



## Beavers

A conference is always a good opportunity to meet old friends and to make some new ones, but the main goal is of course to exchange knowledge. This year the Third International Beaver Symposium was held in Arnhem, the Netherlands. The Symposium was hosted by the Society for the Study and Conservation of Mammals (VZZ), and was attended by 123 beaver researchers from 23 countries.

Subjects of presentations and posters ranged from genetics and autecology to distribution, population development and effects of the European beaver (*Castor fiber*) and the American beaver (*Castor canadensis*) on ecosystems. We know that beaver specialists nowadays mostly prefer other common names, i.e. the Eurasian beaver and the North American or Canadian beaver, but in this issue we use the generally accepted common names, i.e. as given in 'The atlas of European mammals' by Mitchell-Jones et al. (1999). We propose that the possible change of the common names of the two beaver species be discussed at the Fourth International Beaver Symposium (to be held in Freising, Germany in 2006).

This *Lutra* beaver special is the outcome of our invitation to the presenters of papers and posters to submit their contributions to the symposium as an article for *Lutra*. In this way we could look forward to the acquisition of a respectable number of manuscripts. We have screened them thoroughly on scientific quality, using the review reports provided by a large number of referees. We now proudly present the articles that met our scientific standards.

As the beaver is now again expanding its range, both with and without human help, it is not surprising that a lot of research still focuses on monitoring population development and optimising reintroductions. Halley & Rosell present a new overview of the situation in Europe and Hartman presents some interpretations in the long-run development of populations after reintroduction. Also more detailed overviews are given of population development and changes in distribution in several regions: the Loire basin (Fustec & Cormier), Wallonia (Van den Bergh & Manet), Flanders (Verbeylen) and the Netherlands (Sluiter). Reinhold presents a short case study about the development of a small beaver population in the polder area of Flevoland, the Netherlands, a large-scale agricultural region often seen as a 'desert' in terms of native wildlife.

There are quite a lot of papers with descriptive ecological research. Busher provides us with some data about the intriguing, but still not completely understood aspects of food caching. An interesting case study is presented by Kurstjens & Bekhuis about beaver behaviour in the case of extreme low or high water in the Gelderse Poort area (visited during the symposium excursion) along the river Rhine.

Also more synecological oriented research is presented. As a keystone species, beaver have a huge effect on ecosystem functioning and biodiversity. Some preliminary data are presented on the influence of recently reintroduced beavers on their surroundings in Denmark (Elmeros et al.) and in an enclosed area in Scot-



*Photograph: Rollin Verlinde.*

land (Jones et al.). The influence of heavy browsing by beavers and their competitors is brought up by Baker.

As populations settle and start expanding, beavers may come close to civilisation. Their ability to change the hydrodynamics of rivers and lakes by building dams sometimes causes severe damage due to flooding. Consequently, an increasing amount of attention is being paid to the impact of beaver on abiotic processes in ecosystems. John & Klein give some interesting outcomes of research on the effects of beaver dams on hydrogeomorphology of a river basin and Gorshkov reports about the effects of beaver on the sedimentation in rivers.

Research of a complete different nature is presented by Ulevičius & Paulauskas, who discuss the genetic and morphological diversity in beavers in different parts of Lithuania.

Quite a lot of research is focused on the management problems caused by planned or unplanned beaver expansion towards more populated areas. Should nature managers choose to actively control population size (i.e. to start hunting or trapping beavers again), to capture and relocate, or to minimise the problems by using flow devices or financial compensation for the damage incurred by landowners? The contributions of Lisle, Hadidian, and Parker & Rosell each highlight these problems and various possible solutions. The philosophy behind pre-

scribed fires in relation to beaver is presented by Hood & Bayley. Baskin & Göran bring up the rear with an overview of questions, hypotheses and possible research projects concerning beaver management based on the experiences with beavers in Northern Europe.

In the last few years a lot has been published about beavers. We therefore finish this special with two reviews of publications we think are most interesting. Furthermore, we have included a preview of observations of beaver in their lodge based on video recordings by the late Donald Griffin.

It seems that a more quantitative, experimental approach is still rare in beaver research, even though many interesting questions need a non-descriptive approach to be answered. One could mention here the composition and energetic value of the chosen food items, assessments of carrying capacity of areas based on habitat quality, or research into the thresholds for viable (meta)populations of beaver, including the resemblances and differences between regions where beaver currently live.

The compilation of this special issue of *Lutra* would not have been possible without the aid of the peer reviewers. Because of the 'sudden' high number of papers about beavers and the limited number of experts on this species, some even reviewed more than one paper for this issue. We are grateful to all of them for their enormous help. We are also grateful to the World Wildlife Fund for subsidising this special issue. We hope the articles of this special issue of *Lutra* reflect the broad scope of beaver studies and will help to achieve the goal of the conference: spreading knowledge about this fascinating rodent!

Meanwhile we have strengthened the editorial team once again: starting with this issue Jan Piet Bekker has stepped in. We hope authors and readers of *Lutra* can take advantage of his thorough knowledge of mammals, in particular about their ecology and distribution, both within and outside Europe.