Phenotypic flexibility in basal metabolic rate is associated with rainfall variability among populations of rufous-collared sparrow

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Phenotypic flexibility in metabolic rates allows organisms to reversibly adjust their energy flow to meet challenges imposed by a variable environment. In turn, the food habits hypothesis (FHH) predicts that species or populations adjust their basal metabolic rate (BMR) according to the diet attributes such as food abundance or predictability. Desert ecosystems represent a temporally heterogeneous environment because of low rain pulse predictability, which is also associated with temporal variation in food resources. In the present study, we investigated the relationship between the magnitude of BMR flexibility in response to dietary acclimation and the inter-annual rainfall variability in three populations of rufous-collared sparrows. Specifically we addressed the question of whether birds from a desert environment are more flexible in BMR than those from non-desert habitats. We found a positive trend between BMR flexibility and the inter-annual rainfall variability. In fact, dietary