

# Geographic variation in the association between exploratory behavior and physiology in rufous-collared sparrows

Maldonado, Karin

van Dongen, Wouter F D

Vásquez, Rodrigo

Sabat, Pablo

Increasing research has attempted to clarify the links between animal personality and physiology. However, the mechanisms driving this association remain largely unknown, and knowledge of how ecological factors may affect its direction and strength is scant. In this study, we quantified variation in the association between exploratory behavior, basal metabolic rate (BMR), and total evaporative water loss (TEWL) in rufous-collared sparrows (*Zonotrichia capensis*) inhabiting desert, Mediterranean, and cold-temperate climates. We found that the exploratory behavior score was highest in birds from the cold-temperate site, which was characterized by a moderate level of ecological variability (seasonality). Moreover, the association between exploratory behavior and physiological variables differed among localities. Only birds from the Mediterranean site showed a positive correlation between exploratory behavior and BMR. We found no association between exploration and TEWL at any study site. Ou