



# Derbyshire Mammal Group

# News

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#### Annual Membership £5

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The Mammal Society Easter Conference, held at the University of Winchester in April, produced some interesting scientific presentations including the opening address by Dr Derek Yalden. Of particular note were the findings regarding the origin of dormouse, harvest mouse and red squirrel. (Ed.)

#### Updating the History of British Mammals

**Derek Yalden**  
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It is 10 years since a book of that title, and a Cranbrook memorial lecture, summarised my understanding of the subject. A lot has happened in this decade, none of it my original research. Never-the-less, it is worth pointing to a few of the major findings, drawing attention to some important remaining gaps, and suggesting where other researchers might take the subject further. We are now more certain that dormouse, harvest mouse and red squirrel are native to Great Britain, and that birch mouse should be added to the list of native mammals, now extinct. We still do not know how late root vole and mountain hare survived in England, but a lot more about the late survival of lynx, and perhaps beaver too. We also are beginning to get a clearer picture of the origins of the Irish mammal fauna, of island small mammals, and of the domestic species. The nature of the fauna of the "wildwood", and whether we can recreate anything of it, remain uncertain.

There are more conference abstracts on pages 6 and 7. (Ed.)

## Did Wirksworth Hate Hedgehogs?

Dave Mallon

Although it may be difficult to believe now, hedgehogs were once regarded as vermin and widely persecuted. This apparently happened because of the erroneous belief that they sucked milk from sleeping cattle. A series of Game Acts passed in the 16<sup>th</sup> century (notably one signed by Elizabeth I in 1566) listed all 'vermin' species, including hedgehogs, and formalised a system of bounty payments for each individual killed. The bounty for a hedgehog was set at 2 old pence (2d; 12d = 1 shilling, now = 5p), the same as an otter. Foxes and badgers were both 1 shilling per head (i.e. worth 6 hedgehogs), while polecats, wild cats, stoats were only worth 1d. Parishes were responsible for discharging these acts locally, paying the bounties and funding these through a special levy on local landowners and farmers.

Wirksworth churchwardens' records show that in the 36 years from 1658 to 1693, bounties were paid for 2,204 hedgehogs, an average of 61.22 per year. The slaughter was most intense in the 4 years 1690-93 when 693 were killed, with the highest annual total, 240, in 1692. By contrast, only 4 hedgehog bounties were paid in the following 32 years, 1694-1725. The churchwardens' rolls record them as *hedg hog*, *hedghogg*, very rarely as *urchin* or *urchen*. Hedgehog bounties were mainly paid in ones and twos, probably reflecting fortuitous encounters with the animals, but larger numbers were sometimes obtained: a certain John Higgott was credited with a total of 61 in the year 1667, which must have earned him a tidy income.

During the same period, 1658-1725, 221 foxes were paid for plus a single badger (referred to as a *boson*). Interestingly, no polecats, pine martens or wild cats were recorded, nor were any raptors or owls listed. The only bird species to have suffered regularly was the raven (also paid at 2d a head) with a staggering 1,182 bountied in the 20 years 1706-1725 (average 59 a year). The total numbers of foxes and ravens was actually higher, as some payments were combined, making it difficult to calculate the number of individuals of each species. Clearly ravens were far more numerous than now unless they were confused with crows, rooks and jackdaws, which seems unlikely, as these were all listed separately under the Acts.

Other parishes that paid large numbers of hedgehog bounties over the same period include Youlgreave, Hope, Hathersage and Marston-on-Dove. Of course, the people of Wirksworth and these other parishes did not actually hate hedgehogs. The large number of records most likely shows either that the local churchwardens were particularly conscientious in discharging their duty in this regard, or they were very efficient at recording

annual vermin payments. The lack of bounties paid after 1693 also surely reflects a shift in attitudes, or new churchwardens with different priorities, rather than an absence of hedgehogs. The special levy to pay for the bounties was probably unpopular, like most taxes, so it is also possible that pressure from landowners led to fewer payments.

Full details of the Game Acts, bounties and destruction of so-called vermin can be found in *Silent Fields* by Roger Lovegrove (Oxford University Press, 2007). The Wirksworth churchwardens' rolls can be viewed at [www.wirksworth.co.uk](http://www.wirksworth.co.uk).

## Recorder Update

Debbie Alston, DMG and County Mammal Recorder

Since my last update in September 2008 the records have continued to flood in. I set a target to break 30,000 records by Christmas. Well, by the end of 2008 we had more than 39,000 records on the database. The total at the end of February stood at 41,850, more than double the total 12 months previously! The distribution map for all records shows that there are less than 50 1km grid squares in the county without any records at all. This reflects the fantastic effort in recording made by DMG members and our liaison with other local and national organisations. We are confident that the remaining squares will be filled by the Mammal Atlas publication date of 2010.

