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### Annual Membership £5

The Derbyshire Mammal Group is affiliated to The Mammal Society



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**News & Events** 

# Out with the old and in with the new? Genetic evidence of differing origins and fates of pine marten populations across the British Isles.

The Mammal Society Easter Conference April 2011

Neil R. Jordan, John Messenger, Peter Turner, Johnny Birks, Elizabeth Croose, Catherine O'Reilly.

Question: Are relic pine marten populations still present in England and Wales?

**Answer:** No. Relic populations have been replaced by escaped/released individuals.

We investigated the origins and persistence of European pine marten (Martes martes) populations in the British Isles using mitochondrial DNA. Haplotypes of contemporary and historical marten populations from the same areas (Ireland and southern Britain respectively) differed. While Irish and southern British stock appear to have a common origin, the recent history of these populations differs. Genetic results from Ireland suggest that contemporary Irish pine martens are descended from a relict population which passed through an early 1900s bottleneck, while in southern Britain current data suggests a significant change in the population's genetic composition. In England and Wales, the apparently sole historical haplotype (i) has been replaced (since 1950) by a contemporary population consisting predominantly of individuals of haplotype a (currently also found in Scotland). This, and the occasional occurrence of haplotypes originating from continental Europe and others suggesting introgression with M. americana, suggest that the relict populations of England and Wales have been replaced or at least infiltrated by occasional released, escaped and/or translocated animals.

#### **Small Mammal Trapping**

Steve and Liz Lonsdale

In 2010 we carried out six sessions of live trapping for small mammals. As this is the last year of data gathering for the Atlas, we concentrated on areas with few small mammal records:

April: Holly Wood, Edlaston: Wood Mouse,

Common Shrew, Bank Vole.

May: Longcliffe: Common Shrew, Bank Vole.

May: Wirksworth: Common Shrew.

June: Chee Dale: Wood Mouse, Common Shrew,

Bank Vole, Field Vole.

August: Golden Brook, Breaston: Wood Mouse,

Water Shrew, Bank Vole.

September: Alton: Wood Mouse, Common Shrew,

Bank Vole, Field Vole, Weasel.

Catch rates were low, particularly in the early part of the year, which may have been due to poor habitat (particularly Longcliffe and Wirksworth, which were limestone quarrys with little ground cover), and may have been at least in part due to the cold winter resulting in reduced populations of small mammals in the spring. The Weasel at Alton was a first for a DMG trapping session (and for Steve).

In 2011 we are planning to concentrate on a longer term project at a fewer number of sites. Any DMG members are welcome to join us on one or more of these sessions (space permitting). Each session usually involves 4 meetings each of around 2 hours on Friday evening, Saturday morning and evening, and Sunday morning. If you wish to do so please contact us.

# <u>Cross-species comparison of whisker movements in</u> small British wild mammals

The Mammal Society Easter Conference April 2011

Tony J. Prescott, Robyn A. Grant, Ben Mitchinson and Hazel Ryan

Rats and mice sweep their facial whiskers (vibrissae) back-and-forth at rates of up to 25hz whilst exploring. This rhythmic "whisking" behaviour is thought to boost the animal's ability to acquire useful information through vibrissal sensing. Little is known about whisker movements in other rodent species, or to what extent non-rodent mammals move their whiskers. We used high-speed digital videography to examine whisker movements of nine species of British rodent—wood, harvest, yellow-necked, and house mice, field, bank, and water voles, brown rat, and hazel dormouse—and one non-rodent, the water shrew. All rodents studied

showed some whisker movement resembling that of common mice and rats, however, we did not observe any comparable rhythmic whisker movement in the water shrew. These results show that whisking occurs not just in "mouse-like" rodents (mice, rats, voles, etc.) but also in Gliridae (dormice), suggesting that their common ancestors may also have been whisking animals.

#### First Record for Derbyshire

Dave Mallon

The following photograph (source unknown) was sent to DWT enquiries (thanks to Nick Brown for passing it on).



It was taken in a garden in Matlock on 7 June 2010 and shows a dead mouse being eaten by a larger rodent, which continued to do this for a few minutes before hopping off. This is a Garden Dormouse *Eliomys quercinus* or its very close relative, Asian GD (or desert dormouse) *Eliomys melanurus*, which is very similar in appearance and was until recently regarded as just a subspecies. GD occurs in France right up to the Channel coast and there were 1990s records from Kent (cat kills), Surrey and London. These are generally assumed to be stowaways or releases.

