

White-tailed deer in northeastern Ohio have a high rate of toxoplasmosis infection, according to a study led by third-year Ohio State University College of Veterinary Medicine student Gregory Ballash. The parasite, *Toxoplasma gondii*, is associated with free-roaming cats.

"This study documents the widespread infection of deer populations in northeastern Ohio, most likely resulting from feral cats, and highlights the need for consumers of venison to make absolutely certain that any deer meat planned for consumption is thoroughly and properly cooked," said Ballash, who received his Master's of Public Health with a specialization in Veterinary Public Health in 2011 and is currently a student research assistant at the college.

Two hundred free-roaming cats and 444 white-tailed deer in the Greater Cleveland area were tested for toxoplasmosis as part of the study. Results revealed that nearly 60 percent of the deer and more than 65 percent of the cats were infected with the parasite.

Cats, both domestic and wild, play a critical role in the epidemiology of the parasite because they serve as the definitive hosts, fulfilling the requirements needed for the parasite to sexually reproduce and complete its life cycle, according to the study. Domestic cats are often infected at less than one year of age where they can contaminate the environment by shedding millions of infectious eggs through their feces. Free-roaming cats are more likely to be exposed and infected, thereby contributing more frequently to environmental contamination than domestic indoor cats, the study further noted.

The study also found that urban environments seem to be more contaminated than suburban environments, presenting a greater potential risk of exposure to both animals and humans. It is likely that urban environments are more contaminated than suburban habitats because of the increased density of free-roaming cats in these areas, not necessarily because of a higher incidence of infected cats in urbanized areas, the study concluded.

High rates of toxoplasmosis in deer have also been identified in Mississippi, Pennsylvania and Iowa, according to the study. Around one million human cases are diagnosed annually, the study further noted.

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