

Endoparasites of captive snake collections, in the UK.

Shea Murray, Niamh Lysaght, Edouard Crittenden, Nicholas Casewell, Russell Stothard, James La Course, Alexandra Juhasz

Liverpool School of Tropical Medicine

Many snakes are asymptomatic carriers of parasites throughout their life. However, even if they are asymptomatic, captive and free-ranging reptiles can harbour and excrete a wide range of diseases that can also cause infections in humans. This zoonotic aspect makes this topic significant not only in veterinary medicine but also in human medicine. Endoparasites are very common in both wild and captive snakes. Reptiles harbour a broad spectrum of internal parasites, including diverse species of protozoans, nematodes, cestodes, pentastomids, acanthocephalans and trematodes. The exotic pet trade, illegal wildlife trade, snake bite research and private collections are a source of risk in zoonotic transmission between snakes and humans. In the present project, snake faeces was collected, and investigated for intestinal parasites, from several sources, including the LSTM's venom research centre, exotic pet shops, and zoos from UK. Faecal samples were obtained from these animals in artificial enclosures, with emphasis on avoiding soil contamination. Samples were processed and screened for parasites via several methods, including a Giardia/Cryptosporidium Rapid Diagnostic 'Quick Chek®', PCR, and microscopical examination following faecal staining, and flotation techniques. These combined approaches and techniques expand knowledge of the range of intestinal parasites in these reptiles, and enhance understanding of effective management of captive snakes in improving animal welfare and reducing risk of zoonotic transmission.