

## Use of nest box by Eleonora's Falcon *Falco eleonora*\*

by

*Dietrich Ristow, Till Ristow, and Michael Wink*

Perhaps 2500 pairs or 75% of the world population of Eleonora's Falcon breed in Greece. It is unknown, but rather likely, whether the Greek population of this rare bird is declining at a similar rate as in the western Mediterranean. Although the species cannot be classified as being threatened immediately in Greece, it is worthwhile to develop means of population management before the number falls to a critical level. Among the strategies suggested at the Thessaloniki ICBP World Conference on Birds of Prey is the use of artificial nest boxes (Ristow & Wink, 1985).

Because captive breeding of Eleonora's Falcon has been demonstrated by A. L. Clark at Cornell University/USA and by Dr. Artmann at Vogelpark Schmiding/Austria, chances were good that free living birds would respond to nest boxes as well. Further, nest boxes were successful with other falcons in the wild such as Peregrines (*Falco peregrinus*) and Kestrels (*Falco tinnunculus*), so that we decided to try them in the breeding colony where we are studying Eleonora's Falcon.

The island of our colony near Crete is less than 1 km in size and has about 250 breeding pairs. The numbers increased by about 20% during the past ten years due to our wardening. Natural nest sites are under stones or in crevices providing shade which is important to protect

the eggs from excessive heat. There are usually 2-3 suitable nest sites within every individual falcon territory in this colony. So there was no need to increase the number of nest sites here. But, to repeat the motivation given already above, because this island bears a well numbered population it is possible to study careful manipulation methods here and apply the experience later on at colonies with critically declining populations.

In June 1985, at a time when only a few falcons were present in the colony, we started experiments with preliminary nest boxes built from drift-wood. Fig. 1 shows such a box: an ordinary wooden fruit container was placed upside down and supported by pieces of wood



Fig. 1: Nest box for Eleonora's Falcon built from driftwood and stones. Two eggs have been laid on the bare ground.

\* Part 18 of a series on Eleonora's Falcon.

nailed to it to give the proper height. Four similar boxes were set up along a line across the island as depicted in Fig. 2: No. 1 and No. 2 were placed near the top of the island, No. 3 in an almost flat area, and No. 4 in a steep cliff closer to the sea level. The density of nests in this area is also schematically indicated in Fig. 2. The flat vicinity of No. 3 has no suitable crevices with shade, a circumstance which explains the absence of falcon nests there.

When setting up a nest box, sun exposition and free view over the surrounding territory (Wink et al., 1982) plus other factors were considered:

- a) The dimensions of the box (50 cm × 40 cm × 35 cm) were derived from natural nest crevices, the height being just sufficient so that the adult could freely stand inside.
- b) The bottom was flat natural ground, the same as in other nests. The interior was cleared of the largest stones.

- d) The entrance was protected from the «meltemi» winds.
- e) A flat area of about a square meter was in front of the box where the fledglings might walk around.
- f) A small stone was placed in front of the box entrance to obstruct it partially. This way the adult might sit on this stone and feed the young.
- g) The box was camouflaged with stones to make it less conspicuous (trespassers).
- h) A prominent rock which could serve as a look out post for the female should be in the vicinity, preferably 3-5 m south of the box.

At our next visit in the breeding season of Eleonora's Falcon September 1985, none of the boxes contained nestlings. No. 2+4 did not show any sign of occupation, whereas pluckings of prey lay at the entrance of No. 3, and a falcon pair used the top of No. 1 as a look out. There were no signs that they were breeding that year.

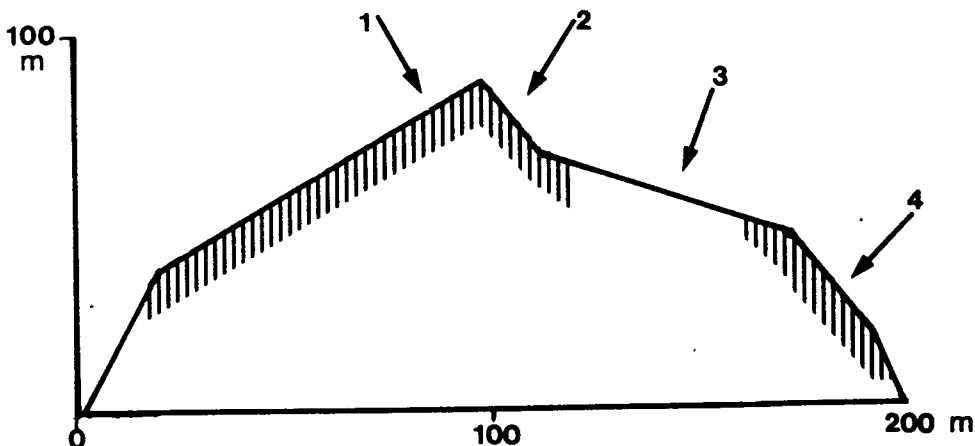


Fig. 2: Schematic cross section of the island. Shaded parts indicate preferential nest areas of Eleonora's Falcon. Arrows refer to the sites of the four nest boxes.

