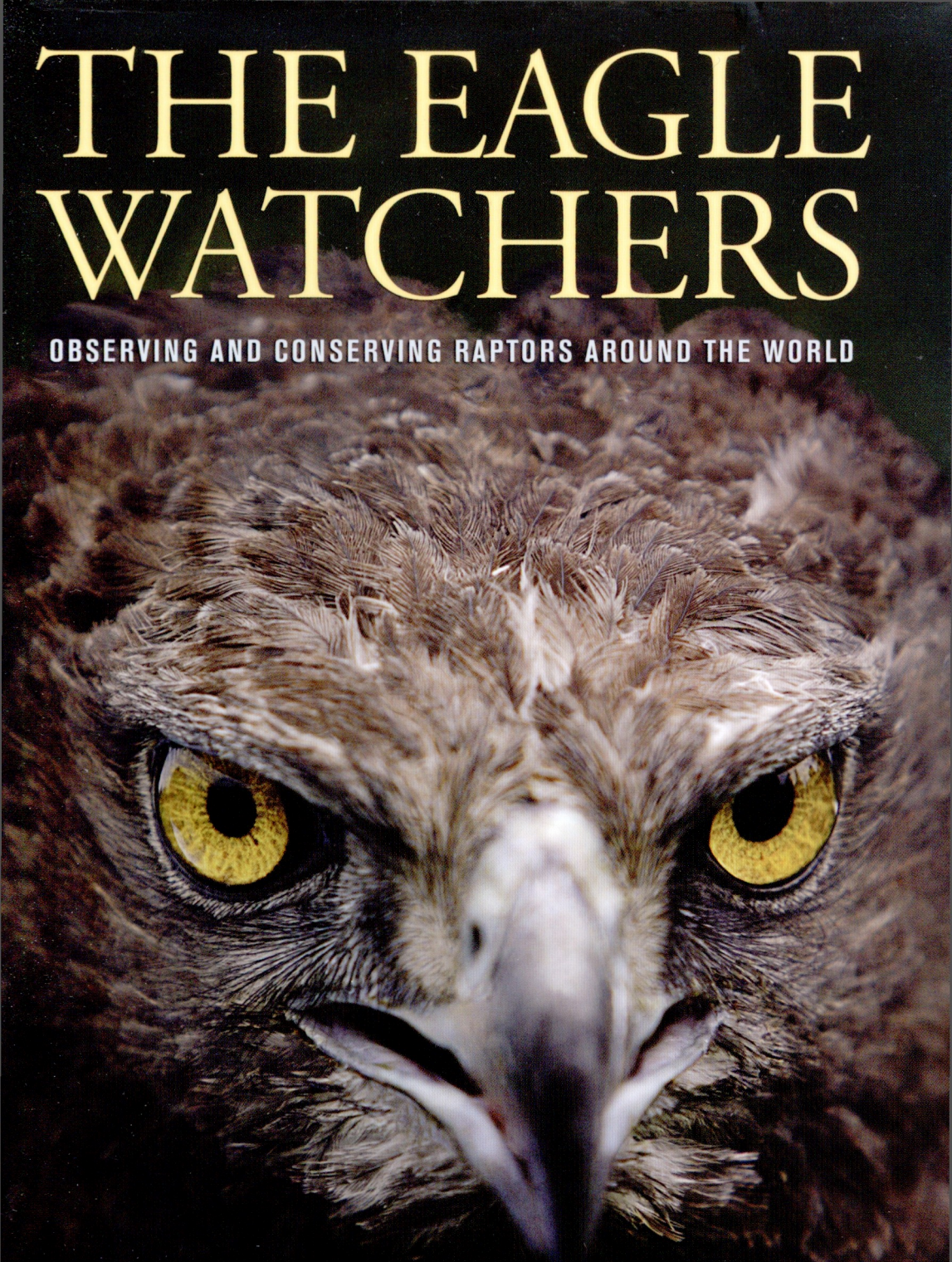
THE EAGLE WATCHERS

OBSERVING AND CONSERVING RAPTORS AROUND THE WORLD



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Contents

4

Lesser Spotted Eagle

COMMON NAME: Lesser spotted eagle

SCIENTIFIC NAME: *Aquila (Lophaetus) pomarina*

OTHER NAMES: None

IUCN CONSERVATION STATUS: *Least Concern* (*population declining*)

DESCRIPTION: A small to medium-sized eagle, nearly entirely brown, although preadult stages are heavily spotted. Head and bill small in comparison to similar species. Long legs are feathered down to the toes. Frequently observed walking on the ground.

