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Investigating the influence of thermal environment on infection dynamics of *Bsal* in Plethodontid salamanders

Claunich, NM^{1,2*}; Guralnick, RP¹; Longo, AV²

¹Florida Museum of Natural History, University of Florida

²Department of Biology, University of Florida

nmclaunich@ufl.edu

The potential emergence of *Batrachochytrium salamandrivorans* (*Bsal*) in North America threatens salamander diversity and ecosystem functioning, thus an understanding of mechanisms influencing host survival during infection is key to predict future impacts. Previous studies indicate that temperature plays a role in regulating infection dynamics, in that access to a thermal gradient provides the means to prevent infections. Phenotypic flexibility is a likely mechanism, as temperature can enhance (or suppress) host functional capacity in both lunged and lungless salamanders. However, we know very little about how hosts are using thermal environments to achieve effective immune gene expression during *Bsal* infection. Through a series of experiments, we aim to 1) reveal if interspecific differences in disease susceptibility and functional responses are exacerbated by thermal environments, 2) determine if hosts can minimize the metabolic costs of infections by selecting optimal environments, and 3) project susceptibility risk across the landscape using information about species' thermal preferences. We discuss our plans to evaluate immune gene expression, metabolic rates and thermoregulation relating to infection with *Bsal* and access to different thermal environments in plethodontid salamanders from Florida. Additionally, to develop models to predict infection susceptibility, we are seeking collaborations in compiling data on thermal preferences and thermal limits across plethodontid salamander species.