

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

FEATURE ARTICLES

CORTICOSTERONE RESPONSES IN WILD BIRDS: THE IMPORTANCE OF RAPID INITIAL SAMPLING

L. MICHAEL ROMERO¹ AND ROBIN C. ROMERO

Department of Biology, Tufts University, Medford, MA 02155

Manuscript received 14 May 2001; accepted 6 November 2001.

¹E-mail: mromero@tufts.edu

Abstract. Corticosterone concentrations in birds usually rise in response to capture and handling, and it is often assumed that this change is predictable. We tested this assumption by leaving Gambel's White-crowned Sparrows (*Zonotrichia leucophrys gambelii*), House Sparrows (*Passer domesticus*), and Lapland Longspurs (*Calcarius lapponicus*) in nets or traps for 15 min following capture and comparing their corticosterone response over the next 60 min with birds removed immediately. White-crowned Sparrows and House Sparrows left in mist nets for 15 min and then bled had significantly elevated corticosterone concentrations compared to controls that were immediately removed from the net and bled. Corticosterone concentrations over the next 45 min of handling and restraint were similar between groups. In another experiment, White-crowned Sparrows and Lapland Longspurs were captured using seed-baited Potter traps. The corticosterone response of White-crowned Sparrows left in the trap for 15 min did not differ from White-crowned Sparrows removed immediately. Leaving Lapland Longspurs in the trap had no effect in the initial 10 min of handling and restraint, but at 30 and 60 min these birds had significantly lower corticosterone concentrations than longspurs removed immediately from the trap. These data indicate that failing to immediately remove birds from nets or traps can alter the corticosterone response to subsequent stressful stimuli in unpredictable ways. This result emphasizes that the elapsed time from capture is a critical variable in assessing stress responses in free-living birds.

Key words: corticosterone, glucocorticoids, stress, techniques, wild birds.

[Back to *CONDOR* 104\(1\) FEBRUARY 2002 C.E. Table of Contents](#)