

Toxoplasma gondii spreads in the habitat of the Iberian lynx

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This is the Iberian Lynx (*Lynx pardinus*). Credit: Program Ex-situ Conservation of the Iberian lynx

An international team led by researchers from the University of Cordoba (UCO) has analysed seroprevalence (antibodies to a disease) of *Toxoplasma Gondii*, the parasite that causes toxoplasmosis in many species, including humans. This latest study reveals that the parasite is widespread in areas where the wild Iberian Lynx (*Lynx pardinus*) lives, and also in captive breeding centres. Scientists are now undertaking further research into the disease itself.

Wild felids are important for maintaining the sylvatic cycle of *Toxoplasma gondii*, but there is little information about the epidemiology and risk factors associated with [infection](#) in most of these animals. This is the case of the Iberian Lynx, the most endangered felid species in the

world and the most endangered carnivore in Europe. While no cases of clinical toxoplasmosis have been reported in the Iberian Lynx, mortality associated to *Toxoplasma gondii* infection has been recorded in bobcats (*Lynx rufus*).

"Results reveal that *Toxoplasma gondii* are widespread among a large population of Iberian Lynx", the main author of the study and Animal Health researcher at the UCO Ignacio García Bocanegra told SINC.

The research, published at the beginning of this year in the scientific journal Veterinary Parasitology, also shows that four felids born in captivity had come into contact with the parasite during the period of study, from 2005 to 2009, which confirms the presence of *T. gondii* in captive breeding centres.

"For this reason, steps should be taken to prevent *T. gondii* infection in such centres," García Bocanegra warned. He advises analysing the rabbits to be used to feed the lynx first, as they are the main source of infection.

Record Number of Felids Analysed

This is not the first study to analyse the seroprevalence of [Toxoplasma gondii](#) in the Iberian Lynx, but it is the most complete. The researchers analysed 129 samples of [Iberian Lynx](#) using the modified agglutination test (detection of antibodies to *T. gondii* in serum samples) and found [antibodies](#) in 62.8%, that is, in 81 of the 129 felids analysed.

Apart from ascertaining that the seroprevalence of *T. gondii* increases as animals age, results also reveal similar levels of seroprevalence among both free-ranging (66.7% of 93) and wild-caught captive Lynx (69% of 84). However, seroprevalence "was lower in captive-born Lynx (22.5% of 40)", the researcher underlined.

The study also reported a relationship between *Cytauxzoon felis* infection and seroprevalence of *T. gondii*, but "Feline Leukemia Virus (FeLV) infection was not seen to influence *T. gondii* seroprevalence (53.8% of 13)", the researcher states.

The team found no significant differences in seroprevalence between sexes, geographic region or the year of sample collection.

A Disease that Affects Warm-blooded Species

[Toxoplasmosis](#) is a zoonotic disease that above all affects warm-blooded species, including humans. The final hosts of this parasite are cats, the only animals capable of fecally excreting the [parasites](#).

However, researchers did not find these parasites in the feces of "any of the 58 [Lynx](#) analysed", García Bocanegra stated.

More information: García-Bocanegra, I; Dubey, J.P.; Martínez, F.; Vargas, A.; Cabezón, O.; Zorrilla, I.; Arenas, A.; Almería, S. "Factors affecting seroprevalence of *Toxoplasma gondii* in the endangered Iberian lynx (*Lynx pardinus*)" *Veterinary Parasitology* 167(1): 36-42, 20 de enero de 2010.

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