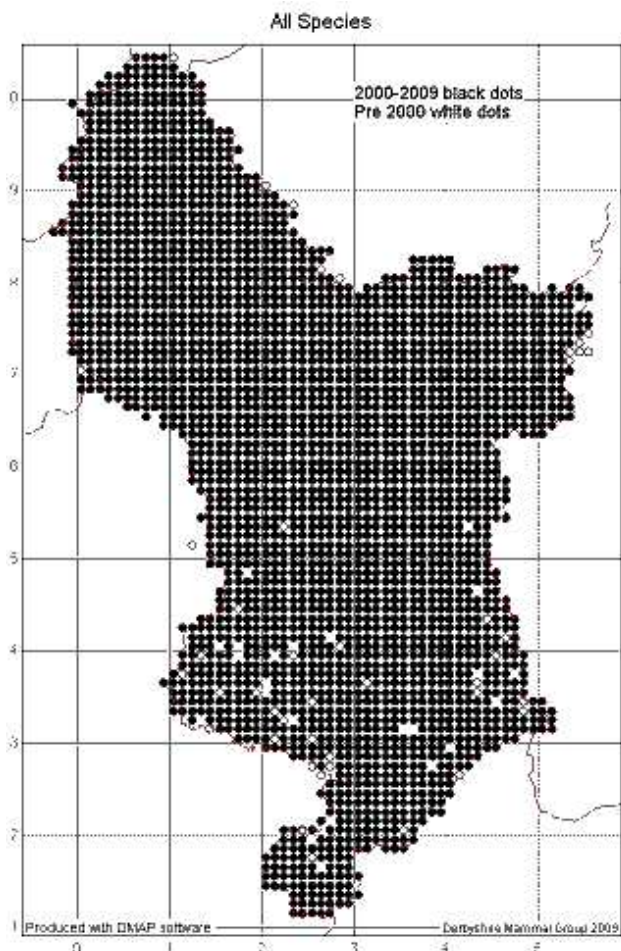
Records since August have been received from many DMG members including (in no particular order) Ian Wilbur and Jo Bissell, Rich Bacon, Derek Whiteley, Dave Mallon, Shirley Cross, Malcolm Hopton, Steve and Liz Lonsdale, Debbie & Dave Alston, Bill and Viv Cove, Kath Patrick, Helen Perkins, David Gravenor, Mike Ashford, Brian and Margaret Hobby, John Bland and Sue Jones, John Millar, Simon Roddis and Anna Evans. Other records have come from Derek Yalden, who sent in records from his notebooks since 2001, Chris Monk, Trevor Taylor, Chris Burnett, Shirley Freeman, Mike and Jenny Ellis, Fred Harrison, Dave Budworth, Bryan and Kate Barnacle and Tom French. We have also received a number of records from the public via the DMG on-line recording form.

I have been liaising with various national organisations

to receive mammal records. Through BTO, we received more than 3,500 mammal records recorded via their Garden Birdwatch scheme, more than 600 records from PTES's Mammals on Roads survey and more than 50 deer records from the national deer collision survey which recorded the incidents of deer involved in road traffic incidents. More locally we received 1,200 otter and mink records from Derbyshire Wildlife Trust, 100 records from Derbyshire's BTO Breeding Bird surveys and over 2,400 records from the Sorby Mammal Group.

The monthly 'square bashing' recording sessions have continued to prove very useful in under-recorded areas. Areas visited include Hulland Ward, Doveridge, Hope Valley, Wessington and Trusley. The record for the number of squares covered however, goes to the January session organised by Jo and Ian, where more than 20 'empty' squares were recorded!

Below is the map showing all mammal record at the beginning of March 2009.



The top 10 mammals recorded on the database are:

Placing	Species	No of records	% of all DMG records
1	Mole	2,701	16.35
2	Grey Squirrel	1,943	11.76
3	Brown Hare	1,640	9.93
4	Rabbit	1,420	8.59
5	Badger	1,275	7.72
6	Fox	1,247	7.55
7	Hedgehog	1,203	7.28
8	Mountain Hare	838	5.07
9	Field Vole	519	3.14
10	Water Vole	519	3.14

Progress on recording continues to be updated on a monthly basis in the species distribution maps on the DMG website. In addition to these we are now putting up coincidence maps, which show the number of species recorded per 1km grid square. This has helped to focus attention on under-recorded areas where perhaps only one or two species have been recorded and target areas for small mammal trapping for 2009.

The Garden Mammal Survey has had a big impact on species recorded in urban areas, especially Derby. Please see the separate report on the survey on pages 4 and 5 of the newsletter.

The Mammal Atlas Group has met a couple of times in the last 6 months and have agreed a publication date and format for the Atlas and are working on rough costings. We aim to have the Atlas ready in time for Christmas 2010.

