

CUCKOO PREDATION ON NESTS OF NEAREST NEIGHBOURS OF PARASITIZED NESTS

FERNANDO ALVAREZ

Estación Biológica de Doñana (CSIC), Apdo. postal 1056, 41080 Sevilla, Spain.

Evidence for predation by female Cuckoos *Cuculus canorus* on non-parasitized hosts' nests has been found in various studies (Witherby *et al.* 1938, Wyllie 1981, Gärtner 1981, Bibby & Thomas 1985, Davies & Brooke 1988, this paper). However, there are no observations on the potential relationship between the incidence of host-nest predation and proximity of parasitized nests. I shall approach this topic in a Cuckoo population parasitizing Rufous Bush Chats *Cercotrichas galactotes* (Alvarez 1994).

The study period covered two reproductive seasons (1992 and 1993) and lasted from May (before Rufous Bush Chats started breeding) to September (when they had left the area). The study plot (21 ha in 1992 and 36 ha in 1993; 20 km south-east of Seville, Spain) is a vineyard area, with small patches used to grow vegetable and interspersed fruit trees. Nest monitoring was carried out every 1-2 days. I estimate the number of Cuckoo females (sexed on their peculiar bubbling call, Chance 1940) as 2-3 in 1992 and 3-5 in 1993. The number of territorial breeding Rufous Bush Chat pairs was 10 and 11 in 1992 and 1993, respectively.

Three observations were made in which female Cuckoos attempted to approach one nest in

the stage of egg-laying and two nests in advanced incubation stages. Although intensely mobbed by the breeding pairs in all three occasions, the Cuckoo was able to steal an egg from one of the nests that were incubated. When adult Cuckoos were present, nest predation was higher than when they had left the area (1992: $n = 24$, $P = 0,019$, Fisher exact probability test; 1993: $n = 43$, $\chi^2 = 852$, $df = 1$, $P < 0.005$). When Cuckoos were present in the area predation on nests with Cuckoo eggs or young was much lower than on non-parasitized nests (Table 1). These results, together with the frequent observation that predated nests are just found empty, without any damage to the nest, do not point to an important role by large avian predators or ground predators, but suggest that the Cuckoo is the most likely actor.

When adult Cuckoos are still present in the area, the mean distance from non-parasitized predated nests to the nearest nest with a Cuckoo egg or young at that time is lower than that from non-parasitized non-predated nests (Table 2). These data support the hypothesis that predation on non-parasitized nests lowers competition for food and space, and thus benefits the parasitized hosts. The nests of the former would not reach the nestling

Table 1. Number of parasitized and non-parasitized nests that were predated or not during the time that Cuckoos were present in the study area.

study-period	parasitized		non-parasitized	
	predated	non-predated	predated	non-predated
1992*	1	5	8	3
1993**	1	5	15	5

* $n = 17$, $P = 0.041$ ** $n = 26$, $P = 0.017$ (Fisher exact probability test).

Table 2. Distance (m) from predated and non-predated non-parasitized nests to the nearest parasitized nest during the time when Cuckoos were present at the study area.

study-period	predated		non-predated	
	<i>n</i>	Mean \pm <i>SD</i>	<i>n</i>	Mean \pm <i>SD</i>
1992*	8	119.5 \pm 53.7	3	243.2 \pm 52.5
1993**	15	150.6 \pm 66.2	5	345.6 \pm 107.0

* $U = 2, n = 11, P = 0.016$ ** $U = 3, n = 20, P = 0.001$ (Mann-Whitney *U*-test).

stage and consequently the provisioning of the Cuckoo nestling by its foster parents may become better. Such predation on nearest neighbours' nests must not necessarily depend on an independent tendency by the female Cuckoos to rob these nests, but could result from their easier detection in the Cuckoos' frequently observed visits to the parasitized nests and their surroundings.

ACKNOWLEDGMENTS

I thank M. Vázquez for help during field observations. Funding was provided by DGICYT (PB 92-0115).

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