PERSPECTIVES ON ENVIRONMENT DEGRADATION AND AGRARIAN CRISIS IN INDIA

Edited By
Dr. Onkar Rasal
Dr. Yuvraj Patil Narawade

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Arts, Commerce and Science College

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PERSPECTIVES ON ENVIRONMENT DEGRADATION AND AGRARIAN CRISIS IN INDIA

Edited By

Dr. Onkar Rasal

Assistant Professor and Head, Department of Economics

PMT'S Arts, Commerce and Science College, Shevgaon, Dist- Ahmednagar (MS) India.

omrasal82@gmail.com/9422855890

Dr. Yuvraj Patil Narawade

Assistant Professor, PIRENS, IBME, Loni

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Ideal International E-Publication Pvt. Ltd.

427, Palhar Nagar, RAPTC, VIP-Road, Indore-452005 (MP) INDIA
Phone: +91-731-2616100, Mobile: +91-80570-83382
E-mail: **contact@isca.co.in** , Website: **www.isca.co.in**

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PREFACE

Economic development during post reforms period have drastically change an environment of the country. According to the models of economic growth and development; development at the cost of environment will never helps to achieve the goal of inclusive and sustainable development. Mere negligence of the agrarian and environmental issues in the policy domain will further worsen the situation. Day by day declining quality of the environment will leads to the multiplier effects on the factor productivity. This has further increase in the cost of production as well as declining production. And lastly it has resorted at the grave issues like unemployment and inflation. In this situation the agrarian community suffers badly.

Agrarian relations in India had undergone a sea-change during the period of green revolution in general and to that of last two decades of economic reforms in particular. One of the serious outcomes of these changes is the incidence of suicides of farmers in different states of the country. Changes in agrarian relations occurred due to the changing policies and change in ecology. Changing macroeconomic policies and other changes led to the gross neglect of agriculture consisting of 60 per cent of the population and one fifth of the electorate. This took agriculture and rural economy towards distress. The number of suicide cases in rural parts has been mounting in last fifteen years. During the period of 1995 to 2012 (2, 87, 967) farmers has been committed suicide in the country. Since the mid 1990s, large section of farm households have been facing a distress as a consequence of decline in agricultural income and loan repaying capacity and increased debt burden. Rain-fed areas are particularly prone to year to year fluctuations in production and degradation in environmental resources. In the present book we tried to analyze and criticize the reciprocal relationship between the agrarian reforms and environmental degradation. As well as it also focuses on the functional relationship between climate changes, declined agricultural productivity, unremmunarative profession and thereby agrarian crisis and farmers suicides in India.

Onkar Rasal

Yuvraj Patil Narawade

CONTENTS

Description Of Cestode Parasite Circumoncobothrium Dnyaneshwarinae In Fresh Water Fish Clarius Batrachus From Pravara River.

Naik V.P. & Tambe D. S.

ABSTRACT

The present paper deals with Redescription of cestode parasite *Circumoncobothrium dnyaneshwarinae* in Fresh water fish *Clarius batrachus* from Pravara river. Cestodes were collected in June 2017 to Dec.2017.this cestode same in many characters having Scolex large oval, rostellum oval and transversely placed, rostellar hooks are 67(65-70) in numbers, neck absent. Mature proglottids are four times broader than longer, testes are medium oval shaped 82 (80-85)in number, cirrus is thin coild, ovary bilobed Dum-bell shaped, ovarian lobes with 3-6 acini, vitellaria are granular 2 row on each lateral side. But it differs in gravid segment are two broader than long, eggs are oval, thin shelled.

Key words: - *Clarius batrachus, Circumoncobothrium*, Cestode.

INTRODUCTION

The genus, *Circumoncobothrium* is erected by Shinde G.B., 1968 from the intestine of freshwater fish as *C. ophiocephali* from *Ophiocephalus leucopunctatus* as a type species *C ophiocephali.* Chincholkar, 1976 described two new species of the genus as *C. shindei* from a fresh water fish, *Mastacembellus armatus* and *C. bagariusi* from *Bagarius.*

In 1977, Shinde added a new sp. *C. khami* from *Ophiocephalus striatus*. Later on Jadhav and Shinde, 1976 added two new species, under the genus viz. *C. aurangabadensis* and *C. raoii* from Mastacembellus armatus. Jadhave and Shinde, 1980 described *C.gachuai* from *Ophiocephalus gachua.* Jadhav et al., 1990 described *C. yamaguti* from *Mastacembellus armatus* later on Shinde et al., 1994 added *C.alii* from *Mastacembellus armatus*. Patil et al., 1998 described *C. vadgaonensis* from Mastacembellus *armatus*. Later on another nine species are added to this genus.