- c) The long side was open and faced east. So there was some sun exposition for the nest in the morning, but shade for the rest of the day. In addition, the box was set up north of a large boulder to provide the whole box with shade at noon.

A year later, in September 1986 three boxes were unoccupied, but box No. 3 contained two eggs (Fig. 1) of which one young had hatched when we checked again two weeks later.

Why was box No. 3 the first to be used successfully? We believe that its position away from

the normal territories made it attractive for newcomers in the breeding population. Breeding adults show a high degree of site tenacity and return to their territory year after year (Ristow et al., 1979), therefore it is difficult for young males to find vacant territories. We interpret the pluckings found in 1985 as an indication that a young male had taken the newly created territory right away. It is likely that it was the same falcon in 1985 and 86 which occupied this nest box.

In summary, it was shown that Eleonora's Falcon accepts nest boxes in the wild. Such boxes can be provided at low cost. For example, metal bar structures such as shopping baskets could be used and covered with stones. It would be of interest to see if this method would help to found a new colony on a hitherto uninhabited island. For such an experiment more than a dozen boxes should be set up at a distance of about 30 m each, preferably without direct sight connection between the individual box entrances.

We would like to thank the Ministry of Agriculture for the permission to work on the Aegean islands and appreciate the help of our local friends to arrange for the prolonged stays necessary for the study.

## References

- Ristow D., Wink C. & Wink M. (1979) «Site tenacity and pair bond of the Eleonora's Falcon». *Il-Merill* 20, 16-18.
- Ristow D. & Wink M. (1985) «Breeding success and conservation management of Eleonora's Falcon». *ICBP Techn. Bull. No. 5*, 147-152.
- Wink M., Wink C. & Ristow D. (1982) «Biology of the Eleonora's Falcon (*Falco eleonora*): 10. Breeding success in relation to nest site exposition». *J. Orn.* 123, 401-408.

## Περίληψη

### Η χρήση τεχνητών φωλιών από Μαυροπετρίτες *Falco eleonora*

των D. Ristow, T. Ristow και M. Wink

Γύρω στα 2.500 ζευγ., το 75% δηλ. του παγκόσμιου πληθυσμού του Μαυροπετρίτη, φωλιάζουν στην

Ελλάδα. Παρά το ότι ο ελληνικός πληθυσμός δεν φαίνεται να απειλείται, είναι επιθυμητό να δοκιμαστούν από τώρα κάποιες τεχνικές που θα βοηθήσουν στη μελλοντική διαχείριση και προστασία του σπάνιου αυτού γερακιού.

Σε ένα ξερονήσι του Αιγαίου κοντά στην Κρήτη, υπάρχει μία πολύ καλά μελετημένη, από τους συγγραφείς, αποικία Μαυροπετρίτων η οποία αποτελείται σήμερα από 250 ζευγ. και που τα τελευταία χρόνια εμφανίζει μια αύξηση της τάξης του 20%. Αυτή η αποικία, ακριβώς λόγω του ότι είναι πολύ καλά μελετημένη και οι περισσότερες φωλιές αριθμημένες εδώ και χρόνια, επιλέχθηκε ως χώρος πειραματισμού με τεχνητές φωλιές, μια και δεν ήταν γνωστό αν οι Μαυροπετρίτες αποδέχονται τη χρήση τέτοιων κατασκευών όπως κάνουν άλλα είδη γερακιών.

Τον Ιούνιο του 1985, 4 απλές κατασκευές από άχρηστα ξύλα, καφέσια φρούτων, κ.ά., τοποθετήθηκαν σε ειδικά επιλεγμένες θέσεις (Fig. 2) έτσι ώστε να εξυπηρετούν τις ιδιαιτερότητες των Μαυροπετρίτων στην επιλογή της φωλιάς δηλ. ύπαρξη σιακός κατά το μεγαλύτερο διάστημα της ημέρας, αρκετή απόσταση από φωλιές άλλων ζευγαριών κλπ.

Τελικά το Σεπτέμβριο του 1986 βρέθηκε ότι μια από τις 4 τεχνητές φωλιές χρησιμοποιήθηκε από ένα ζευγάρι, που γέννησε 2 αυγά (Fig. 1) ένα από τα οποία εκκολάφθηκε.

Αποδεικνύεται έτσι ότι οι Μαυροπετρίτες αποδέχονται τη χρήση τεχνητών φωλιών στη φύση. Αν αυτή η απλή τεχνική εφαρμοστεί κατάλληλα σε ξερονήσια όπου δεν φωλιάζουν Μαυροπετρίτες, πιθανώς να βοηθήσει στην εγκατάσταση νέων αποικιών και στην τελική αύξηση του πληθυσμού που αναπαράγεται.