

Researchers develop new test, better understanding of deadly infection in boas and pythons

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Inclusion body disease is a serious, chronic viral infection of snakes and can be devastating in captive reptile populations. Now, a newly published study in *The Veterinary Journal* sheds light on the disease, and may help veterinary care teams better protect the health of their populations of large snakes. The study was funded in part by a grant from Morris Animal Foundation.

Found in both boa constrictor and python species, inclusion body disease (IBD) signs may include periodic or chronic regurgitation, head tremors, abnormal shedding, anorexia, clogged nostrils, and pneumonia. The disease can rapidly progress to nervous system signs, such as disorientation, corkscrewing of the head and neck, holding the head in abnormal and unnatural positions, rolling onto the back or stargazing.

Current strategies for IBD control include identification and isolation of affected snakes, but making a definitive diagnosis of IBD in a living animal can be challenging. Infected snakes may continue to feed and otherwise behave normally, and may infect other snakes prior to developing clinical signs of illness and chronic disease. The prevalence of sub-clinical, infectious IBD disease in snakes prior to this study was not well understood.

"In addition to developing diagnostic tests for IBD, a major finding in this study is the subclinical nature of IBD," said Dr. Elliott Jacobson, one

of the papers' authors and faculty member at the College of Veterinary Medicine, University of Florida. "Many apparently healthy boa constrictors have not only the reptarenavirus, that is considered the causative agent, but also have subclinical IBD."

Researchers at the University of Florida, in collaboration with Colorado State University and University of California, San Francisco, sought to understand disease prevalence in captive snake populations using both routine and specialized immunohistochemical cell-staining techniques. The research team tested 131 snakes and determined that 19 percent of their study population had inclusion body disease. In snakes positive for IBD, 87 percent were clinically healthy.

Blood samples from a subset of these snakes also were tested using polymerase chain reaction. Routine and special staining techniques showed there was good agreement between the presence of reptarenavirus in the blood cells, and being IBD-positive.

For managers of large reptile collections, knowing that infected [snakes](#) can be asymptomatic is important for the care and welfare of the entire collection. IBD is an incurable disease and can cause significant illness in infected animals. Understanding the prevalence rates, as well as having a reliable diagnostic test, is critical for the preservation, management and welfare of these animals. The results of this study can inform management strategies of snake collections to reduce IBD, and help veterinary teams maintain the health of animals in their care.

More information: L. Chang et al, Detection and prevalence of boid inclusion body disease in collections of boas and pythons using immunological assays, *The Veterinary Journal* (2016). [DOI: 10.1016/j.tvjl.2016.10.006](https://doi.org/10.1016/j.tvjl.2016.10.006)

Provided by Morris Animal Foundation

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