

Helminth Parasites in Fresh Water Fishes from River Betwa, Jhansi, U. P. (Near Orcha)



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Abstract

The study was conducted to determine a new species of the Family Azygiidaegeneus *Bundelatrema*, *Bundelatremaorchhaensis* n sp. is reported from freshwater fish *Puntiussarana* River Betwa, Jhansi U.P. (Near Orcha). The present form chiefly differs from the other known species in having a short pre-pharynx, ratio of testes, in the extension of vitelline follicles and also uterus occupying the anterior part of the body.

Introduction

Human beings and cattles suffers many diseases caused by various types of microbes and helminthic worms. This helminthic infection is normally caused due to intake of certain fishes found in rivers. The trematods which causes infection in human beings are of two types viz Monogenetic and Digenetic. Monogenetics are usually ectoparasites however Digenetic trematods complete their lifecycle in two hosts in which one host is either cold blooded or warm blooded vertebrates and an intermediate host. A large numbers of these parasitic helminthic worms have been reported to cause diseases in fishes amphibians, reptiles, birds and mammals including man. They infect digestive tract and the intensity of infection is also very high as the fishes are consumed as a source of protein in human diet. Due to infection of these parasites the population of healthy fishes is depleting. Since the fishes are either primary or secondary consumers in food chain and due to their population depletion as a result of infection has disturbed the aquatic ecosystem and availability as food source to human beings as well. Therefore present study is designed to study various helminthic parasites in fresh water fish *Puntiussarana* from river Betwa.

Materials and Methods

Collection of fishes was done with the assistance of fisher man available at different localities. The method ranging from catching by hand, use of different type of nets, fishes were also purchased from the various fish markets of region. These host fish were kept alive in aquarium in the laboratory and they were freshly dissected to examine at convenience. A thorough search was done to determine the where about of parasites in various organs viz. Gall bladder, liver and Alimentary canals. They were carefully examined in petridish under the low power binocular microscope.

Soon after collection the trematodes were thoroughly washed and kept in saline water. They were studied alive and observation were made regarding the colour and movements of body spines on the body oral and ventral suckers cirrus and metraterm, excretory bladder and branches.

The fishes were taken out from the body of fish and kept separately in petridishes already having 0.7% physiological saline solution the organs were slit open with the help of scissor and forecep, so as to allow the flukes to loosen out the contact with the tissue and also to settle down at the bottom of petridish. The worms were picked up with the help of a micro dropper and then processed for the fixation.

For fixation 5-10% saline was used for whole mounts preservation. Preservation formalin for longer period gave good results. For preparing whole mount preservation was taken to avoid over or under pressure. For preparing whole mount of trematodes after fixation and through washing in water worms were dehydrated and stained in Borax Carmine then cleared in Xylene and finally mounted in DPX. The drawings of the whole mounts were made with the help of Camera lucida at a suitable magnification.

Keywords: *Puntiussarana*,
Freshwater fish,
Azygiidae.

Description of Species

The Body of parasite was large with rounded anterior and posterior ends. Oral sucker were sub-terminal oval or rounded, smaller than ventral sucker. Ventral sucker pre-equatorial, large, rounded. Pre-pharynx small. Pharynx oval, muscular. Oesophagus was very short. Intestinal caeca terminating at posterior extremity. Testes were spherical, post-equatorial, diagonal, anterior testis smaller than posterior one. Cirrus sac was elongated and was just above the ventral sucker; enclosing a pear-shaped vesicular seminalis, pars prostatica was surrounded by prostate gland cells and a curved ejaculatory duct. Ovary oval or rounded, sub-median, post-equatorial. Receptaculum seminis oval, sub-median located in the right side of ovary. Uterus fills two-third of body, prominently coiled intercaecally in between Body length, 4011 – 7075; width, 1.50 – 2.63; oral sucker, 0.47 – 0.58 X 0.47 – 0.60; ventral sucker, 0.65 – 0.93 X 0.60 – 0.92; pre-pharynx, 0.01 – 0.04 X 0.02 – 0.04; pharynx, 0.13 – 0.18 X 0.10 – 0.17; oesophagus, 0.08 – 0.13 X 0.04 – 0.06; anterior testis, 0.27 – 0.40 X 0.24 – 0.38; posterior testis, 0.34 – 0.48 X 0.34 – 0.39; cirrus sac, 0.23 – 0.54 X 0.09 – 0.23; vesicular seminalis, 0.08 – 0.23 X 0.12 – 0.14; pars prostatica, 0.10 – 0.14 X 0.13 – 0.15; ejaculatory duct, 0.12 – 0.13 X 0.05 – 0.08; ovary, 0.27 – 0.48 X 0.26 – 0.49; receptaculum seminis, 0.09 – 0.24 X 0.10 – 0.18; egg, 0.04 – 0.08 X 0.04 – 0.06.

