

Good guy or bad guy? Diagnosing stomach disease in pet reptiles

May 31 2011

Indigestion is surprisingly common in pet snakes and other reptiles. It frequently results from a parasitic infection known as cryptosporidiosis, to which reptiles seem especially prone. Cryptosporidiosis is highly contagious and often fatal but unfortunately diagnosis is extremely difficult. Scientists at the University of Veterinary Medicine, Vienna, have developed a test for the identification of the parasites in question. The results are published in the current issue of the *Journal of Veterinary Diagnostic Investigation*.

Although known for over a century, cryptosporidiosis was believed to be an extremely rare condition and it only gained attention with the discovery that it can affect humans, especially immune-compromised individuals. It is caused by a single-cell parasite, one of a family known as cryptosporidia. Some cryptosporidia also infect [reptiles](#), where after a sometimes lengthy [incubation period](#) they cause [gastrointestinal problems](#) even in otherwise healthy individuals. The condition is usually persistent and is presently impossible to cure. It is therefore important to minimize infections and in this regard reliable [diagnostic procedures](#) are essential.

Diagnosis is based on the detection of parasites in [faeces](#) but is complicated by the fact that snakes in particular excrete [parasites](#) that they swallow together with their prey, so the presence of cryptosporidia in faeces does not necessarily mean the animals are infected. For this reason it is essential to be able to distinguish between "[prey](#)" cryptosporidia and those that cause infection in the snake. Barbara

Richter and colleagues at the Institute of Pathology and Forensic [Veterinary Medicine](#) in the University of Veterinary Medicine, Vienna now report a DNA-based procedure able to determine not only whether cryptosporidia are present but also whether they are of mammalian or snake origin.

By means of the test, Richter was able to show that a particular type of cryptosporidium is present in about one in six samples from the popularly kept corn snake and in about one in twelve samples from the attractive leopard gecko, a lizard frequently found in reptile collections. These prevalence figures are far higher than previously suspected, showing the widespread nature of the disease. The corn snake in particular seems highly susceptible to infection. Worryingly, the new tool revealed that a large proportion of captive leopard geckos contain cryptosporidia of one form or another. It is possible that some of the infections do not inconvenience the host geckos but the animals nevertheless represent a source of infection for other reptiles that come into contact with them. Many reptile collections house a number of species together and there is therefore a significant risk of cross-species infection.

The new diagnostic procedure represents a precise method for the early diagnosis of cryptosporidiosis in lizards and snakes, before the animals show symptoms of disease. Nevertheless, Richter still raises a cautionary note. "A further problem is that cryptosporidia are often present in faeces in very low numbers so it is easy to miss them in a single test. We are working to make our method more sensitive but it is very important to test the reptiles repeatedly. A negative result does not necessarily mean that the animal is really free of the parasite."

More information: vdi.sagepub.com/content/23/3/430.full

Provided by University of Veterinary Medicine -- Vienna

Citation: Good guy or bad guy? Diagnosing stomach disease in pet reptiles (2011, May 31)
retrieved 22 September 2024 from

<https://phys.org/news/2011-05-good-guy-bad-stomach-disease.html>

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