Site Tenacity and Pair Bond of the Eleonora's Falcon

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Introduction, Material & Methods

Birds with a long expectation of life tend to show site tenacity and life-long pair bonds (Bezzel 1977). Birds of prey usually belong to this group. The object of our study, Eleonora's Falcon **Falco eleonorae**, lives colonially and therefore offers the opportunity for ringing reasonable numbers and obtaining local retraps and recoveries. Preliminary results are presented in this communication.

The investigations were conducted in an Aegean colony of about 180 pairs during six breeding seasons (1965-78). The colony is situated on a small rocky island (< 1 km^2). Nestlings were ringed all over the island, but retraps of adult falcons were restricted to sites which were easily accessible and where disturbance could be kept to a minimum.

Results & Discussion

A total of 650 nestlings and 93 adults (23 ♂, 70 ♀) were ringed. The recoveries (Ristow 1975) are listed in Table 1 according to the time elapsed since ringing. The distances between ringing and recovery sites are shown in Table 2.

The number of nestlings, which are recovered, is quite low as compared to the Kestrel **Falco tinnunculus** (Cave 1966). Recoveries within the first three years are from distances greater than 300 km, and 6 out of 9 birds were recovered during the breeding season. This indicates that probably a dispersion of the young takes place. Four nestlings were found breeding in or close to their native colony 4-9 years later, among these a male and a female repeatedly. The oldest birds so far recorded are a 6-year-old female and a 9-year-old male.

Of the birds ringed as breeding adults, 12 out of 13 were recovered in, or close to, the breeding colony in subsequent years (Table 2), and the percentage of recoveries is markedly higher than in nestlings (Table 1). From this we assume that an adult falcon will return to the breeding colony once chosen.

Many eyries of the past year are marked already in May, two months prior to egg laying, with pellets and feathers of prey as well as down of adult falcons. The occupants of the territories correspond in their plumage phases (Wink et al. 1978) to the respective birds in those territories in the previous year. These indications for site (i.e. territory) tenacity are confirmed by retrap data (Table 3). Only 2 out of 8 females changed their territory, whilst of the 3 males

TABLE 1 : Recovery and retrap data of Eleonora's Falcons ringed in 1965-76. The 9 nestlings, recovered within two years, and 1 adult, recovered after three years, constitute data obtained by chance while the rest is systematically gathered data in or near the colony.

falcons ringed as	number ringed	number recovered	number* recovered after 1 2 3 4 5 6 7 8 9 years elapsed since ringing
nestlings	650	13	6 3 - 1 - 4 - 1 1
adults	93	13	2 7 1 2 1 - - - -

* Two nestlings retrapped repeatedly in different years are counted here for each year.

TABLE 2 : Distances between ringing and recovery sites. All data from May-September, except one winter record from Madagascar.

		n*	distance (km) 0-0.5 breeding island	0.5-5.0	5.0-50 neighbouring islands	50-500	> 500
nestlings	1 year	6	-	-	-	3	3
	2 year	3	-	-	-	-	3
	4 year	1	1	-	-	-	-
	6 year	4	2	1	1	-	-
	8 year	1	1	-	-	-	-
	9 year	1	1	-	-	-	-
adults	1 year	2	2	-	-	-	-
	2 year	7	7	-	-	-	-
	3 year	1	-	-	1	-	-
	4 year	2	2	-	-	-	-
	5 year	1	1	-	-	-	-

* Two nestlings retrapped repeatedly in different years are counted here for each year.

TABLE 3 : Site tenacity of retrapped adult Eleonora's Falcons in subsequent years.

sex	n	state of territory on recovery same	new
males	3	3	-
females	8	6	2

in Table 3 one was recorded in the same territory in three different years. In comparison with the Kestrel (Cave 1966), Eleonora's Falcon shows a higher nesting site tenacity. This may be due to the space available for a pair within an island colony.