The Matlock Mouse must surely be an escape. The fact that the animal stopped to look while being photographed may indicate some familiarity with humans. Asian GD are kept as an exotic pet and may be the likeliest possibility. A very nice picture of rodent eating rodent (a very unusual occurrence). Can anyone identify the victim for the records? Worth keeping a look out for: would be a shock to find one in a Longworth!

#### **Recorders Report March 2011**

Debbie Alston

It is over a year since I wrote my last recorder report. It has been a busy twelve months chasing, receiving and sorting the last set of records for using in the Mammal Atlas. Since March 2010 records have been received from the following people, in no particular order: Brian and Margaret Hobby, Shirley Freeman, Dave Mallon, Shirley Cross, Derek Whiteley, Derek Yalden, Debbie & Dave Alston, Marion Bryce & Long Eaton Natural History Society, Dot Morson, Steve & Liz Lonsdale, Findern Footpaths Group, Rich Bacon, Bryan & Kate Barnacle, Norman Jones, Kelvin Lawrence, Bill & Viv Cove, Jo Bissell & Ian Wildbur, Dave Budworth, Anna Evans & Ben Young, Simon Roddis, Kath Patrick & Nick Brown, Mike & Jenny Ellis, Steve Docker, Chris Monk, Malcolm Hopton, Iaian Stafford, Val & Bob Clinging, Roy Frost, Mike Williams, Chris Burnett & Gina Siddals and Trevor Taylor.

In addition, some very large datasets were received including almost 20,000 records from Derbyshire Biological Records Centre, over 4,000 records from Derbyshire Wildlife Trust, over 4,000 records from Sorby Mammal Group and nearly 3,000 records from the Derbyshire Bat Conservation Group.

After a few meetings and discussions throughout the year, drafting of text from the Atlas started in the autumn and a few accounts were circulated for comment before Christmas. By the close of the database in early January 2011, it had more than **91,600 individual records** on it, an amazing total and one that reflects the effort that the Group has put into the Mammal Atlas project! Once the dataset had been closed, Steve Lonsdale and I spent a day tidying the database, removing duplicates and using pivots tables to prepare the statistical analysis for use in the species accounts. The earliest record on the set is 1774 for a report of Dormouse in Stubbing Wood (taken from information in the Victorian History) and the latest was a dead pygmy shrew in our garden on 31st December 2010.

The last coincidence map, which was done a few weeks prior to the closing of the database, showed a very impressive coverage of recording across the county. The higher the diversity the more species that had been recorded in that 1km grid square.

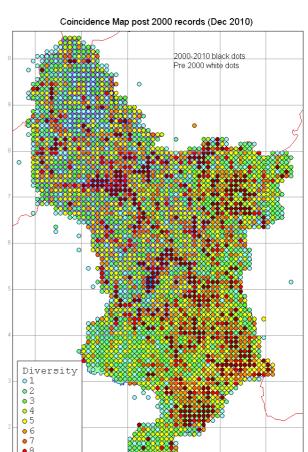
# UK BAP Mammals: Interim Guidelines for Survey Methodologies, Impact Assessments and Mitigation

Editors: Cresswell, Birks, Dean, Pacheco, Trewhella and Wells.

Publication planned for Autumn 2011

#### Did you know?

The word spraint, as used for an otter dropping comes from the Old French verb 'espraindre' meaning 'to squeeze out'. (ed). Due to a number of issues, the timescale for the publication has slipped a little, but it is still hoped that the publication will be ready for summer 2011.



We may have closed the database for the Atlas, but it is open to receive any new records of mammals to add to our knowledge and to contribute towards the next Atlas (?!) and future projects. So, please continue to send in your mammal records either on the spreadsheet, via the website or on a scrap of paper to 90, Over Lane, Belper, Derbyshire DE56 0HN.

Debbie Alston (Mammal Recorder) mammalrecorder@derbyshiremammalgroup.com.

#### Mole Fortress

Jo Bissell and I have a small project we wish to enact involving investigation of a Mole fortress. Moles build fortresses for their breeding / nest sites, particularly in areas with high water tables or subject to flooding, in order to raise the nest above ground.

If you come across one on private land with an amenable owner who is likely to grant us access, please would you let Jo or me know.

#### Steve Lonsdale

#### **Tree Climbing Stoat**

Bill Cove

I spent a couple of hours on Christmas eve trying to take some pictures of some wild fallow bucks that I knew were 'holed up' in a small wood near Melbourne in the South of the County, it's a small, quiet area and the terrain is very rugged as it used to be a quarry site that is now covered in woodland. I had managed to get within 20yds of the deer by crawling in the snow, up a bank, and was resting on my elbows looking onto the plateau where the bucks were resting. I was hoping for them to move closer to get better pictures.

