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PREVALENCE OF INTESTINAL HELMINTH PARASITES OF *CLARIAS GARIEPINUS* IN ZOBE RESEVOIR DUTSIN-MA, KATSINA STATE, NIGERIA.

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Abstract

Parasites in the wild will cause morbidity, mortality, economic losses and zoonotic problems in the study area, if left unchecked. *Clarias gariepinus*is an important commercial fish in the Zobe reservoir, however, parasites causes profound pathological changes which lowers the growth considerably and affect the quality of the fish and often leads to death of fish, resulting in enormous economic losses to the fish industry Geet*et al*, (1999). This study isolated and identified intestinal helminth parasite in zobe reservoir and it has also determined prevalence of intestinal helminth parasite in relation to sex of *clarias gariepinus* in zobe reservoir.A total thirty (30) live fish sample were used in this study,the intestinal helminthparasites were identified morphologically and parasitologically using standard identification keys and pictorial guides Kabata, (1985) and Pouder*et al, (2005)*.The fishes were opened dorso-ventrally by used of razor blade and the alimentary canals were removed, and the intestine were sorted and cut into parts kept in different plate contained 0.9% saline solution for parasites recovery,the recovered helminth parasites were taken by the camera for further identification. The parasite isolated were; five(5) *Monobothriumsp* which are cestoda, two(2) *Capillariasp*which are nematode and (6)*Ascaris eggs* which are also nematode, with a total of thirteen helminth parasites, the findings of this study showed low prevalence of intestinal helminth in the intestine of *Clarias gariepinus* in study area.
Key word: Helminth, Parasite, *Clariasgariepinus* and Zobe reservoir

Introduction

Fish is one of the most important source of proteins available for humans and other animals in the tropic according to the Food and Agricultural OrganizationFAO,(2007) of the United Nations fish account for more than 40% of the protein diet of two-third of the global population. Most Nigerians rely on fish as their main source of protein.Fish not only provide food for immediate consumption but people rely directly or indirectly on fishing for their economic survival and a source of job.

*Clariasgariepinus*Bruton, (2009) family *Clariidae* is generally considered to be one of the most important tropical catfish species for aquaculture in West Africa Clay,(2001). *Clarias*species inhabit calm freshwaters ranging from lakes, streams, rivers, swamps to flood plains, many of which are subject to seasonal drying. The most common habitats of the catfish are flood plains, swamps and pools. The catfish can survive during the dry seasons due to the possession of accessory air breathing organ Bruton, (2000). Since the last three decades, *Clariasgariepinus* has been considered to hold great

promise for fish farming in Africa; the fish having a wide geographicalspread, a high growth rate, resistant to handling and stress, and well appreciated in a wide number of African countries.

Materials and Methods

Description of Study Area

Zobe reservoir is an earth-filled structure with a height of 19m and a total length of 2,750m. The reservoir was coordinated between the latitude of 12º23'17.9ºN 28.289'E, and longitudes of 7º27'57.12E to 7º34'4768'E in Dutsinma local Government Area of Katsina State. Reservoir covers 4500 hectares of rocky land and has the capacity to store 177 million cubic meter of water which is released downstream for irrigation and domestic uses. Zobe reservoir has only two tributaries; this includes river karaduwa and river gada in which river gada drain to river karaduwa.

Sample collection.

A total number of thirty (30) live fish sample African Catfish (*Clariasgariepinus*) were purchased from fishermen at the study area, five fish sample were collected twice in a month (bi-weekly), for three months from April to June. The live fishes samples were carried in a container filled with water to the Microbiology laboratory of Federal university Dutsin-Ma for intestinal helminth examination.

Sex Determination.

Sex was determined using physical examination. The male and female of *Clariasgariepinus* were readily distinguishable. The male possess a distinct sexual papilla that is obviously located behind the anus. This structure is absent in females, as described by holden and Reed, (1972).

Examination of specimens for parasites

The specimens were immediately examined for helminth parasites, the total length and the weight of each fish were measured and recorded following the procedures described by paperna,(1996). According to the method described by Noga, (2010) the fishes were opened dorso-ventrally by used of razor blade and the alimentary canals were removed, and the intestine were sorted and cut into parts kept in different plate contained 0.9% saline solution parasites recovery, the intestines were further carefully slit opened longitudinally for the examination of parasite, there is no emergence of any intestinal helminth parasites worms were recognized by their wriggled movement, therefore microscope were used and the recovered helminth parasites were taken by the camera for further identification.

The prevalence was calculated by the formula below:

Prevalence (%) = Number of fish infected/Number of fish examined x 100

Identification of parasites

The intestinal helminthparasites were identified morphologically and parasitologically using standard identification keys and pictorial guides Kabata, (1985) and Pouder*et al, (2005*).

Statistical Analysis

Data obtained wereanalysed by descriptive statistics such as tables to showed the number of intestinal helminth isolated, prevalence and percentage of occurrence in relation to sex.

Results

Helminth parasite isolated from the intestine of *Clariasgariepinus*

The below table showed helminth parasite isolated from the intestine of *Clariasgariepinus* in zobe reservoir Dutsin-Ma.

Table: 1 Helminth parasite isolated from the intestine of *Clariasgariepinus*.

N	Name of parasite	Taxonomic groups	Number isolated
1	*MonobothriumspCestode*		5
2	*CapillariaspNematode*		2
3	*AscariseggsNematode*		6
Total			13

Discussion

Thirteen (13) different types of helminth species were isolated from the intestine of *Clariasgariepinus*. Which are *Monobothriumsp,Capillaria* and *Ascaris eggs* were revealed in this study, Edeh and Solomon (2016) equally found *taenniasaginata, capillaria* and *Ascaris eggs* in fresh water fish species which is in line with the findings of this study. The helminth parasite isolated from this study is similar to the findings of Amaechi(2014) and Absalom *et al*., (2018) whose recorded the flowing helminth parasite from the stomach of *Oreochromisniloticus* (*hirudinae, ascarislumbricoid,*) from Asa Dam, Ilorin, Nigeria and *Clarias gariepinus* (*taenniasaginata,liver fluke*) from River Gudi in Nasarawa State.However, in contrast to the present study, Goselle *et al*, (2008) and Ibohand Ajang, (2016) observed a richer parasite species diversity in *Clarias gariepinus* from Lamingo Dam, Jos Nigeria, which may be attributed to the differences in the location and level of water contamination, since parasitic diversity has a direct relationship with water contamination.

Conclusion

This study shows that Zobe, reservoir has less helminth parasite diversity since it revealed only two taxa.

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