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Abstracts

FEATURE ARTICLES

NUT SELECTION BY CAPTIVE BLUE JAYS: IMPORTANCE OF AVAILABILITY AND IMPLICATIONS FOR SEED DISPERSAL

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Abstract. We assessed dietary preference of 14 captive Blue Jays (*Cyanocitta cristata*) for different food types under different conditions of availability. In four separate feeding trials, we provisioned jays with the following: Trial 1, two nuts each of white oak (*Quercus alba*), pin oak (*Q. palustris*), black oak (*Q. velutina*), northern red oak *(Q. rubra*), and shagbark hickory (*Carya ovata*); Trial 2, two small and two large red oak acorns; Trial 3, two germinating and two nongerminating white oak acorns; and Trial 4, one large red oak acorn, one large white oak acorn, and one shagbark hickory nut. We used discrete choice models to describe selection under conditions of changing choice sets. Blue Jays displayed a clear preference for pin oak and strong avoidance of red oak acorns when alternative foods were available. White oak and black oak acorns were selected intermediately. Shagbark hickory nuts were never used. Correlation coefficients suggested that preference was inversely related to seed size and the proportion of seed consisting of hard seed coat. In the absence of alternative food items, small red oak acorns were readily taken, whereas large red oak acorns were mostly avoided but still used by some birds. These results highlight the importance of considering food availability when making conclusions about preference, and lend support to the hypothesis that Blue Jays can be important dispersers of even less-preferred oak species. We discuss the potential as well as the limitations for Blue Jays to act as seed dispersers, with respect to postglacial range expansion of fagaceous tree species, and in the context of present-day dispersal in regions where forests are highly fragmented.

Key words: Cyanocitta cristata, *discrete choice model, jays, oaks, selection.*