Please keep sending in your mammal records to help us have a great and useful product in the Atlas. You can submit them on-line at:

[www.derbyshiremammalgroup.com](http://www.derbyshiremammalgroup.com) or e-mail them to [mammalrecorder@derbyshiremammalgroup.com](mailto:mammalrecorder@derbyshiremammalgroup.com)

**Brown Hares** The Wildlife Trusts report that brown hare numbers have increased by over one third on farms that have wildlife-friendly agri-environment schemes. *Source: Guardian Environment 23/11/2008*

**Deer** The Deer Initiative has recommended that 500,000 deer need to be culled each year in England and Wales to allow woodlands to regenerate. The current figure is around 350,000 deer culled annually.

See page 8 for more on deer. (Ed.)



**Derbyshire Mammal Group Garden Mammals Survey**

Please indicate the species you have seen in your garden using the form below.

Name: .....  
 Address: ..... Post code: .....  
 Telephone number: ..... E-mail address: .....

Mole (nilis)	Date seen: .....	Details: .....
Hedgehog	Date seen: .....	Details: .....
Fox	Date seen: .....	Details: .....
Grey squirrel	Date seen: .....	Details: .....
Rabbit	Date seen: .....	Details: .....
Brown Flat	Date seen: .....	Details: .....

Other species: please list:

1.	Date seen: .....	Details: .....
2.	Date seen: .....	Details: .....
3.	Date seen: .....	Details: .....

Please post your form to:  
 Debbie Court  
 Derbyshire Mammal Group Recorder  
 11 Wilford Road  
 Belper  
 Derbyshire  
 DE24 1NH

**Bats in Your House?**  
 Many of you will see bats flying around your garden in the evening, but it's difficult to locate their roosting sites, which are often under weatherboarding in houses or sometimes in roof spaces. If you have bats roosting somewhere in the fabric of your house you would like to hear from you. Please include a note with your garden mammals survey sheet providing as much information as possible (e.g. species if known, roost location, how many bats observed, how long bats have roosted in the building etc). Further information on bats in Derbyshire can be found on the Derbyshire Bat Group website: www.derbyshirebats.org.uk

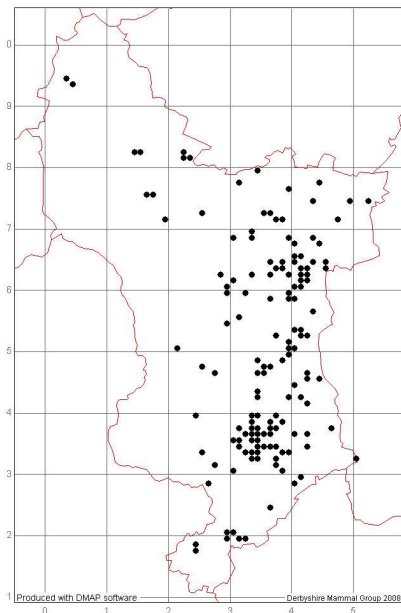
Working to protect British mammals

## Garden Mammal Survey

Debbie Alston

A year ago DMG launched, in partnership with other local organisations, the Garden Mammal Survey. The aim was to find out the distribution of relatively common mammal species in gardens. This would help fill in some gaps in our knowledge on mammals in urban and suburban areas for the Mammal Atlas and also to engage the general public in recording. A simple recording form was developed and sent out with member postings to members of the Women's Institute, Derbyshire Ornithological Society and Ogden Bird Club. DMG members also asked people to fill in forms at meetings, talks and large events such as the Go Wild in Derby.

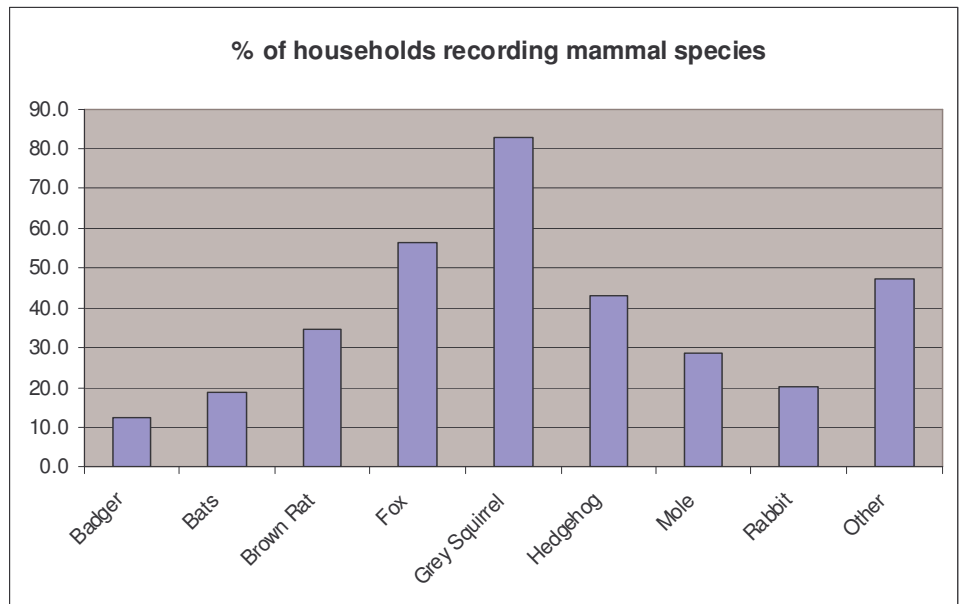
To date more than 700 records have been received from almost 200 households. Map 1 shows the distribution of participating households.



