

FEATURE ARTICLES

CHANGES IN EGG SIZE AND CLUTCH SIZE WITH ELEVATION IN A WYOMING POPULATION OF MOUNTAIN BLUEBIRDS

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Abstract. Few studies have examined how avian life-history traits vary within populations as elevation increases and climate becomes more severe. We compared egg and clutch sizes of Mountain Bluebirds (*Sialia currucoides*) nesting at two elevations (1500 m and 2500 m above sea level) in the Bighorn Mountains of Wyoming over two years. Eggs laid by females at the high-elevation site were, on average, significantly (6%) smaller in volume than eggs laid by their lower-elevation counterparts. Across elevations, egg size showed a significant positive correlation with female body condition (weight relative to size), and high-elevation females had significantly lower indices of condition than low-elevation females. Temperatures during clutch formation were colder at the high-elevation site, and egg size was negatively related to temperature after controlling for the effects of female condition. Clutches of females at high elevations were, on average, marginally smaller (by 5%, ~0.3 eggs) than clutches of low-elevation females. Unlike egg size, clutch size was unrelated to either female condition or temperature during clutch formation. This suggests that, when under energetic or nutritional stress at high elevations, females sacrifice egg size before sacrificing clutch size.

Key words: clutch size, egg size, elevation, female condition, Mountain Bluebird, *Sialia currucoides*, temperature.