

**ABSTRACTS FOR *CONDOR* 103(2) MAY 2001**

**SHORT COMMUNICATIONS**

**FIELD METABOLISM AND WATER FLUX OF CAROLINA CHICKADEES DURING BREEDING AND NONBREEDING SEASONS: A TEST OF THE “PEAK-DEMAND” AND “REALLOCATION” HYPOTHESES<sup>1</sup>**

PAUL F. DOHERTY JR.<sup>2</sup>, JOSEPH B. WILLIAMS AND THOMAS C. GRUBB JR.

*Department of Evolution, Ecology and Organismal Biology, The Ohio State University, Columbus, OH 43210-1293*

<sup>1</sup>Received 31 July 2000. Accepted 12 January 2001.

<sup>2</sup> Present address: US Department of the Interior, USGS Patuxent Wildlife Research Center, 12100 Beech Forest Road, Laurel, MD 20708-4037, e-mail:

[paul\\_doherty@usgs.gov](mailto:paul_doherty@usgs.gov)

*Abstract.* We tested the “peak-demand” and “reallocation” hypotheses of seasonal energy expenditure which predict, respectively, that energy expenditure is greatest during the breeding season or varies little seasonally. We tested these predictions by utilizing the doubly labeled water technique to estimate energy expenditure and water flux of Carolina Chickadees (*Poecile carolinensis*) in both the breeding and nonbreeding seasons. Similar to Weathers et al. (1999), we did not find support for either of these hypotheses, finding instead that energy expenditure was greater during the nonbreeding season. The fact that our study site was at the northern edge of the species’ range, where winters are severe, may have influenced this result. Comparisons with other parid studies were equivocal because body size was an important factor in explaining seasonal energetics, and only the larger species have been examined during the breeding season.

**[Back to \*CONDOR\* 103\(2\) MAY 2001 Table of Contents](#)**