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FEATURE ARTICLES

REPRODUCTIVE SUCCESS OF WATER PIPITS IN AN ALPINE ENVIRONMENT

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Abstract. To understand the evolution of avian reproductive strategies it is important to assess how differences in reproductive success are related to timing of the breeding season, quality of nesting territories or breeders, or to a combination of these factors. Over three years, we studied the reproductive performance of female Water Pipits (*Anthus spinoletta*) in a temporally and spatially variable alpine environment. The study area covered two valley slopes that differed in the probability of nest predation, food availability, and climate. Nest predation and harsh weather were the main proximate causes of differences in female reproductive success. Because these two environmental factors were locally unpredictable, individual females could best optimize their seasonal reproductive success by choosing the “right” breeding time. The average number of young fledged per season was inversely related to the date of initial breeding and increased from females with only first attempts, through females with replacement clutches, to females that raised two broods. Hence, the main advantage of early breeding lies in the chance of rearing a second brood after the first has fledged, or of producing a replacement clutch if the first fails due to predation or harsh weather.

Key words: *Anthus spinoletta*, *breeding area*, *variable environment*, *predation*, *reproductive success*, *time of breeding*, *weather conditions*.

[Back to *CONDOR* 103\(3\) AUGUST 2001 Table of Contents](#)