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Wild hogs: Researchers examine impact of feral pigs in eastern N.C.

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The nation's feral pig population continues to expand, increasing the potential for interaction with humans and domestic swine - and for spreading diseases. Researchers at North Carolina State University examined feral pigs from eastern North Carolina to determine exposure to two parasites that can be transmitted from animals to people – *Toxoplasma gondii* (*T. gondii*) and Trichinella.

The study found that wild pigs host a significant number of these parasites.

"If ingested by humans, these parasites can invade muscle tissue and organs, causing flu-like symptoms – with more serious complications in the immune-compromised," says Dr. Chris DePerno, assistant professor of fisheries and wildlife sciences and co-author of the paper describing the research. "Little research has focused on evaluating feral pigs as potential reservoirs for these zoonotic parasites. Because of the numbers of commercial swine populations in eastern North Carolina, the expanding feral pig population, and the greater interaction with humans, we wanted to determine the exposure of feral pigs to these zoonotic parasites."

Modern market farm production practices have nearly eliminated the presence of most of these parasites in domestic swine. However, the recent trend toward organic and free-range pig production has increased domestic pig exposure to infection, and the possibility of human infection through pork consumption.

Between 2007 and 2009, researchers collected blood serum from 83 feral pigs harvested at Howell Woods Environmental Learning Center in Four Oaks, N.C. The pigs were then tested for the presence of antibodies. The prevalence of antibodies to *T. gondii* and Trichinella were 27.7 percent and 13.3 percent, respectively, and 4 percent had antibodies to both agents.

"As feral pig range and population size expands, the opportunity for feral pig hunting increases. We recommend education programs be conducted for hunters to understand their risk of exposure to these diseases during the cleaning process and meat consumption," DePerno says. Also, he hopes to conduct additional research examining the interaction of feral pigs with domestic swine operations, especially in light of the growth of free-range pig productions.

More information: "Prevalence of antibody to Toxoplasma gondii and Trichinella SPP. in feral pigs (Sus Scrofa) of eastern North Carolina " Authors: Mark Sandfoss, Christopher DePerno, Sharon Patton, James Flowers, and Suzanne Kennedy-Stoskopf Published: April 2011 in *Journal of Wildlife Diseases*

Abstract
Feral pigs (Sus scrofa) survive in many climates, reproduce year-round, and are dietary generalists. In the United States, the size and range of the feral pig population has expanded, resulting in greater interaction with humans and domestic swine and increased potential for disease transmission. We conducted a serosurvey in feral pigs from eastern North Carolina to determine exposure to the zoonotic parasites, Toxoplasma gondii and Trichinella spp. Between September 2007 and March 2009, blood serum was collected from83 feral pigs harvested at Howell Woods Environmental Learning Center, Four Oaks, North Carolina, USA. We used a modified agglutination test to test for T. gondii antibodies and an enzyme-linked immunosorbent assay to test for

Trichinella spp. antibodies. The prevalences of antibodies to T. gondii and Trichinella spp. were 27.7% and 13.3%, respectively and 4% (n=3) had antibodies to both agents. We detected an increased risk of T. gondii antibodies with age, whereas the risk of exposure to T. gondii across years and between sexes was similar. In eastern North Carolina, feral pigs have been exposed to T. gondii and Trichinella spp. and may pose a health risk to domestic swine and humans.

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