Apparently paired couples can be seen within their territory already in May, and when they leave the colony for hunting on the mainland about 2-3 hours after sunrise, the female flies ahead followed by the male in 10-20 m distance. In 1975 we succeeded to trap both partners of 5 pairs. In 1977 all five territories were occupied and even the same nests were used by 2 pairs. One pair and 2 females could be retrapped and were the same as two years earlier. The remaining birds could not be trapped but corresponded in their plumage phases to the respective birds ringed in 1975. Therefore the pair bonds had probably lasted for two years or more. We do not know, however, whether this fidelity applies to the mate or the nesting site.

Also, this observation suggests a high survival rate for adult falcons, but the number is too small as yet to evaluate the mortality of Eleonora's Falcon.

In conclusion, a strong tendency for site tenacity and lasting pair bond can be assumed but more data will certainly clarify this question.

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Summary

29 recoveries of 750 ringed Eleonora's Falcons show that juvenile falcons tend to disperse during their first years. Once they have chosen their breeding colony they tend to return to the same territory for years and stable pair bonds seem to exist as well. Oldest age proven of ♂ and ♀ are at least 6 and 9 years, respectively.

References

BEZZEL,E. 1977. Ornithologie. Ulmer, Stuttgart.

CAVE,A.J. 1968. The breeding of the Kestrel, Falco tinnunculus L., in the reclaimed area oostelijk Flevoland. Netherlands Journal of Zoology 18 : 313-407.

RISTOW,D. 1975. Neue Ringfunde vom Eleonorenfalken (Falco eleonorae). Vogelwarte 28 : 150-153.

WINK,M., WINK,C. and RISTOW,D. 1978. Biologie des Eleonorenfalken (Falco eleonorae) : 2. Zur Vererbung der Gefiederphasen (hell-dunkell). Jour. f. Orn. 119 : 421-428.

Addenda : The falcon pair mentioned in the text as being retrapped in their territory two years later were trapped again four years later in 1979. Both had new partners, however, and while the male occupied the nest of 1975, the female had her nest 15 m away; there were no direct sight connection between the two nests.

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Passer Species on Sardinia

DENIS SUMMERS-SMITH

Two species of Passer occur on Sardinia, the Spanish Sparrow P.hispaniolensis and the Tree Sparrow P. montanus. Cody (1974) reported observations by Hartmut Walter that in Cagliari, the major city of Sardinia, P. montanus is restricted to the downtown and port area, the more typically urban sparrow P. hispaniolensis being displaced to the suburbs and countryside. In April 1978 on a brief visit to Naples, which lies on the mainland Italian coast about the same latitude as Sardinia, I found the Tree Sparrow to be occupying the urban 'house sparrow' niche, whereas the Italian Sparrow, which is normally placed as a sub-species of the House Sparrow P. domesticus, was displaced to the suburbs. The Italian Sparrow P.d. italiae is a stabilised hybrid between P. domesticus and P. hispaniolensis, which at its northern limit in the Alps and its southern limit in Calabria and Sicily intergrades respectively with P.d. domesticus and P.h. hispaniolensis (Meise 1936). Previous observers have found the birds in Sardinia to be almost pure P. hispaniolensis, both in appearance and behaviour; in contrast, the birds of Corsica are typical P.d. italiae (Steinbacher 1954, 1956; Cheke 1966). P. hispaniolensis is very closely related to P. domesticus and where the latter is absent takes over the 'house sparrow' role and is to be found in completely urbanised surroundings (Summers-Smith 1977-78).

A visit was made to Sardinia in September-October 1979 to study the sparrow situation in more depth. Most parts of the island were visited and particular attention was paid to the sparrows in the villages and towns. Tree Sparrows were present in the squares, gardens, churchyards and waste places in Cagliari and, though a few Spanish Sparrows were seen, the Tree Sparrow was clearly occupying the 'house sparrow' role, visiting possible nesting sites in buildings. On the east coast at Tortoli and the neighbouring villages of Arbatax and Girasole the