Result and Discussion

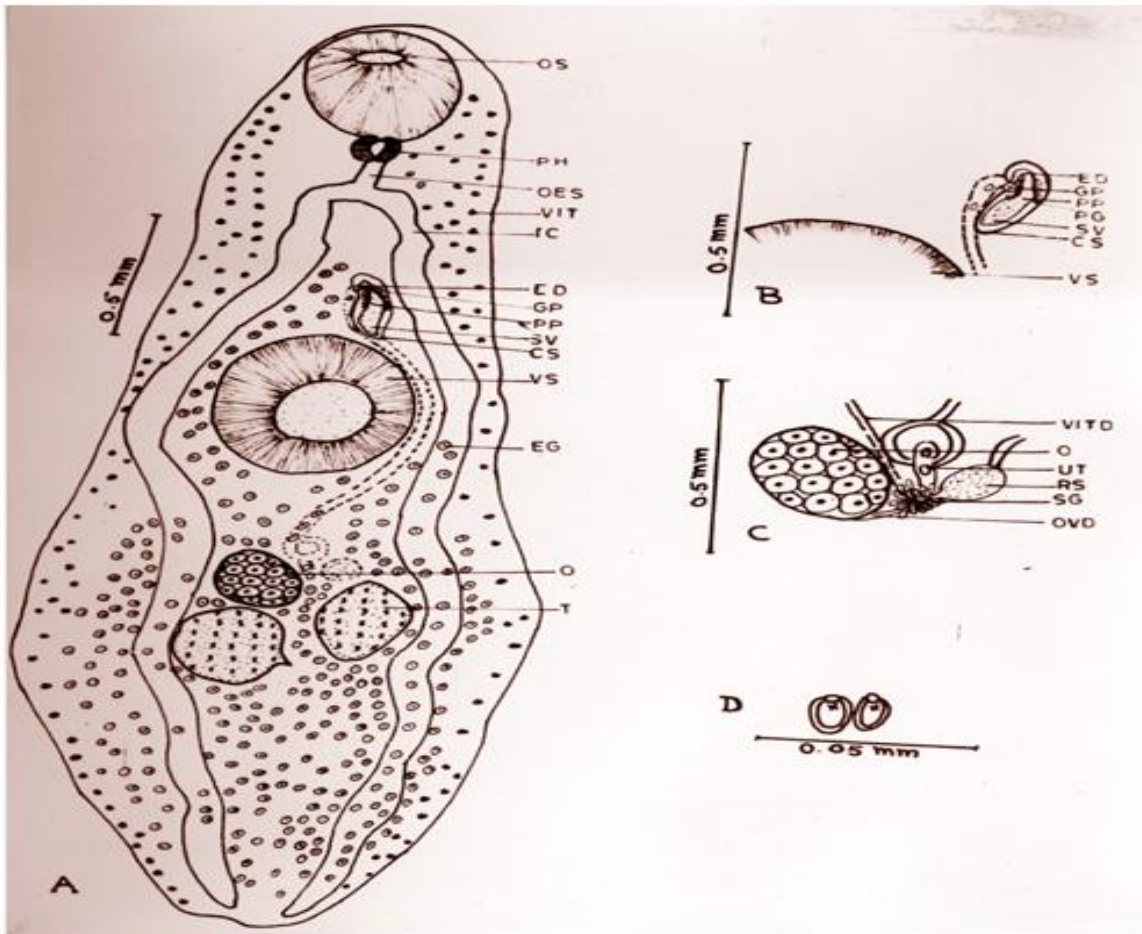
Table-1 Description of Finding Parasite

Host	<i>Puntiussarana</i>
Locality	River Betwa, Jhansi, U.P. (Near Orcha)
No. of Fishes Examined	287
No. of Fish infected	2
Location	Liver
No of Species collected	2 + 2 = 4

In the study around 287 fish *Puntiussarana* fishes were examined and among them only two fish were found infected (Table-1). The present form belongs to genus *Bundelatrema* was suggested by Agrawal (1980) with the type species *B. betwai* and was placed in the sub-family *Azygiinae* (Luhe, 1909) of the family *Azygiidae* Odhner, (1911). the new genus was established by distinguishing it from the genus *Azygia* Looss (1899) in having excretory arms not united anteriorly and from the genus *Otodistomum* Stafford, 1904 in having no genital cone or papilla in genital atrium.

The present form chiefly differs from the other known species in having a short pre-pharynx, ratio of testes, in the extension of vitelline follicles and uterus also occupying the anterior part of the body.

It is therefore, regarded as a new species for which the name *B. orchhaensis* is proposed after the locality of the host.



A. Dorsal view

B. Cirrus sac enlarged (drawn from live specimen)

C. Ovary and type enlarged (drawn from live specimen)

D. Eggs enlarged

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