

The Condor
Volume 104, No. 2
May 2002
Abstracts

FEATURE ARTICLES

CAVITY ADOPTION AND THE EVOLUTION OF COLONIALITY IN CAVITY-NESTING BIRDS

JESSICA R. EBERHARD¹

Smithsonian Tropical Research Institute, Apdo. 2072, Balboa, Republic of Panama

Manuscript received 11 June 2001; accepted 11 January 2002.

¹Present address: Macaulay Library of Natural Sounds, Cornell Laboratory of Ornithology, 159 Sapsucker Woods Rd., Ithaca, NY 14850. E-mail: jre24@cornell.edu

Abstract. Among cavity-nesting birds, a distinction can be made between excavators, which dig their own cavities, and cavity-adopters, which nest in pre-existing cavities. Historically, these two types of species have been grouped together as “cavity-nesters,” but it has become clear that the two nesting habits are associated with very different suites of life-history characters. This paper tests the hypothesis that cavity-adopters differ from excavators and other nest-building species in their propensity to evolve colonial breeding. Because of their dependence on pre-existing cavities, cavity-adopters presumably have less control than excavators over the location of their nests, and this could limit their ability to nest near conspecifics. A literature survey of the nesting behavior of 842 species in 17 bird families shows that coloniality almost never occurs in species that are obligate cavity-adopters. A phylogeny-based comparative analysis of nesting behavior in the Anseriformes indicates that in this group, colonial breeding has evolved less frequently in lineages of cavity-adopters than would be expected by chance. Together, this evidence supports the hypothesis that colonial breeding systems are unlikely to evolve in lineages of cavity-adopters.

Key words: Anseriformes, birds, cavity nesting, colonial nesting, comparative method.