***,** Department of Zoology, Padmashri Vikhe Patil College of Arts, Science & Commerce, Pravaranagar, Maharashtra, India.**

For taxonomical study Cestode parasites were collected from Pravara river in Ahmednagar District, Maharashtra. The fish Species *Claries batrachus* selected for study because in carnivorous fishes more possibility for infection than herbivores fishes. However these edible fishes are known to harbor a number of parasites which cause deterioration of their health and affect their market value by the parasitization. Fish is correctly regarded as a healthy component of the diet; it is an excellent source of protein and is low in saturated fats. There are risks associated with eating cultured fish owing to the infection by helminth parasites.

The present communication deals with the description, of one redescribed species as *C. dnyaneshwarinae* from *Clarias batrachus*.

MATERIAL AND METHODS

For the taxonomical study of Cestode parasites, the fishes were collected in Pravara river Ahmednagar District, Maharashtra. The alimentary canal of the fishes were removed and cut open in normal saline water in Petri-dish. The alimentary canals observe under binocular microscope (recorded infected and non infected hosts) the collected worms were washed in distilled water to render them free from intestinal contents. The Cestode was preserved in 4% formalin. Borax carmine and Haematoxylin stain were used for staining of parasites. The worms were passed through various alcoholic grades i.e. 30 %, 50 %, 70 %, 90 % and 100 % cleared in xylen and mounted in DPX. All the drawing was made with the aid of camera Lucida. All measurements are in millimeters, unless otherwise indicated.

Out of Two hundred Eighty eight intestines, one hundred thirty two intestines were infected in freshwater fish, *Clarias batrachus* (Linnaeus, 1758) from Pravara river, Dist. Ahmednagar (M.S.) India during June 2017 to Dec.2017.

RESULT AND DISCUSSION

The scolex large oval, bears the rostellum its anterior end, which is medium in size, oval shape, transversely elongated, having constriction at the middle and measures 0.145(0.128- 0.163) in length and 0.160(0.144- 0.194) in width. The rostellar hooks are 67(65-70) in number, which are long, stout, rod shaped pointed at upper end, longer hooks present in the centre of the quadrant and later on decreases in length on both the sides. The hooks measures 0.051(0.038-0.065) in length and 0.005(0.003-0.007) in width. Neck absent.

The mature proglottids are broader than long, nearly four times broader than long with measure 0.333(0.270-0.397) in length and 1.148(1.077-1.522) in breadth.

The testes are medium in size, oval in shape, 82 (80 -85) in number, arranged in a single field or either lateral sides of ovary.

The cirrus pouch is small in size, oval in shape transversely placed measures 0.111(0.095-0.126) in length and 0.053(0.026-0.074) in breadth. The cirrus is thin, coild, obliquely placed, contained within the cirrus. The vas deferens is short, thin, extends obliquely. The ovary is medium in size, distinctly Bilobed slightly dumb- bell shaped in appearance, transversely placed, in the middle of the segments and measure 0.169 (0.124-0.214) in length and 0.657 (0.390-0.928) in breadth. The isthmus is connecting the two ovarian lobes, straight, even in width, transversely placed, consisting 3-6 acini and measure 0.115 (0.095-0.136) in length and 0.035(0.034-0.038) in breadth. The vagina is thin, short, arises from the genital pore, slightly curved and opens into the ootype and measure 0.066 (0.053-0.076) in length 0.006 (0.003-0.012) in width. The ootype is medium in size, rounded in shape. The genital pore is small in size, oval in shape, preovarian, and measures. Longitudinal excretory canals are not distinct.

The vitellaria are granular, small in size, round in shape, in 2 rows, on each lateral side, extending from the anterior to the posterior margin of segments.

Gravid segment are three times broader then longer measure 0.602 in length and 2.203 in breadth. Uterus which is sac like oval structure measuring 0.998in length and 0.227 in breadth. The eggs are oval to elongated, thin-shelled measuring 0.043 in length and) in width.

