

SHORT COMMUNICATIONS

FREE-LIVING MALE MOUNTAIN WHITE-CROWNED SPARROWS EXHIBIT TERRITORIAL AGGRESSION WITHOUT MODULATING TOTAL OR FREE PLASMA TESTOSTERONE

SHARON E. LYNN^{1,5}, THOMAS P. HAHN², AND CREAGH W. BREUNER^{3,4}

¹*The College of Wooster, Department of Biology, 931 College Mall, Wooster, OH 44691*

²*University of California–Davis, Neurobiology, Physiology, and Behavior, Davis, CA 95616*

³*University of Texas–Austin, Integrative Biology, Patterson Laboratories, Room 141, Austin, TX 78712*

⁴*The University of Montana, Division of Biological Sciences, 32 Campus Drive, DBS/HS 104, Missoula, MT 59812*

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⁵ E-mail: slynn@wooster.edu

Abstract. In some species, expression of territorial aggression is accompanied by a rise in testosterone secretion, but in others aggressive behavior is expressed while testosterone levels remain unchanged. Corticosteroid binding globulin (CBG) binds both corticosterone and testosterone in avian plasma. Thus, increasing corticosterone may result in fluctuations in unbound (“free”) testosterone; this could result in greater biological activity of testosterone without an increase in testosterone secretion. We investigated whether such plasma interactions of testosterone, corticosterone, and CBG might result in alterations of free testosterone in male Mountain White-crowned Sparrows (*Zonotrichia leucophrys oriantha*). We conducted simulated territorial intrusions during incubation and compared total and free testosterone of males captured immediately following a simulated territorial intrusion with that of males captured passively. All experimental males showed aggressive behavior, but apparently did not modulate total or free testosterone relative to controls.

Key words: aggression, corticosteroid binding globulin, free hormone, simulated territorial intrusion, testosterone, *Zonotrichia leucophrys oriantha*.