

The Condor
Volume 104, No. 2
May 2002
Abstracts

FEATURE ARTICLES

MASS CHANGE PATTERN OF BLACKCAPS REFUELING DURING SPRING MIGRATION: EVIDENCE FOR PHYSIOLOGICAL LIMITATIONS TO FOOD ASSIMILATION

LEONARD Z. GANNES¹

Department of Ecology and Evolutionary Biology, Princeton University, Princeton, NJ 08544, and Mitrani Department for Desert Ecology, Blaustein Institute for Desert Research, Ben-Gurion University of the Negev, Midreshet Ben-Gurion, 84990, Israel
Manuscript received 5 June 2001; accepted 15 January 2002.

¹Present address: Environmental Studies Program, Prescott College, 301 Grove Ave, Prescott, AZ 86301. E-mail: lgannes@prescott.edu

Abstract. I described the body mass changes of free-living Blackcaps (*Sylvia atricapilla*) feeding during spring migration in the Negev Desert, Israel, and investigated the causes of the mass-change patterns in the laboratory. Blackcaps that remained for more than one day at the Negev Desert stopover site had lower mass and fat scores when first caught than birds caught only once. In both 1996 and 1997, Blackcaps that remained for longer than one day showed an initial period of low cumulative mass gain followed by large cumulative mass gain. The minimum stopover duration before reaching this mass-change threshold was 3 days in 1996 and 4 days in 1997. Wild-caught Blackcaps fed in the laboratory increased food intake for the first 3 days of feeding, and then intake remained constant. Similarly, food intake in Blackcaps recovering from a 59-hr fast ate less the first day of recovery than on subsequent days. The field and laboratory results are consistent with the hypothesis that a bird's intake rate may be physiologically limited upon arrival to a stopover site, preventing large mass gains until assimilation organs recuperate.

Key words: migration, physiology, stopover, *Sylvia atricapilla*, sylviid warbler