

Analyzing the Antibiotic Properties of Snake Venom, Phase 1

Smith, Cody (School: Southwest Virginia Governor's School)

The purpose of this investigation was to determine the effectiveness of *Agkistrodon piscivorus leucostoma* (Western Cottonmouth), *Crotalus atrox* (Western Diamondback Rattlesnake), and *Dispholidus typus* (Boomslang) snake venoms as anti-microbial agents against *Escherichia coli*, *Staphylococcus epidermis*, and *Bacillus cereus*. For experimentation in this investigation sterile disks were soaked in each snake venom and sterile distilled water (for the control), and placed on a petri dish of either *Escherichia coli*, *Staphylococcus epidermis*, *Bacillus cereus*, or sterile distilled water (for the control). The dishes were then incubated at 37 degrees Celsius. At six hour increments over a 72 hour period, petri dishes were observed and the zones of inhibition were recorded in millimeters. With a large quantity of these tests showing statistical significance, it is very possible that Boomslang against *Bacillus* and Staph, Diamondback against Staph and *E. coli*, and Cottonmouth against *Bacillus*, Staph, and *E. coli* are all possible antibiotic solutions to fight these bacteria. I am not able to fully accept my hypothesis, however I can conditionally accept it because, while not all of the tests showed antibiotic properties, most of the tests did.