded in the River Don in June 1983!)

Editor

THE YEAR OF THE RODENTS

We are now well into the Chinese Year of the Rat. This fact received much publicity at the beginning of the Chinese New Year. Perhaps less well known is the fact that it is also the Tibetan Buddhist Year of the Woodmouse!

YORKSHIRE MAMMAL GROUP

1984 Programme Summer/Autumn

JULY

Thursday 5th 'Out of Doors for Dormice' - an evening with
Ron Deaton of Harrogate Nats.
Meet at St John's College at 7 p.m.

Mid month BLACKWOODS TRAP - date to be arranged.

Midsummer break - Holiday time for most people but not for the
Bat Section - if you've any spare time or
energy why not join us?

SEPTEMBER

Thursday 6th 'Back with Badgers' - badger watching at a local
sett.
Meet at St John's College at 7 p.m.

Friday 21st)
Sunday 23rd) Trapping at HOPEWELL HOUSE FARM

OCTOBER

Thursday 4th 'Urban Foxes' - Dr Stephen Harris of Bristol
University.

Friday 19th)
Saturday 20th) MEMORIAL TRAP at Hutton Wandesley near Long Marston,
a potential YWT Reserve.

NOVEMBER

Thursday 1st 'Wildlife Control in North-east Nigeria' -
John Palmer of VSO talks about his experiences as
a Wildlife Officer.

Sunday 4th An afternoon with the deer rut at Studley Royal.
Meet there at 2 p.m. - lifts can be arranged.

DECEMBER

Thursday 6th 'Cycles and Hormones in Reproduction' -
AGM Dr Carolyn Sharp of St John's College.
7 p.m.

Mid month BLACKWOODS TRAP - date to be arranged.