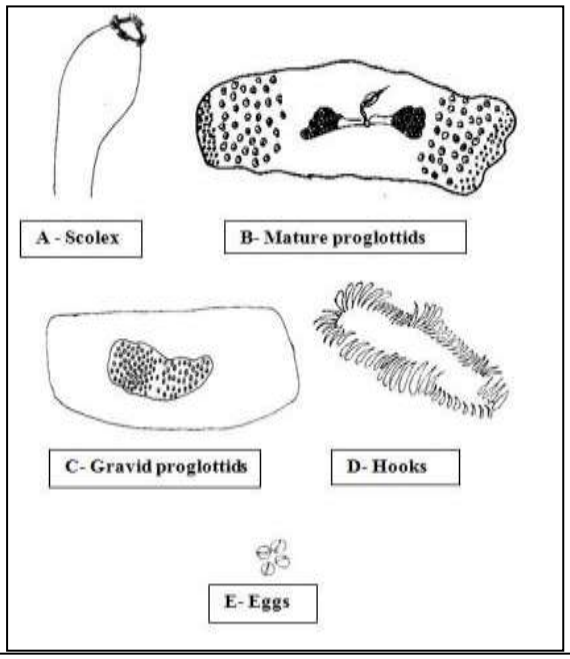

Fig . 1. ***Circumoncobothrium dnyaneshwarinae*** **r.d.**

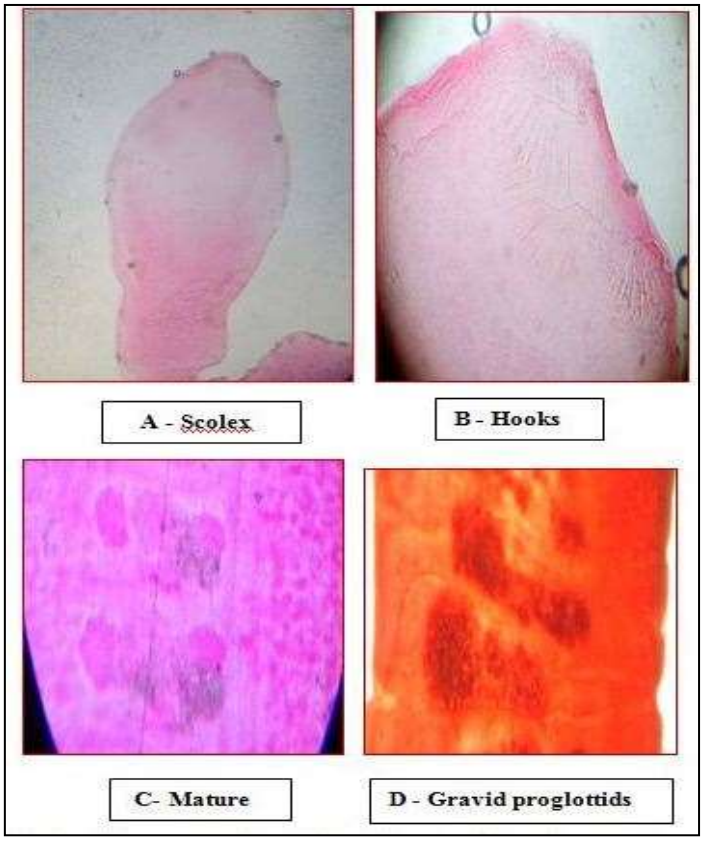

Fig . 2. ***Circumoncobothrium dnyaneshwarinae*** **r.d.**

CONCLUSION

The present taxonomical study revealed that freshwater fish, *Clarias* batrachus (Linnaeus, 1758) is infected by the new species of genus *Circumoncobothrium* in study area. On the bases of known specimens of genus *Circumoncobothrium*, the new species is *Circumoncobothrium dnyaneshwarinae* and it is present in the intestine of *host*.

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About the Editors

Dr. Onkar Rasal:-

Is presently working as a Assistant Professor and Head Department of Economics of PMTs' Arts, Commerce and Science College Shevgaon. He holds his doctoral degree in Economics in 2011. He is having 15 years of an experience of teaching economics at higher education level. He published 4 books and 9 research papers. He is also with the several associations in economics.

Dr. Yuvraj Patil Narawade:-

Is working as Assistant Professor at PIRENS, Institute of Business and Management Education, Loni. He was Member of Management Council of Savitribai Phule Pune University Pune. He is obtained his doctorate in Management in 2016. He is member of several academic bodies of various universities in Maharashtra.

Uncertainty and adequacy are the fundamentals characteristics of the indian monsoon. variations in the mansoon affect the agricultral production. However, the agricultural in maharashtra is camparatively developed in india. But at the same time, there have been huge amount of disparities in agrucultural development in the state. Adequate irrigation facilities are the prerequisite for the sustainable development of the sector. Over the year s there is increase in number of failure of indian mansoon. It is an outcome of the changing nature of climate and moreover, the increase in temperature of earth surface. I strongly believe that to come up with the problem we need along term constructive policy measure. As well as the people participation is the prerequisite while coping with the problem of climate change. I congratulate the orgniser for the conducting the academic discussion on this burning issue. The academic debate on this vital issue will be helpful for designing the long term policy on climate change and Agrarian Crisis. I wish greate success for these seminars.

Hon'ble Dr. Rajendra Vikhe Patil

Trustee And Secretory Pravara Medical Trust , Loni

Pro vice Chancellor, PIMS, (Deemed University) Loni