Out of the corner of my eye I caught sight of a stoat approaching from an angle to my right. It was leaping and landing on all four feet in the snow similar to how I have seen squirrels move in snow. As I was set with my camera looking the other way, I couldn't just swing round without it seeing me so I was content to watch it approach to within about 6ft of me before it turned down the bank I was lying on and carried on down the slope, passing close to my dog, Gwen, who I had left lying in wait for me to return. She watched the stoat pass and carry on its way without moving; I do like a well trained dog!

The deer seemed that they were not intending moving from the bushes they were in so, after a while, I slid away back down the bank and retraced my steps back to where I had left the vehicle. Just before I got there I became aware of a commotion a little further down the track, it was a combination of lots of alarm calls from nuthatches, tits and wrens which suggested to me that there was a predator, possibly a fox on the move. I didn't have to go far to see the cause, it was the stoat that was now ranging over an open area of bank that was covered in low growing scrub and bramble. It was now hunting and going from each bit of cover in turn looking for any prey. I squeaked it a few times to see if it would come towards me for a photo, but despite coming a few yards, it then turned and carried on across the bank. Again I was happy to watch it, as normally I have only had fleeting glimpses, and in fact it was a while before today since I had seen one at all.

As it moved away it then did something I had not seen before, it passed by the base of a large ash tree and turned and just walked straight up it, as well as any squirrel would. It disappeared around the back and then re-emerged much further up and it was heading for a cavity in the tree at around 6 metres. It approached the hole and went inside without stopping, reappearing after a few seconds to come straight back down the tree and carried on into the distance. I took a series of photos of the event, and although at some distance the benefits of digital 'enhancement' means that I do have a few shots of the event as proof!

I think I asked myself the question "what has it found in the hole before?" It didn't just come across it by accident; it was a definite visit to see what was in there. It was a good enough site to have stock dove or little owl in. but I wonder what would have happened if it was a tawny owl or even a squirrel, I wonder what the outcome would be.

I would be interested if anyone else has seen this tree climbing behaviour before.





#### **Targeted Square Searching in the Snow**

Bill Cove

With all the snow around in early December it was a good time to catch up on a few targeted searches for mammals to add to the atlas records, in particular there were several squares I had dealt with that hadn't thrown up fox records, yet I was certain that they would be resident. A little time around a map, while linking to the atlas records on the group's web site gave me a list of roadside positions to try. Some of the sites were more residential than rural but with a bit of searching you can seem to find green spaces within most 1k squares.

Fresh snow over one afternoon and early evening was all I needed to plan the visit next morning and although it had turned frosty overnight it was still relatively easy to pick up the tell tale signs of fox tracks in all the areas I visited, I also had rabbit, fallow deer and badger prints on the 'tour', but these species had already been recorded for the area.



Badger, front and rear (above) and Wood Mouse run (right) Photos by Bill Cove



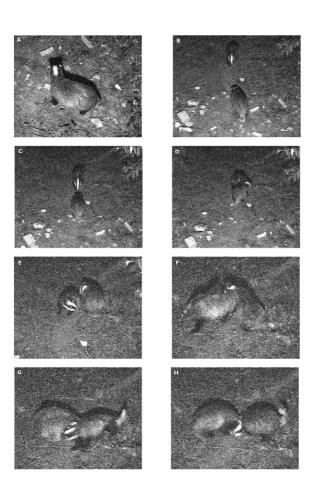
So if you want to know what's out and about around your area, a little time walking in the snow could tell you more than a whole lot of time walking when it's fine.

#### **Autumn leavers**

David Dixon

Badgers are highly territorial but social animals which live in small groups based on an extended family structure. Consequently, there is the risk of inbreeding and the build up of deleterious genetic traits unless mechanisms have evolved to prevent this from happening. In the case of the badger, evolution has favoured outward dispersal of young males in the autumn immediately following birth, i.e. before they become sexually mature.

These reluctant outcasts face a very difficult and dangerous task in finding a new home, especially in areas where badger densities are high, and many are killed in the attempt (witness the peak in badger road deaths in the early autumn). This rare and dramatic series of video stills, taken in September 2010, shows a young male badger being attacked, then investigated, and then attacked again by a dominant boar, possibly its own father, at a stage when the young animal was just beginning to emit some olfactory clues to its sex and pending adolescent state.



After a series of bruising and highly vocal attacks, interspersed by close-up and personal investigations focused primarily on the main olfactory area beneath its tail, the now visibly shaken and savagely bitten young badger was forced to run for its life out beyond the territory margin, chased all the way by the much larger and stronger adult boar.

