Ophidiomycosis, sometimes also referred to as snake fungal disease (SFD), is caused by the fungus *Ophidiomyces ophiodiicola*. This fungus is thought to be an emergent pathogen on the North American landscape and poses a significant threat to snake health and population sustainability.

**SIGNIFICANCE**

Ophidiomycosis is an emerging disease that affects wild and captive snakes across North America. The incidence of ophidiomycosis is thought to have increased in some snake populations over the last few years. In some species (i.e., Eastern Massasauga) the mortality rate may be over 90% in the Eastern US.

**SPECIES AFFECTED**

Ophidiomycosis can infect wild or captive snakes and is the predominant cause of skin infections in wild snakes. It has been documented in over 15 Genera of wild and captive snake. Species confirmed with diagnosis of ophidiomycosis include: the eastern indigo snake, the northern water snake, the eastern racer, the rat snake, the timber rattlesnake, the massasauga, the pygmy rattlesnake, garter snakes, cottonmouth snakes, the milk snake, queensnake, and eastern fox snake. The fungus causing ophidiomycosis is not known to affect humans.

**DISTRIBUTION**

As of August 2020, the fungus *O. ophiodiicola* has been found in at least 38 states, including recent findings in California, Idaho, Oklahoma. It is also present in one U.S. territory (Puerto Rico) and one Canadian Providence (Ontario).
FACT

It must be noted that there may be difficulty in sampling for and detecting (by PCR/ qPCR) O. ophiodiicola by skin/ epidermal swabs (i.e., low DNA quantity on the skin or the fungi are deep within the epidermis). Therefore, caution should be taken in assigning causation to O. ophiodiicola to animals with skin lesions that are qPCR negative in the presence of skin lesions. There are numerous causes of skin lesions in wild snakes (e.g., trauma, another pathogen causing skin lesions, etc). Conversely, the absence of clinical signs of ophidiomycosis is more reliable for eliminating a diagnosis of apparent ophidiomycosis.

MANAGEMENT

Ophidiomycosis appears to be negatively impacting several species and populations of snakes across North America. However, its long-term impact remains unknown. It is also very difficult to assess changing snake populations because of the solitarily nature of many snakes and importantly, the absence of long-term monitoring data for most species of snakes. Any sightings of snakes with suspected SFD infection should be reported to the Northeast Wildlife Disease Cooperative and/or DTT Herp Disease Alert System for further investigation. Wildlife specialists, veterinarians, and any other individuals who routinely come in contact with wild snakes should keep gear, snake holding containers, and clothes clean and disinfected to prevent spreading the fungus to other snakes. For information on field gear disinfection and biosecurity, please review Gray et al., 2017. This paper provides a fantastic review of disinfectants proven effective against O. ophiodiicola (Appendix I, Gray et al., 2017).

SUGGESTED READING


http://www.cwhc-rcsf.ca/docs/technical_reports/CWHC_Snake_Fungal_Disease_Threat_Awareness.pdf


https://vetmed.illinois.edu/wel/what-is-snake-fungal-disease/