



Germany

Monitoring raptors in the Old World

It was a long-standing dream to be able to follow a migrating bird on its journey. With the introduction of satellite telemetry, the answers to a large number of questions came within reach (e.g., migration routes; timing and speed of migration; factors influencing migration such as weather, natural barriers, etc.; situation of wintering areas; home range sizes of wintering and non-breeding summering birds; and breeding and wintering site fidelity).

Between 1992 and 2003 we fitted PTTs on 105 Eurasian and African birds of prey belonging to fourteen different species (29 lesser spotted eagles, *Aquila pomarina*, 16 steppe eagles, *Aquila nipalensis*, 13 greater spotted eagles, *Aquila clanga*, 11 ospreys, *Pandion haliaetus*, 8 imperial eagles, *Aquila heliaca*, 6 black kites, *Milvus migrans*, 5 red kites, *Milvus milvus*, 4 short-toed eagles, *Circaetus gallicus*, 4 honey buzzards, *Pernis apivorus*, 4 Egyptian vultures, *Neophron percnopterus*, 2 Wahlberg's eagles, *Aquila wahlbergi*, 1 white-tailed sea eagle, *Haliaeetus albicilla*, 1 Steller's sea eagle, *Haliaeetus pelagicus*, 1 peregrine falcon, *Falco peregrinus*). These were mainly adult birds trapped by various techniques in many countries in Europe, Asia and Africa.



Bernd Meyburg with an Egyptian vulture

In the early years, battery-powered PTTs (weight 30-95 g) were used, but later on, once they became available, we switched to solar-powered PTTs (weight 18-95 g). Two solar-powered PTTs have functioned for almost five years and a third one for almost six years after being fitted to a lesser spotted eagle.

This is a brief sketch of the wide range of this research, only a small part of which has been published and the bulk of which still awaits analysis. More wide-ranging results can be expected from use of this technique, especially the way in which the processes of migration and reproductive success are interdependent.

Bernd-U. Meyburg and Christiane Meyburg, WWGBP



Lesser spotted eagle with chick on nest

Photos courtesy of Bernd Meyburg and Bojan Mitchev, respectively

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Switzerland

Satellite telemetry and the study of the eagle owl

Satellite telemetry is mostly used to follow migrating animal species. However, the method is also useful for bird species that cover only short distances. This can be shown in a test we have conducted with the eagle owl, *Bubo bubo*.

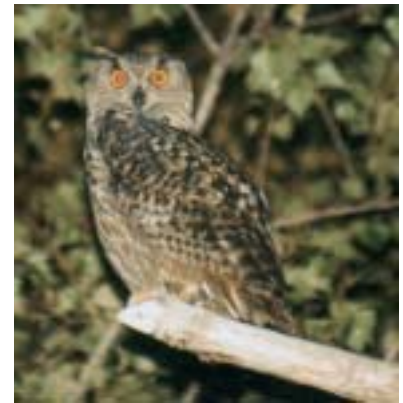
This species has disappeared in Switzerland almost completely. It is true that the population increased slightly in the 1980s, but breeding density has remained low and many abandoned nest sites have not been reoccupied. In order to better understand the population dynamics of the eagle owl, we want to study, among other things, the juvenile dispersal of the species—a project of several years. We would like to know what happens to the juveniles after they leave the nest, how many of them die, which are the most common causes of death, where they perish and where the surviving juvenile birds finally settle. For this purpose, 19 juvenile birds have been fitted with conventional tags. Four of them got an additional Argos PTT.

Our study area is in the Alps (Canton of Wallis, Switzerland). Since young owls roam about widely and frequently move from one valley to the next, we repeatedly lost birds carrying only conventional tags. Those had to be searched for by car, which meant driving thousands of kilometers. By using Argos PTTs we were able to save a lot of time and driving. Thus the Argos system proved useful even in this rocky habitat with its many valleys and ravines. With the help of Argos tags we have found several birds that had crossed mountain ranges 3000 m high and flown to another area. One of them crossed the Alps and went as far as Italy!

We were able to study juvenile dispersal in detail, where the animals went, and we also managed to find two birds that died in the course of the project. In addition, we learned that some individuals return to the parents after a few weeks, and we could prove for the first time that females can already breed successfully in their first year of life.

Adrian Aebischer with a juvenile eagle owl

Adrian Aebischer, University of Berne, Switzerland



Eagle owl

Photos courtesy of Adrian Aebischer and Daniel Maeder, respectively

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