

FEATURE ARTICLES

DEVELOPMENT OF FORAGING SKILLS AND THE TRANSITION TO INDEPENDENCE IN JUVENILE SAVANNAH SPARROWS

NATHANIEL T. WHEELWRIGHT^{1,3} AND JENNIFER J. TEMPLETON²

¹*Department of Biology, Bowdoin College, Brunswick, ME 04011*

²*Department of Biology, Knox College, Galesburg, IL 61401*

Manuscript received 22 April 2002; accepted 6 January 2003.

³E-mail: bss@bowdoin.edu

Abstract. We investigated the timing and pattern of the development of foraging skills in juvenile Savannah Sparrows (*Passerculus sandwichensis*). Juveniles of known age, parentage, and in some cases sex were mist netted and tested in an aviary on Kent Island, an isolated island in the Bay of Fundy, Canada. Captive birds were exposed to three standardized and ecologically relevant foraging tasks: locating spittle bugs (Homoptera: Cercopidae) in spittle masses on goldenrod (*Solidago rugosa*) plants, small caterpillars under spruce (*Picea glauca*) bud scales, and beetle larvae under leaves. The feeding trials involved 33 juveniles aged 17–42 days, four independent juveniles whose precise ages were not known, and five adults for comparison. The performance of juvenile sparrows on all three tasks showed rapid improvement between 22 and 24 days of age. Thereafter, foraging proficiency (number of foraging attempts, number of prey obtained, foraging efficiency) did not improve significantly with age among juveniles; in fact, older juveniles performed as well as adults. Juvenile males obtained more prey items than juvenile females in aviary trials. Foraging proficiency in captivity was not a good predictor of survival to the following year, and it appeared not to be influenced by brood membership or parental age. The age at which foraging performance improved in captivity coincided with the age at which parents cease attending their fledglings in the field, suggesting that the duration of postfledging parental care may be determined by the speed at which juveniles can develop foraging skills.

Key words: foraging, independence, juvenile birds, postfledging, Savannah Sparrows, *Passerculus sandwichensis*.