Map 1: Distribution of Households participating in the Garden Mammal Survey

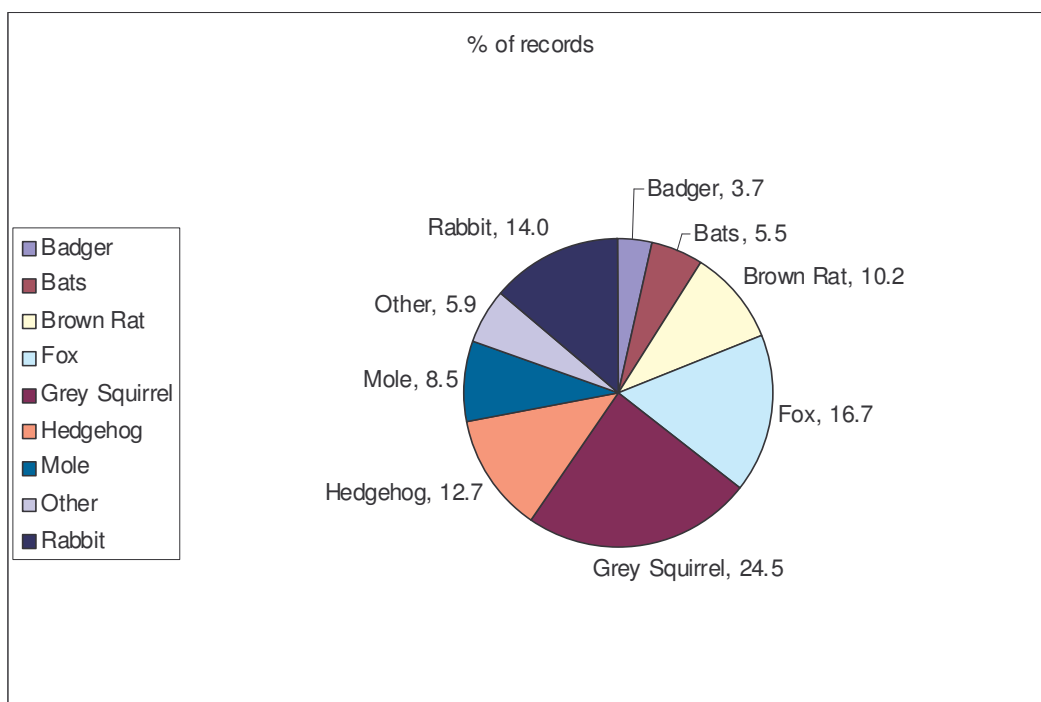
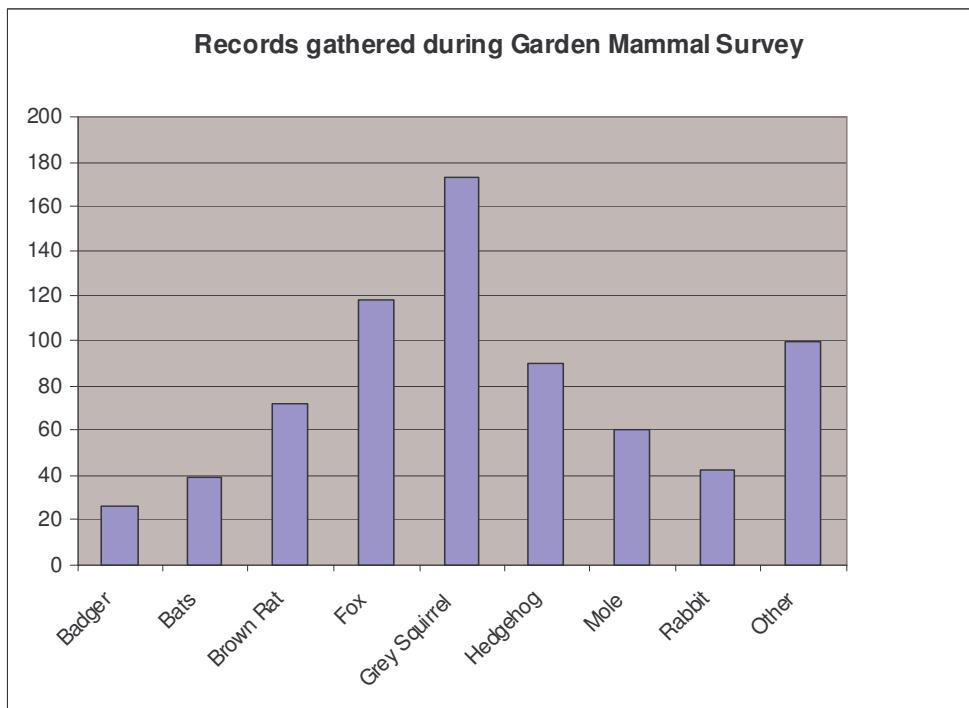
An analysis of the records revealed that the most common mammal recorded in gardens is grey squirrel. More than 80% of participating households recorded grey squirrel, many commenting that they were seen daily around a bird feeding station. Second most common species was fox, with hedgehog being the third most common. This is particularly pleasing as the majority of the hedgehog records were of live animals as opposed to mostly road casualties on the DMG database.