SIZE: Length: 55–67 cm (22–27 in); Wingspan: 146–168 cm (57–67 in); Weight: 1.2–2.2 kg (2.2–4.9 lb)

THREATS: Many individuals are shot during migration, and habitat loss is also causing population declines.

DISTRIBUTION: Lesser spotted eagles breed throughout much of central and eastern Europe; some of the highest-density populations are in Latvia, Belarus, Slovakia, and Poland. The species is also found throughout much of Asia Minor and the Caucasus. Lesser spotted eagles are highly migratory; all populations migrate to southern and central Africa. A disjunct Indian population is found in central India; some authors now consider this a separate species (*A. hastata*).

MOVEMENTS: All populations are highly migratory and make long-distance movements to Africa.

HABITAT: Lesser spotted eagles are a bird of moist lowland and mountain forests. During winter they occur in wet woodland areas, often found with other species of eagles.

DIET: Mammals, birds, insects, amphibians, reptiles. During winter, lesser spotted eagles eat elate termites.

NOTES: Recent research has demonstrated that in the Baltic states, Belarus and Poland, this species regularly hybridizes with the greater spotted eagle. This behavior is thought to be unique among wild eagle populations.

Author's Biography

BERND-U. MEYBURG attaching a satellite transmitter to a steppe eagle in Saudi Arabia. Photo by Christiane Meyburg

While playing in woods when he was 14 years old, Bernd Meyburg discovered a black kite's nest and studied the birds intensively, work that culminated in two scientific publications before he left school in 1966. During his studies of medicine and zoology at the Free University Berlin, Bernd spent a great deal of time traveling internationally to study raptors, as his home city of Berlin was surrounded by the Eastern Bloc and cut off from the surrounding countryside. These studies concerned the lesser spotted eagle in Slovakia, the Spanish imperial eagle and the black vulture in Spain, the Madagascar serpent eagle and Madagascar fish eagle, and the Javan hawk-eagle in Indonesia. When the Iron Curtain fell in 1989, Bernd was able to expand his studies, to include work on the lesser and greater spotted eagles, eastern imperial eagle, steppe and short-toed eagles, ospreys, red and black kites, and honey buzzards. To date he has authored over 120 publications on raptors. Since 1982, Bernd has been Chair of the World Working Group on Birds of Prey (WWGBP), which he has developed into a global network of raptor specialists. Together with his colleague Robin Chancellor, Bernd has organized several world raptor conferences in Israel, Spain, Germany, South Africa, and Hungary. He also served a term as an International Director of the Raptor Research Foundation.

LESSER SPOTTED EAGLE, CZECHOSLOVAKIA AND GERMANY

Bernd-U. Meyburg

I had already become preoccupied with raptors for two of my schoolboy years when, in 1964, I came across a small book about the lesser spotted eagle. Two aspects of the biology of this species immediately fascinated me: the so-called Cain and Abel struggle (also known as "cainism," whereby the eldest chick kills its younger sibling), and the species' lengthy migration routes. The author, Dr. Victor Wendland, who is still the only person to have written a monograph on this species, had already established in the 1930s that the lesser spotted eagle normally lays two eggs, that two chicks usually hatch, but that only one young bird fledges.

I was interested not only in how and why cainism occurred, but also in the question as to whether this phenomenon could be used to protect this endangered species. This was proposed by preventing the death of the younger sibling, thereby doubling the reproductive rate of the breeding pair.

The lesser spotted eagle was once widely distributed in Germany but, over the twentieth century, its local breeding range had shrunk to a small region in the northeast of the then German Democratic Republic (GDR), to the north of Berlin. Although the nearest breeding site was only some 50 km (31 mi) away from my flat, it proved impossible to visit. As a resident of West Berlin, all attempts to arrange observation and studies of these birds were unsuccessful. The Cold War was at its height, and West Berlin, surrounded by a Warsaw Pact country, was seen as a particularly bitter enemy of the Eastern Bloc.

