

FEATURE ARTICLES

EFFECTS OF NESTLING HEALTH ON POSTFLEDGING SURVIVAL OF WOOD STORKS

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Abstract. Little is known about the period between fledging and breeding in long-lived birds, including survival rates and factors affecting survival, yet this period may be critical to population regulation. We conducted health exams on 72 nestling Wood Storks (*Mycteria americana*) aged 4–6 weeks, and monitored survival of these birds via satellite telemetry for up to two years of age. Eighty-two percent of nestlings fitted with transmitters in 2002 ($n = 33$) survived to fledging. Of these fledglings ($n = 27$), 44% survived their first year. Second-year survival for the same cohort ($n = 12$) was 75%. In contrast, 50% of nestlings fitted with transmitters in 2003 ($n = 34$) survived to fledging, and 6% of fledglings ($n = 17$) survived the first year. Of the health parameters we measured in large nestlings, white blood cell count was consistently the most closely related to postfledging survival. Significantly elevated heterophil:lymphocyte ratios in 2003 coincided with the observed high colony abandonment that year. After controlling for health parameters, gender also appeared to play a significant role in predicting survival, with males at greater risk of mortality. Hematological factors and gender were both more closely associated with survival in 2003 than in 2002, suggesting these factors may play a greater role in regulating postfledging survival or, in the case of hematology, serve as indicators of poor health in less favorable years when nestling storks are exposed to multiple stressors.

Key words: Ciconiiformes, health, immune system, *Mycteria americana*, postfledging, survival, Wood Stork.