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11-9-2024

Impact of Chytrid Fungal Infection on Muscle Structure in Amphibians

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Recommended Citation

Hassan, Esther and Ukachukwu, Chisom, "Impact of Chytrid Fungal Infection on Muscle Structure in Amphibians" (2024). *Science University Research Symposium (SURS)*. 216.

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Introduction

Many fungal infections affect a wide variety of ecosystems. They cause numerous negative consequences, one in particular being the disruption of biodiversity. disrupting biodiversity and leading to numerous negative consequences. A previous study in the Kinsey lab focused on a chytrid fungal disease, *Batrachochytrium dendrobatidis* (Bd), a species of chytrid fungus. This disease poses a major threat to amphibian populations worldwide. The Bd zoospores infect the epidermis impacting essential systems. This leads to electrolyte transport that is conducted through the epidermis from the environment has now become disrupted and the ions required for daily functions are diminished. Eventually, these lack of ions leads to cardiac arrest. On a global level, *Bd* results in organism wide metabolic dysfunction and failure to produce ATP, in clinically diagnosed frogs. This dysfunction of the metabolic cycle has an impact in the ability to produce ATP to power muscular performance. The study examined the neurotoxin secreted by Bd and its impact on infected amphibians and their kinetic activity. They found a decrease in locomotive activity following injection with zoospores. However, the structure of the muscles was not observed. We hypothesized that reduced muscle performance was due to structural changes in the muscle. We developed a protocol to stain calf muscles in South African Clawed Frogs with H&E staining.