Nevertheless I did not give up, and in 1968 I was able to begin eagle observations and experiments in Czechoslovakia instead. I managed to make contact with local raptor specialists and get the necessary permits to visit. I soon made friends with Jan Švehlik from Kosice, and his room in his parents' flat was quickly converted into a laboratory, which we equipped with an incubator so we could artificially hatch the second-laid eggs and hand-rear the chicks.

During this period I continued my field observations of the events leading up to the death of the second chick in the nest. In June 1968 I sat in a tree hide for the first time only some 14 m (46 ft) away from an eyrie occupied by lesser spotted eagles. I was able to observe and photograph the family life of

the eagles at close range, a privilege that only few ornithologists before me had experienced.

Our big day came at the beginning of August that year. Two second-hatched chicks, which had been hand-reared in captivity and ringed by me, were returned to their nests in the wild, and they later fledged with their siblings. I observed them for as long and as well as I could after they flew from the nest, wondering whether both young eagles would continue to be cared for by their parents. This proved quickly and happily to be the case. The next question was whether both would be fit enough to survive the long migration to Africa and back.

The political situation in Czechoslovakia became more and more unstable. Two days after my departure, in August 1968, the armies of the Warsaw Pact invaded the country in a world-shattering act of aggression. I was determined not to let anything interfere with my eagle studies, and even though the country was still occupied by the Soviets, I returned in 1969 and continued my observations for the next five years.

By the mid-1970s, relations between East and West Germany had improved somewhat. Thanks to a new regulation, Berliners were permitted to travel to the GDR for up to 24 hours. I immediately searched for lesser spotted eagles to the north of my home city. The trips were restricted to 30 days a year, which my wife and I exploited to the fullest. On each occasion, on both entry to and exit from the GDR, the border guards checked us thoroughly. We were not permitted to take with us many technical aids, such as maps and Dictaphones for recording our observations, but binoculars and telephoto lenses, although regarded with suspicion, were allowed.

One particular pair of lesser spotted eagles offered exceptionally good opportunities for observation, and my wife and I took full advantage of this. We spent many hundreds of hours observing the pair from a few hundred meters away, and we collected data on the time of the eagles' arrival in spring, display behavior, nest-building, hunting for food, behavior toward other species, and so on. It was particularly helpful that this pair almost always bred in the same eyrie, whereas many other pairs changed their nest annually.

These frequent trips into the GDR raised the suspicion of the East German authorities, even though I had many contacts with GDR ornithologists, including the director of the East Berlin Zoo. What I had always suspected was later confirmed in an alarming way. The Stasi (the GDR secret intelligence service) had been intensively occupied with my case and had put my activities under the microscope. Not only was my telephone tapped, but

agents were sent to my place of work in West Berlin and took photographs there.

Many years later I was allowed to see my Stasi file, which was 900 pages long! My trips into the GDR had been recorded in minute detail, and all my movements within the country had been monitored. Agents had followed me in their vehicles for days and had kept me under close observation. Over a dozen ornithologists were asked to report on my activities, including members of my closest circle of friends and acquaintances. The Stasi suspected me of being a military spy and believed that my ornithological interest was just a cover story. Their theory fitted in well with my equipment, which included binoculars, telescope, and telephoto lens.

It took the Stasi 10 years to finally conclude that I was indeed just a harmless ornithologist. I had to grin when I read page-long discussions about why, for example, I no longer traveled into the GDR from mid- to end-September onward. They were at first worried that perhaps the checks at the border were too rigorous and were putting me off. Finally they came to the correct conclusion that the autumn migration of the eagles was the real reason.

The year 1989 signaled political change and the end of the GDR, an important and decisive moment in my life. I found one incident particularly moving. On 3 October 1990, the official date of German reunification, Dr. Vladimir Galushin, a well-known Russian raptor specialist, appeared unannounced on my doorstep. He had been sent from Moscow to East Berlin with an official delegation. However, he saw no point in speaking to representatives of a regime that would no longer exist the next day, so he made his way on foot to my home. He was particularly impressed by the fact that the state border he crossed in the morning would, after midnight, no longer exist. We spent the evening together at the official reunification celebrations in front of the German Reichstag.

