

ABSTRACTS FOR *CONDOR* 104(1) FEBRUARY 2002 C.E.

FEATURE ARTICLES

DOES INTERCOLONY COMPETITION FOR FOOD AFFECT COLONY CHOICE IN CLIFF SWALLOWS?

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Abstract. Explaining why breeding colonies vary in size has been a persistent problem in the study of animal spatial distribution. One hypothesis is that colony size reflects local food availability, which may be affected by the number of conspecifics feeding in a given area. We investigated whether colony size in Cliff Swallows (*Petrochelidon pyrrhonota*) was influenced by competition for food from birds in nearby colonies. Because we knew where Cliff Swallows foraged in relation to their colonies, we could designate for each colony site which neighboring colonies shared its foraging range. If intercolony competition for food is important in the birds' settlement decisions, a negative correlation between a site's colony size and the total number of nests in neighboring sites should result. Among-site analyses within years revealed negative correlations in 8 of 10 years; however, none of the correlation coefficients was significant. Separate among-year analyses for 32 sites revealed none with statistically significant correlations, and the direction of these correlations was not consistent. Annual variability in colony size tended to increase slightly as more colony sites shared the foraging range. Intercolony competition for food in Cliff Swallows does not appear to be strong, perhaps because food is normally abundant and not appreciably depleted by foragers. Also, because of synchronous between-site colony establishment, it may be difficult to predict the number of birds at neighboring sites and thus the degree of future competition at the time individuals settle. Intercolony competition for food may be important only for certain sites or for colonies established later in the year.

Key words: *Cliff Swallow, coloniality, food competition, foraging, habitat selection, Petrochelidon pyrrhonota, social behavior.*

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