

Histopathological study of the cestode *Calycobothrium walgae n.sp.* from the fish *Dasyatis walga* at Shiroda, Sindhudurg Dist. (M.S.) India.

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ABSTRACT

The present paper deals with the study of histopathology of the cestode *Calycobothrium walgae* from the spiral valve of the fish *Dasyatis walga* at Shiroda, Sindhudurg Dist. (M.S.) India. The parasite finds the nutritive material, favorable for growth and development of the worm by causing damage to the host.

Keywords: Histopathology, *Calycobothrium walgae*, *Dasyatis walga*, Microtomy

INTRODUCTION

The study of the relationship between host and a parasite is called as "Histopathology". The microscopic examination of tissue is an extremely valuable component for the study of degree of infection by cestodes. During or after the gross microscopy, small pieces of intestine tissue are removed that are examined. It is important to collect both normal and infected intestinal tissues, because the tissue appear normal may be found infected at the microscopic level. Also including both normal and infected tissue from the intestine allows for comparison of healthy and infected tissues and may help in understanding the development or progression of the cestode infection.

The comparative histology of the scolex of three caryophyllid tapeworms relationship to pathology and

site selection of host intestine was studied by Hayunga [1], the intestinal histopathology of *Clarius batracus* parasitized by carryophylloid cestode was studied by Hiware[2], and Sanjay Nanaware et.al [3] was studied the histopathological studies on Anaplocephaline cestode *Monenzia kalawati* infectiong by *Capra hircas*.

The relationship between host and parasite was studied by Nadkal, [4]. The parasite can find their suitable host some thoughts was studied by Mendes [5]. Host versus parasite responses were described by Mitchell in [6].

The pathogenicity of adjacent cestodes of various orders described by Rees [7]. In fishes Mevicar [8] describe host parasite relationship of *Acanthobothrium*, *Phyllobothrium*, *Echinobothrium*. Murlidhar and Shinde [9] observed histopathology of *Acanthobothrium uncinatum* of fish *Rhyncobatus djeddensis*, Boruclanska and caira [10] observed a comparison of mode of attachment and histopathogenicity of tapeworm representing two orders infecting the spiral intestine of the nurse shark, *Ginglymostrong cirratosa*.

The effect of inflammation is characterized by vasodilatation of blood capillaries. Later the various nervous reactions take place and release active factor "histamine" from the mast cells. By this there is increase in blood supply to affected area, capillary

walls and the passage of proteins from blood into the tissue fluid.

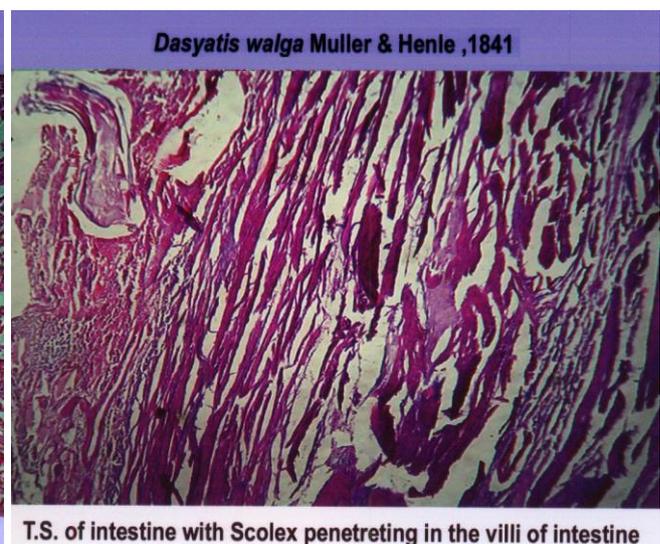
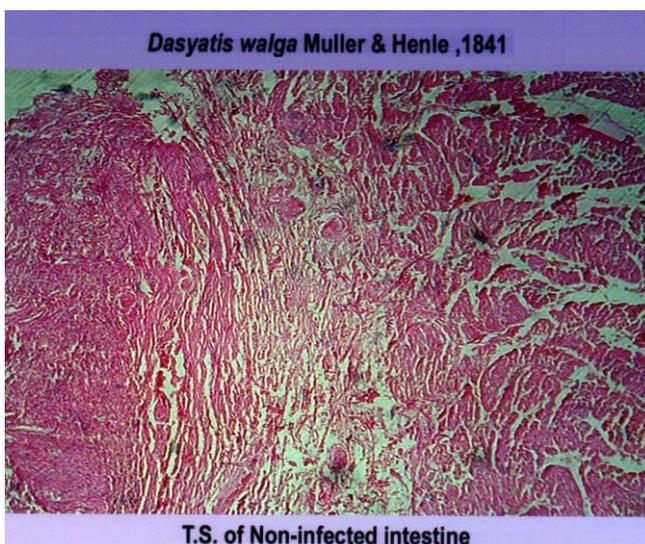
In the region of ruptured tissue, the vessel wall becomes sticky and polymorphonuclear so leucocytes adhere to them. The leucocytes them proceed to infiltrate through vessel walls and collect in large number at the site of invasion.

METHODOLOGY

16 intestines of the *Mobula-mobular* were dissected to see the degree of infection. Few of the intestines were infected with cestode parasites; these cestodes are removed from intestine and flattened, processed and stained for morphological studies and were identified as *phoreiobothrium hemlatae n.sp.*

The attached worms kept with the intestine, which were cut into small pieces and fixed into Bouin's fluid. The pieces of uninfected intestines also fixed in Bouin's fluid.

This material was washed, dehydrated through graded alcohol, cleared in xylene and embedded in paraffin wax (M.P.58-60°C). The blocks were cut at 7 μ and slides were stained with mallory's triple stain. Best slides were selected and observed under microscope.



RESULT AND DISCUSSION :

Microscopic observations revealed that the host tissue is damaged by the parasites *Calycobothrium walgae n.sp.* As the scolex is medium size with tentacles and 4 suckers, which are used for attachment of worms to host intestine *Dasyatis walga*. The attachment part of intestine by parasite shows damage of intestinal villi.

When observed keenly under microscope, the worm is not only successful to adhere to host tissue but also quite successful to enter into the intestine forming the ulceration to their intestinal wall, causing damage to the host tissue.

Thus it can be concluded that, the parasite finds the nutritive material, favorable for the growth and development of the worm by causing damage to the host tissue.

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Conflicts of interest: The authors stated that no conflicts of interest.

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