

LETTERS

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AN UNUSUAL CASE OF ADOPTION OF A GOLDEN EAGLE (*AQUILA CHRYSÆTOS*) CHICK IN THE MALÁ FATRA MOUNTAINS, NORTHWESTERN SLOVAKIA

Golden Eagle (*Aquila chrysaetos*) productivity was intensively studied in Slovakia in the period 1993–2000. Of nests containing at least two chicks that were not disturbed by man ($N = 15$), all exhibited brood reduction (Kropil and Majda 1996, Pages 486–494 in B.-U. Meyburg and R.D. Chancellor [Eds.], *Eagle studies*. WWGBP, Berlin, Germany; J. Korňan unpubl. data), which is high in comparison to other regions (McGrady 1997, *Birds of the western palearctic*, Update 1:99–114). Brood reduction was observed from hides or discovered when the nests were checked after the egg hatched and one chick was found killed. In addition, Golden Eagle productivity in Slovakia has been impacted by illegal nest thefts for decades (Korňan, M. et al. 1998, *Bird Crime in Europe* 4:11–13), which caused a 15–29% reduction in nesting productivity during the study period ($N = 67$). Therefore, nest wardens or guards were closely monitoring some sites (Korňan, J. et al. 1995, *Buteo* 7:163–168; Korňan, J. et al. 1996, *Buteo* 8:137–142). In order to reduce losses to brood reduction, the Slovak State Nature Conservation authorities manipulated two-chick broods to mitigate siblicide (cainism) and increase annual eagle productivity. The highest risk of cainism occurs when the chick is <6 d old; however, it may occur until the chick is ca. 2 wk old. In two-chick broods, the older or younger chick was taken into captivity and either hand-reared or reared by a foster parent (eagle or other raptor). Then after the period of 5–6 wk, the nestling was returned to the original nest to be reared by its natural parents or fostered into nests of other pairs (Hrtan and Mihók 1985, *Milvus* 2:71–76; Kulštrunk and Trpák 1987, Pages 235–238 in J. Sitko and P. Trpák [Eds.], *Dravci* 1985. *Sborník z ornitologické konference Pøerov* 14–16. 11. 1985, Státní ústav památkové péče a ochrany přírody v Praze ve spolupráci s Okresním vlastivědným muzeem J.A. Komenského, Moravským ornitologickým sdružením v Přerove ve Státním zemědělském nakladatelství v Praze. Praha, ČSSR; Šimák and Mihók 1989, pages 176–179 in J. Lukášek, I. Otáhal, and P. Trpák [Eds.], *Záchranné chovy a odchovy Nový Jičín* 1987. Státní ústav památkové péče a ochrany přírody v Praze ve spolupráci s Okresním vlastivědným muzeem v Novém Jičíně. Nový Jičín, ČSSR; Šimák and Mihók 1996, Pages 463–468 in B.-U. Meyburg and R.D. Chancellor [Eds.], *Eagle studies*. WWGBP, Berlin, Germany).

This letter describes an unusual case of chick adoption by foster parents that had lost their offspring and nest due to severe weather. In fact, this is the first repeated chick adoption to the unoccupied nest ca. 690 m away from the original nest, which was destroyed. In addition, we note that the attempt to foster the chick to the original reconstructed nest was not successful. Finally, in the case we describe, there was an unusually long, 7-d period between the time of death of the original chick and time of adoption by the foster eagle pair.

As a result of heavy rain on the night of 26 May 2000, a Golden Eagle nest containing one 3-wk-old chick was dislodged and fell from the supporting tree. The nest was situated in a fir tree (*Abies alba*) near the village of Zázrivá, in the Malá Fatra Mountains, Slovakia. Two days later, a ranger of the Malá Fatra National Park checked the area around the nest tree, but was unable to find the chick. At 2000 H on the following day (29 May 2000) two rangers spent about 1 hr rebuilding the nest at the original location in the tree, using mainly material from the nest. Thick branches were used to improve stability, the nest cup was lined with green branches and prey remains (e.g., feathers, bones) were spread on the outer edge of the nest.

On 30 May 2000, a 3-wk-old Golden Eagle chick was removed from a nest containing a brood of two, and placed in the newly-reconstructed nest at 0530 H. A hide was constructed about 400 m away from the nest. Adult eagles were not seen near the new nest for the remainder of the day, and the chick was left on the nest overnight. On the morning of 31 May 2000 an adult female eagle was seen flying from the slope opposite the nest, but did not visit it. Later that day, we climbed the nesting tree to feed the chick. At 2030 H we took the nestling eagle from the nest because no eagles had visited the nest.

Despite the lack of success, we decided to make another attempt at fostering this chick to this pair. Before 1700 H, on 1 June 2000, the same chick was placed in an alternate nest in this eagle home range that was built on a cliff about 690 m from the nest that had collapsed (Fig. 1). The position of this nest, which had been successful in 1999, was quite open, and the chick in the nest could be seen from far away (probably ≥ 1 km). We restored and tidied up the nest cup. At 1440 H on 2 June 2000 an adult female Golden Eagle visited this nest, and immediately the nestling stood and begged for food. The female remained at the nest about 5 min. At 1600 H the female returned



Figure 1. Locations of the original nest that failed (Nest 1) and the alternate nest (Nest 2) where a 3-wk-old chick was adopted by the resident pair of Golden Eagles near Zázrivá, Slovakia.

carrying rabbit-sized prey, and fed the chick for ca. 30 min and then flew away. Afterwards, the adult eagles attended the chick in a normal manner. The nestling fledged during the last week of July.

The first manipulations of Golden Eagle broods in Slovakia were carried out in 1978 (Šimák and Mihók 1996). The younger chicks were removed and fostered to other eagle pairs that had clutches destroyed, had abandoned unhatched eggs, or had suffered nestling mortality of a single-chick brood. Fostering was successful 74.3% ($N = 35$) of the time (Korňan, J. 1995, *Buteo* 7:163–168; J. Korňan unpubl. data; Korňan, J. et al. 1995, Korňan, J. et al. 1996) in the period 1993–2000. The fostering failures were caused by siblicide, natural predation, or unknown causes. One attempt to foster a chick to an empty nest was not successful, the chick was killed by the male and consequently eaten by both adult birds (Hrtan and Mihók 1985). According to the authors, the pair probably did not lay the clutch. The failure of this adoption was probably related to the nonbreeding condition of the pair.

Comparable adoption of an eagle chick to an unoccupied, alternate nest, as described in this letter, has not been described elsewhere as far as we could determine through our literature review. An adoption of a young Golden Eagle into a nest where the chick died and the nest was vacant for at least 2 d and possibly 5 d was conducted in the Snake River Birds of Prey Area, Idaho, U.S.A., in 1976 (M. Kochert pers. comm.). In this case, the foster chick was adopted and fledged successfully.

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