Almost 20% of households had seen bats flying around their house and garden.





Looking at the number of records per species this reflects the same pattern with 173 records of grey squirrel, 118 records of fox and 90 records of hedgehog. The 'other' category includes records of common and pygmy shrews, field and bank voles, house and wood mouse and stoat and weasel.



Derbyshire Mammal Group would like to thank all those households who took part in the Garden Mammal Survey. It has helped us to gain a greater understanding of the distribution of mammals in gardens, especially in urban and suburban areas.



# Mammal Society Easter Conference University of Winchester, 18<sup>th</sup>/19<sup>th</sup> April 2009



## A Selection of Abstracts

I attended The Mammal Society Easter Conference and was very impressed by the standard of the scientific presentations and posters, especially the student papers. The Mammal Society has produced a very useful Abstracts Booklet for all the presentations and posters from which I've selected a few that might be of interest.

The results of laboratory based techniques applied to otter scent glands taken at post mortem were discussed. The method shows some potential as a new otter monitoring technique if it can be developed for chemical profiling of otter spraints.

Also, interesting presentations on "Winter size reduction in shrews", alternative types of small mammal traps (modified Sherman i.e. with the addition of a nest box, at approx £20 per trap) also Havahart, Ugglan and Elliot, pygmy shrew hair tubes and an evaluation of polecat road casualty data. (Ed.)

## **Otter scent communication; development of a novel monitoring technique**

Eleanor Kean<sup>1</sup>, Elizabeth Chadwick<sup>1</sup>, Carsten Müller<sup>1</sup>, and Fred Slater<sup>2</sup>

<sup>1</sup>Cardiff School of Biosciences, Cardiff University, Museum Avenue, Cardiff, CF10 3AX.

<sup>2</sup>Cardiff University, Llysdinam Field Centre, Newbridge-on-Wye, Llandrindod Wells, LD1 6AS, UK

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Standard monitoring for otter *Lutra lutra* identifies otter presence but does not provide information about population structure. DNA analysis of spraints can identify individual otters, but is costly, time-consuming and has low success rates. A novel method is needed to better monitor populations and assess conservation efforts. It is thought that otters largely communicate using scent, so chemical profiling of otter spraint has the potential to provide much needed information such as sex, age, reproductive status and individual identity. Sampling using headspace SPME (solid phase micro extraction) and analysis using GCMS (gas chromatography mass spectrometry) have been used to distinguish volatiles from scent glands taken at post mortem. Here we present preliminary results distinguishing otters by sex and age group. Analysis of more scent glands from our considerable archive will be used to develop a predictive model with the aim to discriminate otter identity from spraints collected in the wild.

## **Winter ecology of soricine shrews: investigating the functional basis of Dehnel's effect**

Sara Churchfield<sup>1</sup>, Leszek Rychlik<sup>2</sup> and Jan Taylor<sup>3</sup>

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<sup>3</sup>Institute of Biology, University of Białystok, ul. Swierkowa 20 B, PL 15-950 Białystok, Poland

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The decrease in size of soricine shrews in winter (Dehnel's effect) is an intriguing yet poorly understood aspect of shrew biology. Dehnel's effect suggests that winter is a difficult time for these tiny mammals but it is not clear how shrews modify their energy budgets, diets, foraging behaviour, space use and activity to assist their survival through Holarctic winters when food is assumed to be scarce and elusive. We are investigating winter survival of shrews in N.E. Poland by a programme of ecological, physiological and behavioural studies with the aim of elucidating the adaptive value of Dehnel's effect. We are studying space use, circadian activity, feeding ecology and metabolic rates of over-wintering *Sorex araneus* in relation to the abundance and location of their invertebrate prey. Data collected from shrews live-trapped during the coldest months (January-February) are compared with summer-caught shrews (June-July). Here we present some of our preliminary findings.

## Can Sherman small mammal traps be used as an alternative to Longworth traps in the UK?

Dawn Scott<sup>1</sup> and Richard Yarnell<sup>2</sup>

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The most commonly used small mammal trap in the U.K is the Longworth trap, but this is also one of the most expensive. There are several, less expensive commercial live-traps available, such as the Sherman trap but no comparative surveys have been undertaken between Sherman and Longworth traps in the U.K. In this talk we will be discussing the advantages and disadvantages of each type of trap and presenting results on a survey undertaken in hedgerows to compare capture results from the two trap types. We will also present a recommendation for modifying Sherman traps to help alleviate some of the proposed problems with using them in the U.K.

