

Parasitological and Biochemical Studies on *Chalcides ocellatus* Inhabiting Damietta Region

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Abstract

At least 400 species of reptiles occur in Egypt, however little attention has been given to their parasite community. In this paper, we tried to address the intestinal parasite fauna in the lizard *chalcides ocellatus* and the effect of parasitic infection on its blood biochemical parameters. Lizards were collected from both costal and agricultural regions in Damietta region during three different periods. Our extensive search for parasites infecting this lizard showed that *parapharyngodon bulbous* is a dominant endoparasite of this lizard. In addition to determining the prevalence of this nematode, the changes in the concentration of different blood parameters and the correlation between parasite prevalence and these parameters were investigated. Data showed that there is no difference in the prevalence of parasites between costal and agricultural regions, but the prevalence of parasites differed from one season to another. With respect to the blood biochemical parameters, our results showed that the concentration of serum triglycerides, cholesterol, calcium, sodium and glucose were higher in lizards collected from costal region, while serum HDL-cholesterol, total protein and albumin concentrations were higher in lizards collected from agricultural region. A positive and negative relation between the parasite prevalence and a number of biochemical parameters was also recorded.

Keywords: *Chalcides*, parasite, *Parapharyngodon*, biochemical parameters, parasite prevalence, seasonal variation

Introduction

The community structure of vertebrate parasites has attracted considerable interest in the last decade and resulted in the development of conceptual framework for the hierarchical structure of parasite communities [1]. This has enabled the formulation of hypotheses about the key processes that regulate the composition and structure of parasite component communities [2]. There are more than 400 species of reptiles that occur in Egypt [3]. Unfortunately, little attention has been given to their helminth community and

few records exist in the literatures. Those that do exist are mostly of a taxonomic nature. One of the most abundant and widespread reptiles in Africa and Egypt is the lizard *C. ocellatus* where its distribution is primarily attributed to its tolerance to diverse environments that range from the steppe through agricultural fields to woodland habitats [3].

In this work, we aimed to study the parasite infracommunity structure of the lizard *C. ocellatus* found at Damietta region and the possible effects of seasons on the prevalence of parasites, as well as the influence of prevalence