

SYDNEY OZERSKY, CARLY CUNNINGHAM, KINSEY GUTHRIE, and ZACHARY LOUGHMAN, Dept. of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV, 26074, Epidemiology and Treatment of *Cryptosporidium serpentis* in a Snake Collection

Within any large animal collection, parasites and diseases can often be present. One parasite present in many different animal hosts is *Cryptosporidium*, a protozoan parasite that targets and infects the gastrointestinal and respiratory tract of its host. In reptiles, specifically snakes, *Cryptosporidium serpentis* can be lethal. Fecal antigen tests and immunofluorescent antibody testing are commonly used as simple methods to determine if *Cryptosporidium* oocytes are found within an animal's feces, however, these tests do not distinguish between the different *Cryptosporidium* species. Several studies have found another species, *Cryptosporidium parvum*, within snakes. This species of *Cryptosporidium* is not pathogenic in snakes. Being able to identify between these species is necessary to provide correct treatment, as both will appear positive on the identification tests. Most zoological institutions rely on these testing methods as their primary way of identifying *Cryptosporidium*. Limited research has been published on how to deal with *Cryptosporidium* in snake collections. Standard protocols of zoological institutions either euthanize the infected individual or permanently isolate them. The focus of this study is to determine a protocol to use in the case that *Cryptosporidium* is identified within a snake collection. The aim is to use snakes from West Liberty University's Zoo Science snake collection that have tested positive for *Cryptosporidium*, and work to identify the species using PCR-RFLP. Once identified, a treatment plan using paromomycin will be monitored to try and eliminate *C. serpentis* in infected individuals.