

Survey of external parasites on the turtles *Emydura macquarii* present in fish breeding ponds in AL-musaib Technical Institute

مسح للطفيليات الخارجية على السلاحف *Emydura macquarii* المتواجدة في أحواض تربية الأسماك في المعهد التقني/المسيب

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ABSTRACT

Examination of 89 of *Emydura macquarii* from aquaria in AL- Musaib Technical Institute during a period from April 2014 until September 2014 for the presence of ectoparasitic infection. The inspected results showed the presence of the species of protozoa which include *Ichthyophthirius multifiliis*, *Trichodina cottidarum* and *Plisthophora typicalis*.

The *Emydura macquarii* is recorded as a new host for this protozoa in Iraq. The Percentage incidence of infection with the studied protozoa are varied according to different months.

المستخلص

فحصت 89 سلحفاة من نوع *Emydura macquarii* والتي جمعت من أحواض تربية الأسماك في المعهد التقني/المسيب خلال المدة من نيسان 2014 ولغاية أيلول 2014 بحثاً عن الطفيليات الخارجية. أظهرت نتائج الفحص وجود ثلاثة أنواع من الحيوانات الابتدائية هي *Ichthyophthirius multifiliis* و *Trichodina cottidarum* و *Plisthophora typicalis* تم تسجيل السلحفاة مضيفاً جديداً في العراق للحيوانات الابتدائية أعلاه. تباينت نسبة الإصابة بالطفيليات قيد الدراسة بحسب الأشهر.

Introduction

The an aquaculture is exposed to the risk of parasites infection and other diseases (1). there are a lot of parasites, which can be detected and foundation and description of new species, from research and diagnosis (2). The parasites plays an important role in the transfer of some bacterial viral diseases of fishes and this will result in weakening the resistance of fish to environmental conditions and make them easily susceptible to many diseases, as will as this is proven in experimental manifestations (3). There is an increasing in the percentage of parasitic infection opposite to an increasing in the number of intermediate hosts and the vectors of these parasites (4). The fish faces during their life from several diseases and enemies that involve most animal groups that posses serious dangerous to the fish health and there life (5).

The turtles spend most of their life in the water (6). Commonly these parasites stick in the enter parts of these animals in which coincidence tortoiseshell consist of two parts especially for small turtles and the parasites, bacteria and fungi as these turtles spend most of their time under water so the turtles are infected with many of parasites that live with the turtles amensalismly but some of these parasites can cause exhausting and death like *Digenetic* trematodes that lives in circulatory system (7).the worms that found is *Bukarootrema goodmani* on tortoise that present in pleasant water in Australia (8).

Most of primary animals has direct life cycles that don't need an intermediate host, so is easily to transmitted from one host to another by direct contact between the flight attendants or approaching the host of the parasite (9). The achievement is to study the water botches and to develop a programs to know the reasons for the spreading of parasites and trying to limit these causes and preventing their spread (2). The lack of studies of the parasitic manifestation on the turtles that are

seen in basin fish breeding, so it was necessary to make this study in order to examine and diagnose some ectoparasites for carrying out appropriate action and prevent objects from entering the docks and basin to prevent the transferring born parasite to fish in ponds in order fish development and preservation.

Materials and methods

A collection of 89 turtles from fish farm in ponds Institute in Al-Musaib Technical Institute. The turtles pulled out monthly regularly from docks for monitoring their transmission from one basin to another. Then they brought to the laboratory and examined visually from out side, and then a swab are taken from their shell, head, limbs and nose and then examined under a microscope type Olympus Japanese-made and in a power of ranging from 40-1000 magnification power and then classifying a parasite that are isolated depending on (10). Followed the overall changes in the both incidence and severity of the infection rate depending on (11).

Statistical Analysis

To impose comparison changes in percentage incidence of infection and the intensity of infection rate parasites, *Ichthyophthirius multifiliis*, *Trichodina cottidarum*, *Plisthophora typiclis*. Has been conducting test chi square according to contingency tables described in (12).

