Influence of birth rates, mortality and dispersal on sexratio of the Edible dormice (*glis glis*)

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Introduction

While most mammal populations show equalized sex ratios in their offspring, some species show deviations as a reaction to environmental circumstances. The recent study focuses on mortality, dispersal and biased sex ratio in the offspring of Edible dormice and their influence on next years subadult population.

Material and Methods

The data used for this study were obtained from a mark- and recapture project 70km north-east of Frankfurt am Main (Germany) monitoring the population biology of the Edible Dormouse. From 2002 to 2008 all dormice found in nest boxes were captured, marked with passive transponders and monitored throughout the whole activity period carrying out daily checks using a scanner to minimize disturbance.
The study area contains 94 nest boxes spread over 5,6 ha in mixed deciduous woodland of the age of approx. 120 years with oak (*quercus spec.*), beech (*fagus sylvatica*) as well as common hornbeam (*carpinus betulus*) and a well developed herb layer.

Juvenile Edible dormice

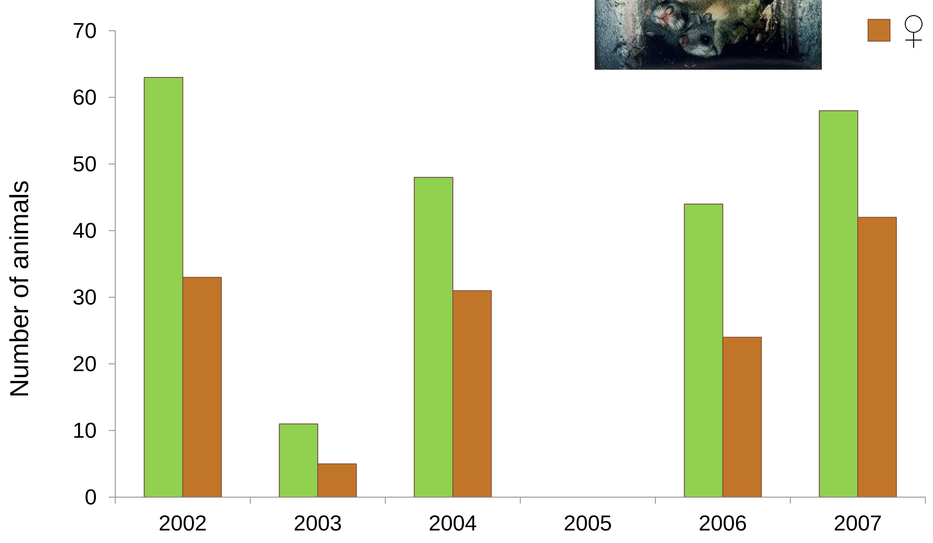

Fig. 1: Number of juvenile Edible dormice marked each year

Subadult Edible dormice

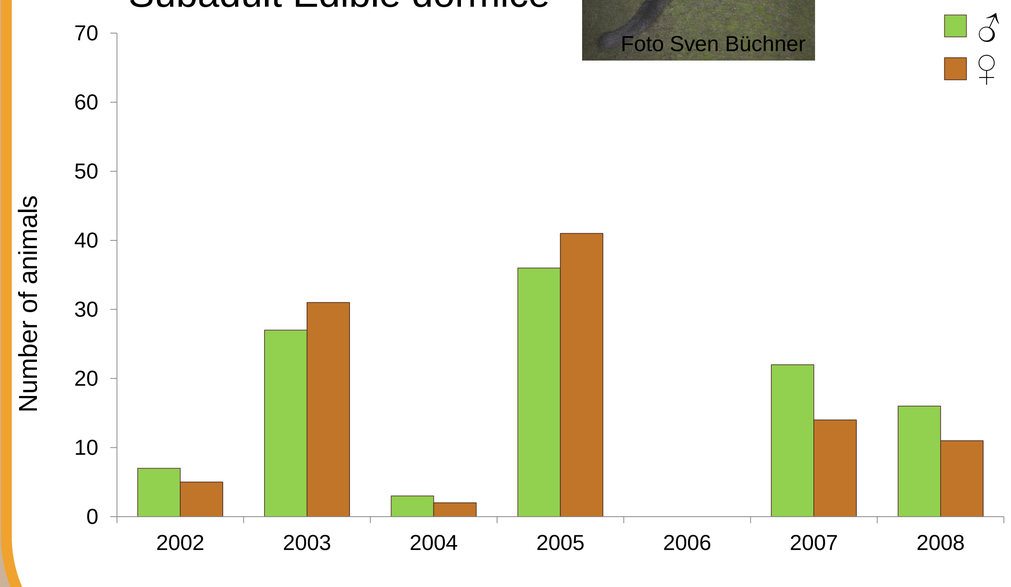

Fig. 2: Number of subadult Edible dormice in each year

Results

From 2002 to 2008 significant more males than females are born (Chi^2:22.064; df:1; $p<0.001$) while there is no significant difference in the sex ratio of subadult dormice in the following years. In all years except 2004 more than 70% of all male juveniles have disappeared after first hibernation. Immigration rate on young females is higher than on young males.

Birth rates, recapture and immigration of juvenile Edible dormice

Females	animals born	loss	immigration	difference	surplus
2002	33	17 (51,5 %)	16	-1	32
2003	5	4 (80,0 %)	1	-3	2
2004	31	18 (58,1 %)	28	10	41
2006	24	20 (83,3 %)	10	-10	14
2007	42	33 (78,6 %)	2	-31	11
Total	135	92 (68, 2%)	57	-35	100

Males	animals born	loss	immigration	difference	surplus
2002	63	46 (73,0 %)	10	-36	27
2003	11	10 (90,9 %)	0	-10	1
2004	48	29 (60,4 %)	17	-12	36
2006	44	33 (75,0 %)	11	-22	22
2007	58	48 (82,8 %)	6	-42	16
Total	224	166 (74,1%)	44	-122	102

Table 1: Bilance of loss and immigration in the year after reproduction

Conclusions

In all years, juvenile Edible dormice show a significant male biased sex ratio in birth which is compensated by higher recapture and immigration rates in females in the following year. Lower recapture and immigration rates reveal an increased mortality of young male dormice.

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