

2 Summary

The purpose of this master thesis is to present an overview on the presence of endoparasites in the reptile collection of Zoo Basel. The sampling scheme chosen was developed in order to have the least impact on the residents of the zoo. This is why samples from all animals were not systematically collected, but only spontaneous feces were studied. The samples were analyzed in two stages. First, a native smear (with and without dye) was examined on site at the zoo and observed under a microscope. In a second step, a sedimentation/flotation assay and a modified Ziehl-Neelsen dye were analyzed in the parasitological laboratory at the University of Bern.

The results show a high proportion of samples containing pinworms in tortoises and lizards, namely 67% and 50% of the assessed species, respectively. This nematode is not excessively pathogenic but can be dangerous in case of massive infection. Worm eggs from the order of spirurides (genus *Physalopteroidea*) were found in water dragons (*Physignatus coccinus*) and blue spiny lizards (*Sclerepontus cyanogena*). It is surprising to find them in captivity, as this parasite requires an intermediate host (i.e. insects) to complete its cycle. Oocysts of the genus *Isospora* (*I. amphibouluri* probably) have been found in a single stool sample (of 7) from the bearded dragons (*Pogona vitticeps*). In snakes, only one sample was positive. The sample of the green tree pythons (*Morelia viridis*) contained strongylides larvae and eggs from the genus *Kalicephalus*.

Many samples contained parasites in transit, mainly from the mice that were used to feed the reptiles. A lot of samples contained eggs of *Mycoptes* mites and eggs of flatworms of the genus *Hymenolepis*. Many samples from the lizards contained cysts of *Malamoeba*. This protozoan is a parasite of insects. These parasites in transit are not dangerous for reptiles, but cause yield losses of livestock prey.

In a second phase, it was decided in collaboration with the zoo veterinarians to treat some of the animals. These treatments were directed primarily against pinworms in order to reduce their number in heavily infected animals. A few months later, a measure of the efficiency of the therapy was performed. From the 9 terrariums treated, only one sample was negative for the presence of endoparasites. In most other cases, a decrease in egg numbers could be found. These results suggest that the treatment alone is not effective enough and must be accompanied by rigorous disinfection measures, especially in the case of pinworms.