.8. - -----

45

tine cooperation, and Clayton M. White for logistical and editorial advice, and Sergio Santalices of Rio Verde, Chile for his generous hospitality.

The color photo accompanying both articles on *F. kreyenborgi* was taken by Anderson while funds to pay for it came, in part, from Daniel J. Brimm and Safari Club International Conservation Fund.

Literature Cited

Anderson, C. M. and David H. Ellis. In press. Falco kreyenborgi: a current review. Raptor Research.

- Brown, L. and D. Amadon. 1968. Eagles, hawks and falcons of the world. McGraw-Hill Book Co., New York.
- Ellis, D. H. and R. L. Glinski. 1980. Some unusual records for the peregrine and pallid falcons in South America. Condor 82:350–351.

Kovacs, A. 1962-3. An extraordinary falcon from Argentina. Aquila 69-70: 223-224.

- Olrog, 1948. Observaciones sobre la avifauna de Tierra del Fuego y Chile. Acta Zool. Lilloana 5:437–531.
- Vaurie, C. 1961. Systematic notes on Palearctic birds. No. 44. Falconidae: The genus Falco (Part 1, Falco peregrinus and Falco pelegrinoides). Am. Mus. Novit. 2035: 1–19.
- Wrege, P. H. and T. J. Cade. 1977. Courtship behavior of large falcons in captivity. Raptor Research 11:1-27.

NOTES ON OBSERVING NESTING ACCIPITERS

by

T. A. Geer and C. M. Perrins Edward Grey Institute of Field Ornithology Zoology Department South Parks Road Oxford 0X1 3PS, England

Since 1976 we have been observing European Sparrowhawk Accipiter nisus nests during the breeding season to determine this predator's effect on the population of titmice Parus spp. in Wytham Woods, Oxford. While results of this study have been published elsewhere (Geer 1978, Perrins and Geer 1980, Geer in press), we present here some methods for watching hawk nests since we have had good results observing from close quarters, a technique that many researchers of raptors have expressed to us a reluctance to use.

Between 1976 and 1979 we placed 8 blinds at distances of less than 6m from Sparrowhawk nests during the incubation and nestling periods. Our first attempt entitled placing a canvas blind on top of a platform of wood and angle-iron built in the fork of a tree adjacent to the tree holding the hawk nest. Building took 5 one-hour periods, spread out over 4 days to minimize disturbance, and was begun 2 days after the young hatched. Once completed and occupied, the adults showed no shyness of it. We found that the 6m distance from blind to nest was too great to be able to identify prey accu-

*Reprint requests to C. M. Perrins

RAPTOR RESEARCH

rately even from photographs taken with a 35mm SLR camera with a 300mm lens. To improve on these observations, we placed blinds even closer to the nests since Newton (1978) had success putting blinds as close as 2m from Sparrowhawk nests. Because trees suitable for placement of blinds were seldom available close enough to hawk nests, the remainder of our blinds were put on freestanding towers of tubular metal scaffolding constructed alongside nesting trees. Towers were erected in short work periods over a series of days to reduce disturbance of the parents; a total of about 4 hours was usually required. Wooden planks were lashed to horizontal scaffolding poles to form a platform on which sat a hardboard blind, lashed to the platform for security (Figure 1). In all instances but one, construction was begun after eggs hatched. In the single case, construction started about 1 week before the eggs were due to hatch. Here the female continued to incubate while building was underway below her. When work reached the nest level she flew off only to return less than 10 minutes later and continued incubating while watching us work less than 2m from the nest. Towers built to the level of the nest ranged from 11 to 17m in height and blinds either abutted the nest or were up to 2.5m from the center of the nest. Blinds were first occupied at completion of building and adults returned to feed and brood the young within 15 minutes; exhibiting little or no shyness of the structures. Observations were made for approximately 16 hours/day and identification of prev species was easy with unaided eye or with a 35mm SLR camera with a 135mm lens. To avoid premature fledging of young use of the blinds was discontinued 4 days prior to the time the young were due to fledge.

Three other techniques used, 2 successful and 1 unsuccessful, further illustrate the tolerance of accipiters to human activity during the nesting season. First, at one nest the eggs failed to hatch. Foster young were introduced and readily accepted by the parents. Because the tree containing this nest was growing off the perpendicular on soft sloping ground a tower could not be safely built to the height of the nest, 18m up. Therefore, we lowered the nest and young to a level where it could be safely observed. First a tower 6.5m high was built alongside the nest tree. Then the nest and young were lowered to a platform of wood and angle-iron (Figure 2) lashed to the tree about 4m below its original position and left for the night to see how the young fared. The following day they had been fed and were in good condition; they were then lowered the rest of the distance to the tower and blind in the next 2 days, a total of 12m in 3 days. When watches began the parents were somewhat nervous with the arrangement, but they continued to feed the young until and after they fledged.

Second, at one nest we used a long pair of tongs pushed through a hole in the front of the blind to remove tits brought to the nest in order to recover metal bands from the corpses; these prey items were returned after removal of the band. At first the parents flew off when the tongs were extended, but soon they became so accustomed to the procedure that tugs-of-war developed over prey items we tried to remove.

Third, a nest containing small young was moved from the original nest tree to an adjacent tree where construction of a tower would have been easier. Here the female remained in the area but would not come to the nest in its new location. Therefore, the nest was returned to its original position after a few hours; as soon as this was done the female returned to the nest and brooded and fed the young in a normal manner.

The foregoing show that not all accipiters are intolerant of blinds close to the nest or manipulation of their breeding habits. The methods we describe may not prove successful in all attempts, but they provided substantially improved results for us. Summer 1981

References

- Geer, T. A. 1978. Effects of nesting Sparrowhawks on nesting tits. Condor 80: 419-22.
- Geer, T. A. in press. Factors affecting the feeding of nestling Sparrowhawks. J. Zool., Lond.
- Geer, T. A. in press. The selection of tits Parus spp. by Sparrowhawks Accipiter nisus. Ibis.
- Newton, I. 1978. Feeding and development of Sparrowhawk Accipiter nisus nestlings. J. Zool., Lond. 184: 465-87.
- Perrins, C. M. & Geer, T. A. 1980. The effect of Sparrowhawks on tit populations. Ardea 68: 133-42.



Figure 1. Diagram of a scaffolding tower with a hardboard blind.

RAPTOR RESEARCH



Figure 2. Diagram of nest platform used for lowering of nest.

HABITUATION TO HUMAN DISTURBANCE IN NESTING ACCIPITERS

by Julie Ann Lee Department of Zoology Brigham Young University Provo, Utah 84602

Abstract

Data are presented on habituation to human activity by 2 accipiters, the Goshawk (*Accipiter gentilis*) and the Cooper's Hawk (*A. cooperii*). Human activities near nests include snowmobile traffic, cross-country and alpine skiing, hiking, horseback riding, and the construction of homes. Two possible explanations for apparent "tameness" in these birds are as follows: 1) The hawks tolerating heavy use of nesting areas by people were younger, less experienced birds, and 2) The nest areas are traditional for Goshawks and Cooper's Hawks, providing secure nest trees and plentiful prey.

Introduction

Effects of disturbance at nest sites have been documented for many raptor species (Fyfe and Olendorff 1976, Hennessy 1978). Stalmaster (1978) discussed responses of the Bald Eagle (*Haliaeetus leucocephalus*) to human activity on eagle wintering grounds. Information is available about the effects of disturbance on raptor behavior, but little in-