## A simple and efficient method to monitor pygmy shrew (*Sorex minutus*) populations

Michael Pocock and Sophie Bell

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Pygmy shrews are abundant and widespread, but their recent and historical population trends are poorly known. This is because they are difficult to survey, even using the live-trapping methods that are suitable for other small mammal species. We have developed a method to detect the presence of pygmy shrews using hair tubes. We tested several designs (varying aperture size, presence of bait and position and type of sticky strip) in order to ensure that the only hairs captured belonged to pygmy shrews. We then identified the optimum design of tube to efficiently detect pygmy shrews and measured its effectiveness across a range of habitats. This is a simple method and costs just a few pounds for all the equipment to survey a site. We will discuss the opportunities and limitations of these hair tubes, particularly considering their role in a national small mammal monitoring scheme.

## Cardiff University Otter Project: making good use of road kill

Elizabeth Chadwick<sup>1</sup> and Fred Slater<sup>2</sup>

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Since 1992 the Environment Agency has funded post mortem examinations of otters found dead in the UK. The gradual recovery of otter populations has contributed to a steady increase in numbers received each year. Most otters found are killed by road traffic accidents, but illegal killings may go largely unrecorded. Here, we present an overview of the techniques used during post mortem examination, and a brief summary of some of our research findings. Current research includes landscape genetics, dietary studies, toxicology, parasitology, monitoring of otter health and reproductive activity, and chemical signaling. While otter deaths are clearly undesirable, opportunistic use of carcasses found can contribute enormously to our knowledge of this elusive species. Observations, measurements, and biological samples are of great benefit to ecological research, while detailed information about mortality incidents can be used to help guide mitigation efforts, thereby helping inform conservation of this EU protected species.

## An evaluation of the use of road casualty data for measuring distribution of polecats *Mustela putorius*

Sheryl Bradley and John Dutton

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E-mail: sherylb4@btinternet.com

The numbers of the polecat, *Mustela putorius*, and its distribution, have been increasing in recent years. However, its inclusion on the UK Biodiversity Action Plan gives a continued (legal) obligation to measure its abundance and distribution. Monitoring of road casualties has the potential to be a reliable measure of species distribution, although results may be biased due to traffic variables. This study investigated the use of polecat road casualties for recording distribution using casualty data from the Vincent Wildlife Trust polecat survey of Britain 2004-2006 and traffic information from County Councils and the Department of Transport. Road 'length' and vehicle traffic flow from each county had no significant effect on the number of polecat casualties recorded ( $p = 0.133$  and  $p = 0.28$  respectively). This shows that traffic variables, at least for this species, do not affect the likelihood of road casualties. Thus road casualty data does reflect distribution.

**STUDENT POSTER**

## Deer Stalking

Steve and Liz Lonsdale

In October 2008 a group of DMG members spent a few days at the Aigas Field Centre, near Inverness, as a follow-up to our visit in May 2007 (see Autumn 2007 Newsletter). This time we concentrated on Red Deer, including rutting behaviour, farming, and stalking. As well as enjoying the excellent facilities and food at Aigas, we saw 11 mammal species (including Red, Roe and Sika Deer, Otter, Pine Marten, and European Beaver (captive)), and good views of Golden Eagle.

As part of the course we learnt about deer stalking, from a historical perspective through to present-day methods, including the reasons why culling is required (principally to keep numbers down and to maintain a healthy population, as there are no natural predators to do that job), how targets are set (by the Red Deer Commission, soon to be part of Scottish Natural Heritage), and the tools and approach used to ensure that animals are killed quickly and cleanly.



Male Red Deer

The group took part in an (unarmed) stalk, though due to the size of the group it was not possible to get very close to the animals.

Once the course at Aigas was over, we drove south to Deeside, for a few days. While there we walked in the Birse Forest, an area of moorland in the southern part of the Cairngorms National Park, where the land is managed

for Red Deer and grouse – the Finzean Estate offers a couple of specialist game targets:

- The MacNab: a salmon, a brace of grouse, and a stag on a single day
- The MacHedge: a roe doe, ten rabbits, and two pheasants

We were interested in less bloody (and costly) activities, and were hoping to get good views of the Red Deer in one of the glens. Initially we did not see any deer, but eventually spotted a stalking party on the hillside high above us on the opposite side of the glen. It became apparent that they were searching for something, and we saw them find a dead stag, which they had earlier shot. While we were some distance away we saw them summon the argocat (an amphibious, all terrain vehicle, used for taking carcasses off the hill) and load the dead animal onto it before driving out-of-sight over the ridge. In the old days, a fire would have been lit to summon the ghillie and pony to take the carcass off the fell, but mobile phones / radios and vehicles have made that aspect quicker if less romantic.

By now we had spotted a couple of groups of deer further up the valley, and we continued to watch them for an hour or so, when we heard a shot. The deer we were watching quickly moved 40-50 metres further up the hill, but then settled, as they could not tell from which direction the shot had come. We could not see the stalkers, or any felled deer, so after waiting a while we continued on our walk.