In contrast, at other times of the year, roving adult male badgers can seemingly move peaceably between social groups without eliciting any aggressive response from the resident boars. Clearly, evolution in the badger has favoured behaviours that encourage new genes into breeding groups, while reducing the likelihood of inbreeding.

#### Messing About on the River

Steve Lonsdale

Darley and Nutwood Local Nature Reserve, near Darley Abbey (north Derby) is developing a good mammal list. Following some potential evidence of Otter on the reserve, Keith Dodd organised the loan of a couple of canoes from the local boat club for a survey. I went along for the ride, and had an enjoyable couple of hours being transported up and down (by those more competent with a paddle than me).

Unfortunately, we were not able to confirm presence of either Otter or Water Vole, but did find some Brown Rat evidence, and had a thoroughly good time on a sunny May morning.



I would recommend this method of surveying a water course as it allows relatively easy access to the bank on both sides of the water, as well as giving a mammal's eye view of the habitat.

#### Who called it that?

John Bland

When I was checking up the origins of some mammals names I was struck by how many languages we have borrowed the names from and created this "alphabet of animals" to illustrate the point.

Aardvark is from the Afrikaans aard for earth and vark for pig.

Binturong comes from Malay.

Capybara is from the Tupi language of the Amazonian Indians. Deer is directly linked to the German word tier, meaning animal.

Eland is from the Dutch word for elk

Fox derives from a Sanskrit word puccha meaning tail.

Giraffe stems from the Arabic zafara.

Hippoptamus is from the Greek hippo meaning horse and potamus meaning river.

Impala is the Zulu name for the animal.

Jackal comes from Persian via Turkish.

Kudu is from the Xhosa language of the Bantu people of South Africa.

Llama is from the Spanish who borrowed it from the Quechua language of Peru.

Muntjac is from the Sundanese minchek.

Nilgai comes from the Hindi nil meaning blue and gai meaning cow.

Ocelot abbreviates tialocelotl, the name of an animal in the Nahuatl language of the Aztecs.

Porpoise is from Latin. The por is from porcus meaning a pig and the poise from piscis a fish.

Quokka is the name of a rat-like Australian marsupial and stems from the Aborigine language.

Racoon comes Algonquin the language of native

Americans in the Ottawa and Quebec areas.

Serval is from Portugese cerval meaning deer like.

Tarsier is from French and relates to tarsus because of the structure of the foot.

Uakari is the local Amazonian Indian name for a South American monkey

Vole is from the Norwegian word voll meaning field.

Wapiti is from the language of the Cree indians.

X – I know it's a cheat as no mammal name starts with  $\boldsymbol{x}$  but ox actually comes from Old English oxa.

Yak is from the Tibetan gyag.

Zebra comes to us via Italian from Congolese.

#### **Knapdale Beavers**

Steve and Liz Lonsdale

In October 2010 Liz and I had a short visit to the site in Knapdale where the trial release of European Beavers has been undertaken. This is the first formal reintroduction of a mammal to the United Kingdom, and to date appears to have been reasonably successful. Four families are now present, and two kits born in spring 2010 are apparently doing well.

The site at Knapdale is well signposted, and there are waymarked trails in the area where the Beavers have been released. Note that the terrain is rough, and when we visited some of the paths were under water (ironically due to Beaver activity).

The first picture shows a pond created by the Beavers:



The second shows one of the paths flooded as a result of Beaver activity:



We did not see any Beavers - we only had a couple of hours during the day when on the way to catch a ferry to Islay - the best time to visit is early morning or during the later part of the day during the spring / summer when the Beavers are more active and the nights are shorter.

Beavers can also be easily observed at Aigas (near Inverness), though these are captive rather than wild animals.

Knapdale is also home to Otters, Red Squirrels, and Wildcats. Black Grouse and Sea Eagle are also seen.

#### **A Batty Lifestyle**

Jo Bissell and Ian Wildbur

Last year we decided to take our holiday in the south of the country, one week in the New Forest and one week on the Isle of Wight. We had never been to either place before so it made the exploring that bit more exciting.

So whilst surfing on the internet for "what to do" on the Isle of Wight, we came across a website for Isle of Wight Bat Hospital. There was no indication on the site to say they accepted visitors and only a postal address to contact them, so I decided that I would put pen to paper and see if they ever allowed visitors.

I received a note back with a telephone number from Donna (the owner) saying that when we arrive on the island to give her a call and we could arrange a time.

So, that is what we did, we arranged a time, and despite being a little later than first arranged, due to the fact she had a call to pick up an injured bat, we found our way to the bat hospital. The hospital is in fact, Donna and her husband Graham's, converted back bedroom.

