

## PRESENCE OF RANAVIRUS AND CHYTRID FUNGUS IN *LITHOBATES SPHENOCEPHALUS* IN LONG AND SHORT HYDROPERIOD WETLANDS

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*Batrachochytrium dendrobatidis* (the chytrid fungus or Bd) and Ranavirus are two pathogens linked to global amphibian declines. The chytrid fungus has been detected in 56 countries and associated with dramatic population declines worldwide. Ranaviruses have been linked to mass mortality events on 5 continents. The two diseases affect amphibians differently. Chytrid disrupts osmoregulation, causing toxin release, resulting in death in amphibians. Ranavirus culminates in organ necrosis, causing massive hemorrhaging and death in amphibians, reptiles, and fish. Chytrid has been present on the SRS at low prevalence since the 1970s, but recent studies document that the prevalence has increased, especially in contaminated wetlands. Ranavirus, previously unknown on the SRS, was recently detected and found to be four times more prevalent than chytrid. Interestingly, both pathogens appeared more prevalent in longer hydroperiod wetlands, but data are confounded by all contaminated wetlands also having long hydroperiods. Thus, the goal of this study is to further examine role of hydroperiod on

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LEFT: Shaina dip-netting for tadpoles; RIGHT: qPCR

disease prevalence on the SRS. The objectives of this study are to determine: (1) the current prevalence of chytrid fungus and ranavirus in southern leopard frogs (*Lithobates sphenoccephalus*), (2) the prevalence of chytrid fungus and ranavirus in long and short hydroperiod wetlands, and (3) whether disease loads differ among individuals from long and short hydroperiod wetlands. We caught individuals using both dip-netting and minnow trap arrays at 25 wetlands (short=11, long=14) from March to May 2015. We collected 280 samples, extracted their DNA and tested them for both chytrid and ranavirus using quantitative PCR. Surprisingly, no positives were detected for either disease. These results emphasize the need to do long-term studies to examine the patterns in disease prevalence over time, especially since seasonal changes in temperature affect both pathogens.

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