Later in the day we were about to leave the glen when we saw the argocat coming off the hillside. We waited for it to reach us, and watched as the party transferred three dead stags from the argocat to a trailer, and drive down the valley – presumably to get the three salmon and three brace of grouse to complete the set.



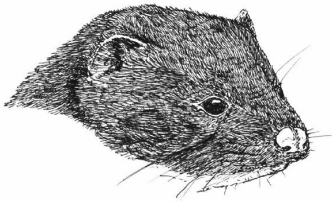
Argocat with Red Deer



## Mink Control at Calke

Bill Cove

We have had a history with mink in the area for about 20 years, before that, back in the late 1970's there was a healthy population of water vole on the estate lakes. The local gamekeepers caught, and shot some mink, but after 1995, within the Calke Park ponds/Staunton Harold reservoir area, no active control took place and numbers had grown. We had several years where the fisherman could tell stories of mink crossing the platforms they were sitting on, or trying to attack fish in their 'keep-nets', or tales of attacks on ducks and moorhens.



American Mink  
by Julian Jones

In 2006 I expressed an interest in using a 'mink raft' at Calke to help keep numbers down on the estate. Helen Perkins was then working on the water vole project for DWT and was actively sourcing sites to use the Game Conservancy 'mink raft'. She brought a raft to Calke to show myself and a team from the Seven Trent ranger service. Helen left the raft at Calke.



Mink Raft  
Photo by Steve Docker

The idea behind the raft is to cut down on the effort required to run a trapping attempt. As all traps have to be checked at least once and preferably twice a day, a lot of effort is required for the work. The raft consists of a floating platform with a tunnel set up that can either have a wet clay pad on it or a standard cage trap. The idea of the pad is to indicate when a mink is in the area as they are very inquisitive of any hole or tunnel and leave their footprints behind. The pad only needs checking when convenient, perhaps once a week, and once there is an indication that mink are in the area, the pad is exchanged for the cage trap and more effort put into checking.



American Mink Footprints in Clay Pad  
Photo by Bill Cove

I ran the raft over the winter of 06/07 and managed to catch 2 mink. Because of works to some of the ponds I didn't use it again until August 2007, between then and end of February 2008 I caught another 8 mink. I have had it 'at work' again since August 2008 until present (Feb 09) and in that time I have had only two sets of prints on the clay but on both occasions I had no success in catching, my feeling is that they were just 'passing through'.

What was noticeable in 2008 was the number of mallard that reached the fledging stage on the ponds, we always see lots of young ducklings, but they always disappeared before time, I was also aware of moorhens having broods again and 2 pairs of little grebe were successful.

Of course, it could be that any mink left have an aversion to 'rafts' so don't give themselves away, but more likely I think that the resident population has been cleared and now it is just a case of vigilance to ensue they don't establish themselves again.

## Jim Mart Reserve Bat Hibernaculum Project

by Jim Alder, Derbyshire Bat Conservation Group

Some time towards the back end of last year Ian Wildbur, a member of Ogston Bird Club (OBC), contacted Derbyshire Bat Conservation Group (DBCG) regarding their Jim Mart reserve and more specifically the old Severn Trent water storage container that lay hidden several feet below ground.

Whilst visiting the site earlier that year Debbie Alston (Biodiversity Officer for Lowland Derbyshire) had peered into this underground chamber and suggested that it had the potential for use as a bat hibernation site. This was the spark that kicked off the "Jim Mart Reserve Bat Hibernaculum Project".

On 2<sup>nd</sup> December 2008, Jim Alder from DBCG met on site with Ian to have a quick look inside the underground container. Jim was immediately impressed with the site. The "storage tank", as it had been described, is a chamber approximately 1m below ground level entered using a rusty old ladder via a small inspection hole. The inner dimensions are about 15m by 12m with a maximum height of about 3m. Jim had expected a rather featureless interior but instead found something resembling a vaulted cellar being divided up into five small parallel tunnels with archways connecting them.



About half of the Derbyshire list of bat species are known to use underground sites, such as mines, caves, ice house, cellars etc to hibernate in during the winter. Underground sites can provide the right temperature and humidity conditions for bats to enter a state of torpor allowing them to live off stored energy during the time of year when their usual insect prey is in short supply. Temperature and humidity readings were taken and both were typical of conditions found in sites used by bats in winter. The humid conditions are due to the odd leak here and there.

Not all is perfect though; the container is of brick construction, which has then been rendered over, leaving

almost no cracks or fissures for bats to hide in or ledges to hang from. The access is also nothing more than a hole in the ground - which whilst acceptable to bats, poses something of a hazard if left uncovered.

