



Proceedings of the
8th International Dormouse Conference
International Meeting Center St. Marienthal
in
Ostritz, Germany
22–27 September 2011

Scientific Committee:

Hermann Ansorge (Görlitz, Germany), Sven Büchner (Görlitz, Germany)
Rimvydas Juškaitis (Vilnius, Lithuania), Boris Kryštufek (Ljubljana, Slovenia)
Pat A. Morris (Ascot, England), Carina Scherbaum-Heberer (Schlüchtern, Germany)
Willi E. R. Xylander (Görlitz, Germany)

Editors of this issue:

Hermann Ansorge (Görlitz, Germany), Sven Büchner (Görlitz, Germany) &
Pat A. Morris (Ascot, England)

Editor-in-Chief:

Willi E. R. Xylander



Sächsische Landesstiftung
Natur und Umwelt

Akademie

DFG Deutsche
Forschungsgemeinschaft

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Thanks to the referees for

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The editors wish to express their gratitude to
all anonymous referees
who made extremely valuable contributions to this volume.



Participants of the 8th International Dormouse Conference at the International Meeting Center St. Marienthal in Ostritz, Germany.

Preface

As the only person who has attended all eight of the International Dormouse Conferences, I would like to offer a personal view of this experience as an introduction to the proceedings of the latest of these meetings, held in Saxony in 2011. The first dormouse ‘conference’ was a small workshop arranged by Heiko Müller-Stieß in 1990. He had begun to study dormice in the Bavarian National Park and wanted to share ideas with anybody else he could find in Europe who was also working on these animals. He found so few of us we could easily sit at a single table. Paul Bright, Doug Woods and I had begun to study dormice in England and we were pleased to share our experience, including the systematic use of nest boxes as a tool for studying these animals. It was decided that another meeting would be a good idea and our Italian colleagues agreed to arrange it. So began a process that led to this, the 8th International Dormouse Conference with 120 participants from 20 countries, including South Africa, Mongolia and Japan.

But why dormice? The appeal of elephants, otters or dolphins is obvious, but *dormice*? In fact this group of small mammals is of unusual interest. They form a distinct family (the Gliridae) numbering fewer than 20 species, but they are the surviving remnants of what was once a widespread and numerous group of rodents. Their fossils, mainly teeth, offer an insight into the past history of the Rodentia and their evolution. It is the morphology of bones and teeth upon which the classification of rodents is based, but modern genetic studies can now supplement these traditional morphological investigations and sometimes raise intriguing conflicts between different methods of classification. These issues featured strongly in previous conferences, especially in Italy. Alas, genetic techniques have so far been unable to reveal the origin of the British population of edible dormice (*Glis glis*), which is now expanding and creating numerous problems through its invasion of houses and damage to forest plantations.

It also has to be said that dormice, like otters and pandas, are ‘cute’! From a strictly scientific point of view, all animals should be equal, but some are more ‘equal’ than others, dormice among them. This is important because it is easier to raise public interest and get wider support for them than for less charismatic species. The various nut hunts for example, developed since our first one in England in 1993, have relied greatly on public support. Revealing the presence of hazel dormice (*Muscardinus avellanarius*) by searching for characteristically gnawed hazel nuts has depended on the active engagement of many thousands of ordinary people. Dormouse projects in Japan, Belgium and other European countries have raised awareness of conservation issues and gained public support for valuable environmental improvements that might not otherwise have happened. Although these activities appear to focus on dormice, what is good for them also benefits many other species that would receive little or no public attention.

Dormice are also of especial interest as they are true hibernators, posing many interesting physiological and ecological questions. They avoid the difficulty of seasonal food shortages by becoming extremely torpid and consuming very little energy at certain times of the year. Many spend over half their life ‘asleep’ in this way, but the seasonal challenge comes in different months according to which part of Europe they inhabit. In the north, hibernation occurs in the winter (mainly October to March) but in Mediterranean countries the challenge is during the hot dry summers and dormice may then aestivate (‘summer hibernation’) instead. This reveals an interesting and perhaps unexpected ecological flexibility, which has been little studied. Other climatic factors may explain why hazel dormice occur further north in Denmark and Sweden than in England, and why second litters are common in Lithuania, but rare in England. Monitoring edible dormice in Germany has shown failure to reproduce in some

years, often coinciding with similar phenomena in other parts of Europe, posing question about the ecological mechanism involved. Other studies in Germany show that this species now emerges from hibernation about two weeks earlier than in the past, leading to competition with certain bird species for vital nesting places, prompting investigation of the same issue in England. There is a lot to be learned by sharing observations from different parts of Europe, much of which will also apply to other groups of animals and might also help us understand future climate change or the impact of habitat fragmentation, environmental issues that are important to us all.