During the final months of the GDR regime there were no more political restrictions to research on the lesser spotted eagle. Telemetry studies, unthinkable up until then, were suddenly possible. As early as the summer of 1990 I was able to fit the first young lesser spotted eagle with a transmitter. A large project, with conventional (VHF) telemetry of adult birds began in 1991. In the years that followed I spent countless hours with the receiver antenna in my hand searching for and observing the eagles. The result was the first such study of the size of the eagles' home ranges and use of habitat.

At almost the same time, an old dream of mine, research into the migration of the lesser spotted eagle to southern Africa using satellite telemetry,

came closer to being realized. Transmitters had now become more and more miniaturized and finally reached a size and weight that enabled them to be fitted to this medium-sized eagle. In 1992 the great moment came. I fitted the first nestling with a transmitter weighing 50 g (1.8 oz). The eagle sadly lost its way in Greece and did not reach the Bosphorus, the route which we now know the lesser spotted eagle normally uses to reach Asia Minor. The migration of two young eagles with transmitters the following year was also dogged by bad luck, both birds being shot down over Lebanon. One of the transmitters was returned to us with a piece of lead shot lodged in it.

This confirmed our worst fears: that young eagles suffered a high mortality rate during their migration. There was only one solution, namely, the fitting of transmitters to adult birds. In 1994 I was able to fit transmitters to the first four adult eagles in Germany and Slovakia. In one case it was possible to document the eagle's complete migration to Zambia, its overwintering there, and its spring migration back to its breeding territory in Germany. Luck played a big part here as the transmitters were still battery powered. This meant that they had to be programmed to be active only for several hours every few days in order to extend the battery life to almost a year. This complete documentation of the annual route of a European migrant was the first of its kind.

In the following years, transmitters with solar power came on the market. These supplied considerably more data and remained active for up to seven years. This meant that not only could the eagles' migration routes be documented in more detail, but also the routes taken in different years could be compared. This made it possible to identify the eagles' overwintering areas in Africa. According to our telemetry data, many of the eagles were overwintering in Zambia and Southern Africa, and I could not resist the temptation to travel down there to watch the birds up close.

As the population of the lesser spotted eagle continues to decline in Germany and beyond, because of birds being shot and otherwise lost during migration (mainly in the Middle East) and destruction of breeding habitat (e.g., cutting of old forest, agricultural intensification), my previous experience of thwarting cainism came to the fore again. In 2004 two young lesser spotted eagles flew from an eyrie located to the north of Berlin in Brandenburg. One of them had been captive-reared in a conservation station with a common buzzard as its foster parent, before being returned to its eagle nest to fledge.

My old question still remained unanswered though. Were these rescued birds fit enough to migrate to southern Africa and back? In 2005 we got our

answer. I had color-ringed the young eaglet in the summer of 2004, and the bird was subsequently observed by another ornithologist in the spring of 2005. This ornithologist recorded the bird's ring details and sent this information to me. The young eagle had returned to the vicinity of its birthplace after only a year. The proverbial needle in the haystack had been found; this eagle, at least, had proved itself fit enough to endure the long migrations and had returned to its natal area.

As a result, another second-born eaglet was also captive-reared in 2005 and was put back in the eyrie with its sibling just before the former flew the nest. It soon became clear that considerably more second-hatched young eagles must be hand-reared every year in order to ensure that the population remains sustainable. In 2004–2008, 26 second-born eaglets fledged from eyries in Germany using this technique. Since 2007, additional Abels were translocated from Latvia (as many as 13 in 2009). Satellite tracking of these individuals demonstrated that, in most cases, they followed the migration route as the German-born birds.

In recent years, new satellite transmitters with an in-built global positioning system (GPS) have transformed our lives. Now my wife and I can check via the Internet not only our eagles' daily movements during their migration period, but also the location of birds that have returned to their breeding territories. Part of our current research is the evaluation of eagle habitat use by means of digital maps and air and satellite photographs. This means spending even more time on the computer and using increasingly complicated technology. Our eagle-watching techniques of the past, armed with binoculars and notebook, dodging the secret police in the GDR, and the techniques we use today are worlds apart. Our eagle watching is no longer restricted by governmental regimes as we can now "watch" our birds from the safety of our home as they migrate over many political boundaries.