Both of these problems can be easily resolved. Planks and batons of timber can be fixed to the walls and ceiling of the chamber along with old paving slabs and bat boxes to provide numerous features for the bats to utilise. Even taking out some anger on the walls with a lump hammer and chisel has been considered. The entrance could be fitted with a pill box type structure with vertical grills around the sides to allow bat access, but keep out people and also the worst of the elements allowing for more stable conditions below ground.

A second visit in January by other members of DBCG had everyone in agreement that the site showed great potential. It had to be made clear though whilst everything may look good to us, the bats may have a different opinion. There have been many attempts at purpose built bat hibernaculum, but success has been only limited, perhaps because we are too impatient and expect bats to move in the minute work ceases. Consider the fact that most of the man made sites that bats use for hibernation are often several hundred years old, then we shouldn't get too disheartened if sites like these aren't used for a few years.

The site has many things in its favour and things that could be easily put right to make it more likely to be used. The real bonus is that the main structure is there, it just needs tweaking so the cost of the project will be far less than starting from scratch, it is too good an opportunity to miss.

At the time of writing DBCG have provided some rough plans for the modifications, which are being costed up, and avenues for funding are being looked into.

Should OBC decide to proceed the next step will be to clear out some of the rubbish, which had been dumped in the chamber. Sounds like a good excuse for a work party!





## Formby Revisited – The Red Squirrel Decline

Steve and Liz Lonsdale

Many of you will remember the successful DMG outing to Formby, organised by Steve Docker in April 2005 (see Newsletters for Autumn 2005 and Spring 2007). During that trip we had excellent views of Red Squirrel (*Sciurus vulgaris*), as well as an evening visit to the Natterjack Toad breeding colonies.



Red Squirrel  
Photo by Les Willis  
(Wildwood)

Having heard that the squirrels at Formby were encountering problems, we visited in October 2008. Grey Squirrels (*S carolinensis*) are now present in the area, and the 'Reds' are succumbing to the Squirrel Pox Virus ('SQPV'), which the 'Greys' carry but are immune to – which in effect makes the Greys a continuous reservoir for the virus. SQPV causes skin disease and ulceration. The ulceration, particularly around the mouth, affects the ability of the squirrel to feed, and so it progressively loses condition and dies, usually within weeks; however, while still alive it remains a major source of infection to other squirrels. There is apparently no known case of a Red Squirrel in the wild surviving infection by SQPV.



Red Squirrel with  
SQPV  
Photo provided by  
Steve Lonsdale

Since their introduction (from North America) in the nineteenth century, Greys have spread to most of the British Isles, numbering close on 3 million (mostly in Wales, southern England, the central belt of Scotland, and middle and eastern Ireland). Reds are now almost absent from England, and there are estimated to be only

200,000 in the British Isles (mainly in Scotland, the south of Ireland, and the Lake District of England). Greys have also been introduced to Italy, and are spreading in the north of the country; this could have a devastating effect on the continental European Red distribution.

In spring 2006 the population of Reds at Formby was estimated at 800-1000, a year later the estimate was down to 400. The initial high density, in conjunction to them being fed in localised areas, is likely to increase the ease with which the virus is spread between them. Action is being taken to prevent further ingress of Greys, and to remove sick Reds from the remaining population, but the outlook is bleak.

Recently, scientists from the Institute of Zoology, Zoological Society of London, have found that some Reds have developed immunity to SQPV. This means that eventually a vaccine may be developed, though this is likely to take some years, and administering to a wild population numbering tens of thousands will in itself be a problem.

Dr Sainsbury and his colleagues were testing fluid samples taken from 500 squirrels that had been brought to the Institute for autopsies between 1993 and 2005 to investigate how SQPV was spreading. They discovered that eight of the squirrels carried antibodies to the virus – Dr Sainsbury believes that the Reds must have been exposed at some point to the virus, and either didn't develop the disease, or developed the disease and managed to fight it. This is the first evidence that Reds might have some immunity, and would be able to counteract the disease.

A further hope is that there is a successful breeding programme of Reds being undertaken by Pensthorpe Conservation Trust in Norfolk, and currently surplus animals are released on Anglesey (N Wales).



Formby Habitat  
Photo by Steve Docker

**Badger Trust Conference**  
21<sup>st</sup> to 23<sup>rd</sup> August 2009  
University of Wales, nr Newport, South Wales  
[www.badgertrust.org.uk](http://www.badgertrust.org.uk)

**The Mammal Society Autumn Symposium**  
Human-Wildlife Conflict Resolution  
20<sup>th</sup> and 21<sup>st</sup> November 2009  
London Zoo

**Dormouse** Research into DNA of dormouse litters in Cheshire and North Wales has revealed that young in the same litter often have different fathers, as many as three in some cases. The 7<sup>th</sup> International Dormouse Conference was held at Cheddar in September 2008. Reports of research presented included the importance of hedges as dormouse habitat in Belgium and the long activity period in Latvia, allowing dormice there to have 3 litters a year. In other sites, dormice living in conifer woodlands feed on pollen to such an extent that their droppings are yellow. *Source: NW Dormouse Partnership Report 2008.*

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