

SOME NEMATODE PARASITES OF THE GREEN TOAD *BUFO VIRIDIS* LAURENTI, 1768 IN BAGHDAD AREA, CENTRAL IRAQ

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ABSTRACT

This work deals with the nematode parasites from the midgut of (16) specimens of Green toad (*Bufo viridis*) Laurenti, 1768 collected from Baghdad area, central Iraq.

The parasites are: *Cosmocercoides variabilis* (Cosmocercidae) that considered as the first report in Iraq on it and *Oswaldocruzia filiformis* (Molineidae).

INTRODUCTION

The green toad *Bufo viridis* Laurenti, 1768 is an important component of local ecosystems (Vashetko and Siddikov, 1999). Except for the interior of western deserts, it is widely distributed in Iraq among other seven species of amphibians that have, in general, relatively limited distribution (Mahdi and George, 1969). It plays an important role, through predation, in the regulation of the numbers of insect pests of economic plants. However, little is known about the amphibian parasites in our area (Al-Sorkhy and Amr, 2003). Only few papers are available on the parasites of the amphibians in Iraq, including Saod and Roshdy (1970), Al-Barwari *et al.* (1980), Al-Barwari and Nassir (1983) and Al-Zako (1999).

The aim of this work is to investigate about the nematode fauna parasitizing the alimentary tract of the green toad specimens collected in Baghdad vicinity.

MATERIALS AND METHODS

A total of 16 specimens of the green toad *Bufo viridis* were collected at Bab Al-Muadham, Baghdad city, Central Iraq through the period from May 2006 to May 2007. Toads were immediately transferred to the laboratory, dissected and their alimentary were put in an isotonic normal saline or sometimes tap water. Their tracts were opened under dissecting microscope and the recovered nematode parasites were isolated and placed in 70% alcohol. Specimens were immersed in lactophenol solution overnight for clearing and then examined for identification.

RESULTS AND DISCUSSION

Nematodes and few cestodes were recovered from this collection of specimens. This study will be devoted for nematode parasites and the results on the cestodes will be discussed in a separate paper.

Table 1 summarizes the results on the nematode parasite species identity, sex and number of hosts, percentage of infection and the number, intensity, and range of nematodes. This would show that 7 specimens (5 males and 2 females) are infected with either *Cosmocercoides variabilis* (Harwood, 1930) or *Oswaldocruzia filiformis* (Goeze, 1782) Travassos, 1917 or both in a single case of double infection. The sample size in this study is relatively small and not allows reaching reasonable conclusions on the actual incidence,

Some Nematode Parasites

prevalence, host sex effect and distribution status of these parasites among the members of their hosts. However, it seems that *C. variabilis* is more common than the other nematode since it is found in all of the seven infected hosts.

Table 1: Parasite species, hosts sex, infection rate, parasite intensity and range.

Parasite sp.	host sex	No. examined	No. infected	% infection	No. parasites	intensity	range
<i>Cosmocercoides variabilis</i>	♂	10	5	50	10	2	1-6
	♀	6	2	33.3	2	1	1
<i>Oswaldocruzia filiformis</i>	♂	10	1	10	5	5	-
	♀	6	-	-	-	-	-
total		16	7	43.75	-	1.06	-

Cosmocercoides variabilis: (figs. 1A, 1B, 2) belongs to Order Ascaridida, Superfamily Cosmocercoidae, Family Cosmocercidae which contains parasites of the gut of amphibians and reptiles. Female: Body cylindrical attenuated at extremities, length 4.8, width 0.34, cuticle smooth, mouth with three small lips, esophagus with a short pharynx and posterior bulb, length of esophagus 0.34, bulb length 0.12, excretory pore anterior to esophageal bulb, tail long and tapering, vulva behind the middle of the body, anus-tail distance 0.24, oviparous, eggs elliptical, thin-shelled, egg size 0.03X0.08, Male: posterior extremity obliquely truncated ventrally, body length 4, width 0.2, esophagus length 0.5, tail long tapering; a number of simple papillae present on tail. No bursate caudal alae. Bulb length 0.11, anus-tail distance 0.12. The present species is a common parasite of the rectum mainly of Bufonidae but also of Hylidae and Micohylidae (Vanderburgh and Anderson, 1986, 1987; Baker, 1987; Joy and Buntzen, 1997; Anderson, 2001). Anderson (2000) correlated nematode infection of toads with eating of snails by the toads. In Iraq Jaffar (1980) listed 14 species of aquatic snails. In addition, another two terrestrial snails *Monacha obstructa* and *Agriolimax* sp. are widely distributed throughout central & southern Iraq (Shamsuddin and Al-Barrak, 1988). Hence most of the 16 snail species constitute a possible fragment of toad diet and, eventually, a possible vector of *C. variabilis*. To the best of my knowledge it is the first time to report this parasite from Iraq in this study.

Oswaldocruzia filiformis: (figs. 3A, 3B) belongs to Order Strongylida, Family Molineidae: Head with cuticular vesicle, cuticle with transverse striation and longitudinal ridges, mouth with indistinct lips, esophagus short. Female: Body length 12.60, width 0.25, esophagus length 0.6, anus-tail distance 0.6, egg size 0.08X0.1. Male: Body length 9.5, width 0.16, length of esophagus 0.6, bulb length 0.11, anus-tail distance 0.17, caudal alae absent. It is a common parasite of intestine of a wide range of amphibian and reptilian hosts including the genera *Anguis*, *Bombina*, *Bufo*, *Colubus*, *Coronella*, *Eremia*, *Hyla*, *Lacerta*, *Natrix*, *Ophisaurus*, *Pelobates*, *Rana*, *Salamandra*, *Tachydromus*, *Talescopus*, *Triturus* and *Vipera* mostly in the old world (Yorke & Maplestone, 1962; Baker, 1987; Griffin, 1989; Yildirimhan, 1999; Sanchis *et al.*, 2000; Anderson, 2000; Sharpilo *et al.*, 2001; Bursey *et al.*, 2005; Yildirimhan *et al.*, 2006). In regard to results on measurements, it falls within the range given by Walton (1933) for the same species.

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S. Y. Jasim

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Some Nematode Parasites

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S. Y. Jasim



A



B

Figure.1
Cosmocercoides variabilis - Female

A – Anterior end
B – Posterior end

Some Nematode Parasites



A



B

Figure 3

Oswaldocruzia filiformis -Female

A- Anterior end.

B- Posterior end.

S. Y. Jasim

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رض خا موجد لمتطخذات ايل يفظ اض ع ب *Bufo viridis* داغب تمق نمي ف- قار لاطو

مهاجن يسا ي داهس

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الخلاصة

للة يظفا ة تق لقي ة دجول المتطخذات المتطالك بال لومة ١٦ ومجمعا ١ مجدو نم مرضخلاً ا

لصلح ا تمين عوى لاء لولاً ا (*Bufo viridis*) Green toad لدة نمد فيتعتي لاء.

نباثلا وناو: (*Cosmocercidae*) *Cosmocercoides variabilis*: لصلح ا لولاً ا

نباثلا وناو: (*Molincidae*) *Oswaldocruzia filiformis* لمجس يو

Cosmocercoides variabilis شحبا ااه قاول مة ملولاً.