Result and discussion

The results of the current study manifestation of turtles *Emydura macquarii* three types of primary animals fig. (1) *Ichthyophthirius multifiliis*, *Trichodina cottidarum* and *plithophora*. Table (1). Been registered turtles *Emydura macquarii* as anew host in Iraq for these parasites, main and estuation saw changes monthly clear as all of the increased seventy of the manifestation rate and progress in line with the gradual increase in temperature, as shown in Table (2). It seems clear that the highest incidence of parasite *I. multifiliis* was 64.2% in the month of May and the lowest percentage manifestation was 50% in the month of April. while the highest incidence of parasite *T. cottidarum* was 90.4% in the month of July. and less incidence was 16.6% in the month of April and highest reached the incidence parasite *P. typicalis* was 55.5% in month of August and the lowest percentage manifestation was 14.2% in the month of May.

The results showed the existence of significant differences percentage of manifestation parasite *T. cottidarum* and *P. typicalis* parasite, while the results did not show significant differences by main manifestation parasite *I. multifiliis* and the level of probability ($P > 0.05$) Table (3). And can be attributed to differences in the proportion of manifestation to the effect of water temperature on the growth of parasitic larval stages of flight attendant provide moderation of his face on the activity of the host on the other hand (13).

The present study appeared increase the proportion of manifestation *E. macquarii* turtles parasites in addition to the high intensity of manifestation with parasites during the months of study Table (2).

Table (1): Type of external parasites recorded in *Emydura macquarii* present in fish breeding ponds in AL-musaib Technical Institute classified on its site in animal kingdom.

Kingdom Protista
. Subkingdom Protozoa
Phylum Ciliophora
Class Oligohynrenophorea
Order Hymenostomatida
Family Ophryoglenidae
Ichthyophthirius multifiliis Fouquet, 1876
Order Peritrichda
Family Urceolariidae
Trichodina cottidarum Dogel, 1948
Phylum Protozoa

Class Cnidosporidia
 Order Microsporidia
 Family Nosematidae
 Genus Plisthophora
Plisthophora typicalis (Gurley, 1893)

Table (2): Monthly changes in incidence of infection% (top line) and mean intensity of infection (bottom line) in *Emydura macquarii* at kind of parasites.

Month	No. of examined turtle	<i>Ichthyophthirius multifiliis</i>	<i>Trichodina cottidarum</i>	<i>Plisthophora typicalis</i>
April 2014	12	50.0	16.6	33.3
		10.0	37	19.7
May	14	64.2	50.0	14.2
		30.0	14.1	29.5
June	13	53.8	61.5	38.4
		12.7	14.0	19.4
July	21	61.9	90.4	38.0
		12.2	21.5	14.0
August	18	61.1	72.2	55.5
		16.0	13.7	14.5
September	11	54.5	63.6	36.3
		14.8	16.1	14.7
Total (mean)	89	58.4	62.9	37.0
		16.2	15.3	16.6

Table (3): Results statistical analysis for infection *Emydura macquarii* in kind of external parasites by months of study.

Parasite species	No. examined turtle	No. infected turtle	X ² Calculated	χ ² Tabulated
<i>Ichthyophthirius multifiliis</i>	89	52	0.93	3.84
<i>Trichodina cottidarum</i>	89	56	*19.52	
<i>Plisthophora typicalis</i>	89	33	*5.51	

*Significant differences at the level of probability 0.05.

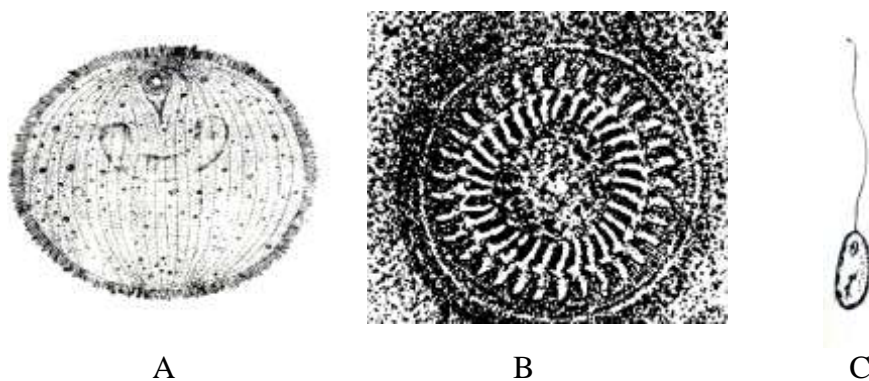


Fig (1): Three type of primary animal that are:
 (A) *Ichthyophthirius multifiliis*
 (B) *Trichodina cottidarum*
 (C) *Plisthophora typicalis*

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