They get calls around the clock from people who have found injured bats, and they endeavour to get to the injured bat anywhere on the island within one hour - day or night. Their aim is to rescue and release as many bats as possible, however, there are some bats that will never make it back and so will live out their lives at the hospital along with the seven rescue cats. Strange combination you might think, but they seem to get along fine.

In the hospital was a wide range of bats including Serotine, Bechstein and Barbastelle. It was great to be able to see these bats close up as Ian and I had never had the opportunity before. It was really appreciated that Donna took the time to show and explain what she was doing at the hospital to us, as her life seemed very chaotic.



Photograph by Jo Bissell

We were there approximately two hours and as we were leaving someone turned up on the doorstep with a bat.

You can take a look at their website <a href="http://www.iowbathospital.org.uk/">http://www.iowbathospital.org.uk/</a>

#### <u>Population Genetic Structure and Hybridisation</u> Patterns of Polecats in Britain

The Mammal Society Easter Conference April 2011

Mafalda Costa, Carlos Fernandes, Margarida Santos-Reis and Michael W Bruford

The European polecat is suffering a population decline throughout most of its range, as a result of habitat destruction, direct persecution and hybridisation with ferrets. Conversely, it is now known that the British polecat population is increasing after near-extinction in the 19th century. Here we present the results of analyses concerning the population structure and hybridisation patterns of polecats across Britain using mitochondrial control region sequences and 12 microsatellites. We estimated genetic diversity and structure, and searched for signatures of population bottlenecks and expansions. Population structure and admixture analyses were performed using Bayesian approaches. Patterns of introgression were also examined and will be presented. Genetic variation was found to be low and there was some evidence for the occurrence of a recent bottleneck followed by rapid expansion. These results will be discussed and should provide valuable information to apply conservation and management strategies for polecats and ferrets, respectively.

#### An Update on the Badger Vaccine Deployment Project

The Mammal Society Easter Conference April 2011

lain Trewby, Gavin Wilson and Fiona Rogers

Badgers have been identified as a reservoir of bovine TB in Great Britain and Ireland and have been subject to a variety of culling strategies in attempts to reduce the transmission of bovine TB to cattle. One potential alternative (or adjunct) to culling is vaccination of badgers. The Badger Vaccine Deployment Project (BVDP) represents the culmination of several years of research on the safety of BCG in badgers and its potential value in the control of *M. bovis* infection. Here, we provide a brief overview of badger vaccine research currently underway and an update on the deployment of BCG in the field. The BVDP is a large scale field exercise to demonstrate the use of injectable BCG in free-living badger populations and to gather information on the practical challenges associated with this approach.

#### **The Mammal Society Autumn Regional Seminar 2011**

The Brambell Building **Bangor University** 12<sup>th</sup> November 2011

The Mammal Society 2011 Autumn Event will be a Regional Seminar in conjuction with the Snowdonia Mammal Group. £25 for members, £30 for non members and £20 for students. Includes tea, coffee and lunch.

#### The 29<sup>th</sup> European Mustelid Colloquium

Jurys Inn, Southampton 3<sup>rd</sup> and 4<sup>th</sup> December 2011

£26 per day or £50 for the 2 days. Includes tea & coffee but not lunch, dinner or accommodation.

#### The Mammal Society 2012 Conference and AGM

Medway Campus, University of Greenwich Date to be confirmed

#### Thank You from the DMG

A huge thank you to Sue Jones and John Bland who, via their sale of quiz sheets, helped raise over £1,000 for the Derbyshire Mammal Group during 2010.

#### **The Upper Crust Quiz**

The Secretary of the Derby Natural History Society has compiled a quiz sheet to raise funds to help Derbyshire Wildlife Trust. The Upper Crust Quiz features general knowledge questions, puzzles and clues linked by a theme of royalty and aristocracy. There are monetary prizes to be won. The closing date is Thursday 8<sup>th</sup> September 2011.

To obtain a copy please send s.a.e. and cheque for £1 payable to "The Upper Crust" to The Upper Crust, 12 Chertsey Road, Mickleover. Derby, DE3 0RA.

Would you like to help the Trust more? The money we raise from this quiz can be used to release funds from the Landfill Tax Communities Fund on a 9 to 1 basis. Every hundred pounds we raise can become a thousand pounds for the Trust to spend on work on sites. If you give a fiver it can become fifty pounds. It's not magic but it feels like it. Your support and any donations will be gratefully received.

> A colour copy of this newsletter may be downloaded from our website www.derbyshiremammalgroup.com

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Please send material, details of forthcoming events, comments etc to Steve Docker: Tel: 01335 345253 or email: stevebusypeople@googlemail.com

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