

Barn owl *Tyto alba*: 100% divorce rate in a female.

Summary

Within 3 years a female barn owl had 5 successful broods with 5 different males and moved between all broods. For a better judgment of the circumstances of the divorces the origin of the female, their fate after the divorce and also the origin of their new mates are described. For this bird 22 descendants of the 1st, 18 of the 2nd, and 12 of the 3rd generation are proved.

Consequent marking and control of the adults of a bird population not only allow to understand the family relationships of a bird species but also to depict the fate of single birds. So KNIPRATH & STIER (2004) describe the curriculum of a female barn owl, which in the course of her five years as breeder was faithful to mate and site. In this species mate fidelity is accepted as "normal case", not excluding occasional divorces (KNIPRATH et al. 2004). The paper cited reports the career of a female, for which three divorces could be proved. In all three cases the divorce took place from one breeding season to the next without any second brood being intercalated.

If second broods are included, a female in the study area Seeler (see KNIPRATH et al. 2004) exceeds this number. From 1997 to 1999 this female, "Germana" (all birds cited here were marked with rings of the "Vogelwarte Helgoland" and given names for better reading), had five broods, second broods in 1997 and 1998 included. Each time she moved to a new box, three times to a new village. The distances between the boxes used were 0.1; 4.4, 6.2, and 10.0 km. Moving always coincided with divorce, hence a series of four divorces. The two second broods so were divorce second broods. The first mate of Germana was widower. Then followed three males, not known before as breeders. The last one the year before had been deserted by his mate for a divorce second brood, hence was divorced. Three of the males involved made their next brood after the divorce in the same village, two of them even in the same box, one moved (6.9 km). This moved one had his next registered brood only two years later. In the year in between he was controlled twice without brood (5.3 and 3.4 km apart from his first breeding site). So he could have been non-breeder.

The two divorce second broods of Germana prove convincingly that she had been the ac-

tive divorcer. Moreover both deserted males stayed at their breeding site. The mate change from the second brood in 1997 to the first brood in 1998 likewise could have been initiated by the female: Obviously the female remained unmated for one year. As to the fourth divorce (Germana from "Hugo") both partners could have played an active role: Both stayed in the village but moved to a new box. Germana moved to "Fidelio" who had been faithful to the site the two years before, and whom she certainly knew well. The new mate of Hugo had not been known before. The former mate of Fidelio, "Gutta", in 1998 made a divorce second brood with a new male. She remained faithful to him to the brood in 1999. So Fidelio as has been shown was single when Germana moved to him. The first supposition, Germana was usurper, thus was refuted.

Germana died at 27-7-1999 as road victim, even before she could have made a new breeding attempt that year. Her death site was 2,4 km apart from her last brood.

Germana was successful with all her five broods (1-7, mean 4.4 fledglings). Hence breeding failure could not have been the reason for her divorcing. Chicks of her first brood in 1998 were "Loretta" (the 4th) and "Reinhold" (6th). Loretta first bred as yearling 14.4 km from her birth site. In 1999 she made two broods. She had nine descendants. One of them "Nico", third of her first brood in 1999, himself bred as yearling (10.9 km from his birth site) and again in 2000 in the study area. In his two broods he reared 12 young. Reinhold was controlled as breeder not before 2004, i.e. six years after his birth, 13 km from his birth site. From him descended in this brood 10 chicks. At least from Reinhold and his young we can attend more descendant in the study area.

As proved in the study area we altogether know 22 children, hitherto 18 grand children and 12 great-grandchildren (fledged).

For some time past different mating systems have been preferred as study topic in ornithology (BLACK 1996). Together with an assembly presented earlier (KNIPRATH & STIER 2004) the present one demonstrates that barn owls cover the entire spectrum from unbroken mate fidelity unto 100% divorce rate. (With this statement nothing is said to the question whether the birds mentioned had been socially or genetically monogamous at each brood.) Only the

evaluation of ongoing long time studies may elucidate which weight mate fidelity altogether has.

Literature

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