IDENTIFICATION AND QUANTIFICATION OF FECAL PARASITES IN RED-FOOTED TORTOISES (Geochelone carbonaria)

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ABSTRACT

The goal of this project was to identify and quantify the fecal ova and oocysts found in three creeps of captive red footed tortoises (Geochelone carbonaria) in St Kitts, West Indies. Samples were collected from tortoises weekly or biweekly. Fecal samples were processed using sodium nitrate fecal floatation and McMaster technique. Data was entered in a Microsoft Excel spreadsheet. Eggs or ova identified via fecal flotation included strongyles and larvated strongylid eggs, pinworms or oxyurids, ciliates, coccidian oocysts, Trichuris and Hymenolepis spp. Pinworm egg numbers in this population are present in much lower numbers in this population when compared to reports of other populations. Trichuris and Hymenolepis sp. are parasites that have not been recognized in tortoises and may represent pseudoparasites. Strongylid ova are encountered in the highest numbers in this population.

Introduction

Chelonians are known to harbor a wide variety of intestinal parasites. Strongyles,1 other nematodes,2 oxyurids,3 and protozoans4,5 have all been described in tortoises. It has rarely been demonstrated whether most of these parasites have a detrimental effect on host health unless found in large numbers3.

Methods and Materials

During the study period (4/2008-3/2009) 196 fecal samples were obtained from 33 healthy captive red-footed tortoises in St Kitts, West Indies. The animals were fed various foods and/or were bathed in a shallow dish of warm water to initiate defecation. Fecal samples were taken from the ground or the water and stored in a plastic bag. Fecal samples were processed by fecal flotation using sodium nitrate fecal floatation. McMaster technique was employed and the ova conveyed in eggs per gram (epg). Data was entered in an Excel spreadsheet.
Results

Intestinal parasites identified via fecal flotation included strongyles and larvated strongylid eggs, pinworms or oxyurids, ciliates, coccidia oocysts, *Hymenolepis* spp. or the rat tapeworm, and *Trichuris* spp. The ova or oocysts that were encountered most frequently in fecal samples were strongyles (136/196), *Hymenolepis* spp. (23/196), ciliates (21/196), coccidian oocysts (21/196), pinworms (15/196), *Trichuris* sp (9/196). The average ova/oocyst count for each ova type identified was strongyles 610.67 epg, coccidia 13.23 oocysts per gram, *Hymenolepis* spp. 9.38 epg, pinworms 8.07 epg, *Trichuris* sp. 0 epg.

Discussion and Conclusions

Pinworms in this population are present in much lower numbers when compared to other reports. *Trichuris* and *Hymenolepis* spp. are parasites that have not been recognized in tortoises and may represent pseudoparasites. Strongyles are found most frequently and have the highest egg counts in this population and may represent the grazing nature of these animals.

LITERATURE CITED