Dormice are also becoming increasingly important with regard to their legal status. The Japanese dormouse (*Glirulus japonicus*) for example is an iconic and nationally protected animal. The hazel dormouse and forest dormouse (*Dryomys nitedula*) now have the status of European Protected Species conferred upon them by the EU Habitats Directive. This prohibits any kind of disturbance that may impact on the species at population level, requiring surveys to be carried out before any major changes in land use occur (road building for example). In turn, that means we are beginning to learn a lot more about their distribution at local level. Previous dormouse conferences have reported on dormouse surveys in Belgium, Denmark and Hungary for example, as well as the 'Great Nut Hunt' in England in 1993, which was repeated with great success in Germany, Austria and Switzerland after its success was described at a previous conference. Now, as reported at this meeting, we are beginning to study the occurrence of dormice in more detail, using modern scientific techniques such as modelling, digital mapping and GIS data to identify key habitat parameters and make predictions about where else these animals might occur. The effects of habitat fragmentation, so important to many non-flying species, are also being revealed by local dormouse surveys and studies. These developments are not just important for dormice: these animals provide a valuable bio-indicator of habitat suitability and environmental integrity.

It has been very encouraging to see how people have shared ideas at these conferences, pursued them in their own countries, and then come back to report their own information at a subsequent meeting. The very extensive population studies of hazel dormice by Rimvydas Juškaitis in Lithuania are a good example. Collaboration with licensed dormouse trappers in Slovenia enabled Boris Kryštufek to tell us much about the biology of edible dormice, when for most of us it was a surprise to learn that anyone trapped them at all. The charming Japanese dormouse has been introduced to us by Shusaku Minato, together with his experiments with arboreal animal pathways across roads. Important results can be obtained with the simplest equipment, Sven Büchner's studies of dispersal between isolated copses for example, were a surprise to those of us who thought dormice did not cross open land. Simple behavioural studies, of feeding and olfactory behaviour, have also revealed aspects of animal life that are worth further thought. We have learned that genetic studies can shed new light on speciation, taxonomy and provide clues to the way that these arboreal species were affected by the Pleistocene ice ages. At the Edirne Conference we were able to see living mouse-tailed dormice (*Myomimus personatus*), a special pleasure for me as I had discovered the first evidence of that animal in Turkey on a student expedition in 1965.

It has been especially pleasing to see the large number of young biologists who have attended these conferences, often from parts of Europe where travel to the west is difficult and very expensive for students. There has been much trading of email addresses and telephone numbers, allowing exchange visits to see new friends and different habitats. Always there has been informality and friendliness. These meetings have been good for people as well as for dormice!

Several of the conferences have been held in particularly interesting areas, with beautiful wild flowers in Italy and spectacular scenery in Hungary and Croatia for example. This 8th conference, like those that came before, enabled many of the participants to see new and interesting habitats for the first time. In Poland we visited some of the vast forests and wetlands. I suspect that the conference in England was a shock for many visitors from Germany and Eastern Europe, where there is so much more space for wildlife, bigger forests and fewer people. It is easy to fall into the trap of thinking that what is familiar to each of us is also 'normal' elsewhere. In Croatia we saw where hazel dormice lived in dwarf beech forest barely 2 metres high. We also saw natural forests with mixtures of beech and conifer trees that formed ideal habitat for edible dormice. For the first time, I realised that this species had been introduced to England in a region where, for historical reasons, entirely artificial mixtures of beech and conifer have been planted. If they had been released almost anywhere else in the country they would probably have died out.

Like its predecessors, this 8th conference covered a stimulating and very wide range of topics, including taxonomy, physiology, palaeontology, parasitology, energy budgets, behaviour, genetics, ecology and conservation. There was also encouraging news of several successful public participation projects. The conference introduced some new ideas and brought news (to many of us) that dormice even occur in Mongolia. We heard about attempts to investigate the forest dormouse, surely one of Europe's least studied mammal species, and the dormice (*Graphiurus*) that occur in Africa. We also saw the continuation of themes that have been explored progressively at previous meetings. For example, there is the question of whether or not roads are a threat to dormice. Do they create barriers that constrain natural dispersal movements and access to feeding areas, compromising the functionality of metapopulations? Or can roads actually be beneficial to dormice because the shrubs commonly planted alongside roads can provide permanent habitat for dormice and offer habitat corridors linking otherwise isolated areas of woodland? I suspect that both are true. Perhaps we will need to encourage more thoughtful road management policies that include habitat links and 'green bridges' in forest areas. In more open landscapes it will perhaps need better design of roads and careful choice of planted vegetation and a strategy for its future management. This is a discussion, which needs to continue, but also needs more research on the behaviour of dormice in relation to roads and habitat fragmentation. Such an approach will be beneficial to us all in terms of ensuring a more wildlife-friendly countryside and creating a more pleasant environment for people too.

These eight conferences represent an incremental advance in our understanding of dormice and have led to many examples of constructive international cooperation. The meetings have also been highly enjoyable social occasions, as well as scientifically useful and personally inspirational. This one was no exception. For that we must thank the organisers Sven Büchner and Hermann Ansorge, and the essential help from Diana Drewke. We also welcome the generous support provided by the Senckenberg Museum in Görlitz. Their efforts resulted in a highly successful conference.

Ascot (England) in March, 2012

PAT A. MORRIS

