

RESEARCH ARTICLE

Morphological studies of cestode parasites and its impact on intestine of *Capra hircus* in Chalisgaon region

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Manuscript details:	ABSTRACT
<p>Available online on http://www.ijlsci.in</p> <p>ISSN: 2320-964X (Online) ISSN: 2320-7817 (Print)</p> <p>Editor: Dr. Arvind Chavhan</p> <p>Cite this article as: Nikam Priyanka S (2014) Morphological studies of cestode parasites and its impact on intestine of <i>Capra hircus</i> in Chalisgaon region, <i>International J. of Life Sciences</i>, Special Issue A3: 101-103.</p> <p>Acknowledgement The author is thankful to Dr. A.T. Kalse, N.Y.N.C. College, Chalisgaon for providing facilities and encouragement.</p> <p>Copyright: © Author, This is an open access article under the terms of the Creative Commons Attribution-Non-Commercial - No Derives License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.</p>	<p>Parasitism is the association in which host and parasite are ecologically interrelated. <i>Capra hircus</i> is dominant species of Indian goat. <i>Capra hircus</i> has richest source of nutrional value. Caestodes are the endoparasites which infect the intestine of <i>Capra hircus</i>. Their infection causes parasitic diseases and also causes economic losses. Caestode parasites have greater diversity and their species have cosmopolitan distribution. The effect of these parasites is depend on the number of parasites occur in intestine of <i>Capra hircus</i>. Morphological studies of Caestode parasites is more beneficial to identify various species of parasites and their classification and external form. It also provide information about diseases they cause and also their occurance in particular region. This information will help to plan for preventive control measures.</p> <p>Keywords: Parasitism, Caestodes, <i>Capra hircus</i>, endoparasites, economic, cosmopolitan, Taxonomical, nutritional, diversity.</p> <p>INTRODUCTION</p> <p>Cestode parasites have parasitic mode of life due to nutritional needs, shelter, lack of hormones. Cestode parasites are the tapeworms which infect almost all the vertebrates. Domestic goat <i>Capra hircus</i> L. is economically beneficial to human population but caestode parasites occur in their intestine causes considerable damage. The genus <i>Stilesia</i> was observed by Ralli <i>et al.</i> (1893), from <i>Ovis aries</i>, in Europe, Asia and Africa as <i>Stilesia globipunctata</i>. <i>Stilesia vittata</i> reported by Ralliet (1896), from <i>Camelus dromedaries</i> from Africa and India. Later on <i>Stilesia hepatica</i> was added to this genus, by Wolffhugel (1903), from Sheep and Goat, in East Africa and India. <i>Stilesia okapi</i> observed as a new species, of this genus by Leiper, 1936, from Okapi in Africa, is regarded by Baer (1950), as a variety of <i>S. globipunctata</i>. The system of classification is based on the "Advances in the zoology of Tapeworms" 1950-1970 by Wardle <i>et al.</i> (1974) and "Systema Helminthum" vol. II by Yamaguti (1959). As far as many researchers concentrating on tapeworm studies but investing the biology of tapeworms parasitizing in <i>Capra hircus</i> L. as an urgent necessity.</p>

MATERIALS AND METHODS

The various steps require for taxonomical studies of Cestode parasites in intestine of *Capra hircus* are as follows.

Collection of Cestode parasites : Number of small intestines collected from domestic goat, *Capra hircus* L. at Chalisgaon. The auther has collected and cover maximum places in Chalisgaon region.

Processing of Caestode parasites :

a)Flattening : The collected tapeworms were cut into appropriate size pieces for sake of convenience. Then they were flattened by using two glass slides and ties with the help of thread with gentle pressing.

b) Preservation : The flattened tapeworms preserved in freshly prepared 4% formalin.

c) Staining : The preserved worms were kept in water for some time and then stained with Harris Haematoxylin.

d) Preparation of permanent slides : The stained Cestodes were passed through various alcoholic grades, cleared in xylol, mounted in D.P.X. and whole mount slides were prepared for further anatomical studies.

e) Drawings and measurements : The drawings are made with the help of microphotography unit and all measurements are recorded in millimeters.

f) Observation and Identification : It reveals that these tapeworms are described as a new species of the genus *Stilesia*. Identification is based on critical observations with related species from simillar ecological niche.

RESULTS

The following table indicate different species of *Stilesia* raillet. All these species have different morphological charecters. Their locality and their host is also different. Various new species of *Stilesia* also observed which infect the simillar host *Capra hircus*.

Systematic position of Parasite : *Stilesia shindei*

Class : Eucestoda

Order : Anoplocephalidea

Family :Thysanosomidae

Genus : *Stilesia*

The Genus *Stilesia* was observed by Railliet, 1893 as a type species *Stilesia globipunctata* from *Ovis aris*. *Stilesia vittata* from *Cameles dromedaries*, *Stilesia hepatica* from *Buffelus caffer* and *Silesia leiperi* from *Ovis bharal*. Later on various species are added to this genus by different researchers and they are identified and characterized by morphological studies but *Stilesia shindei* has distinct morphological charecters as squarish scolex and definet more body segmentation.

Table 1: Comparative chart showing the character of the genus *Stilesia* Railliet, 1893

Character	<i>S. globipunctata</i>	<i>S. vittata</i>	<i>S. hepatica</i>	<i>S. leiperi</i>	<i>S. shindei</i>
Scolex	Small, rounded	-----	-----	Circular	Squarish
Segment	Segment distinct	Segment not distinct	Broder than long	Broder than long	22-24 times broader than long
Testis	4-7 in number	5-9 in number	6-7 in number	5-6 in number	9-12 in number
Ovary	Somewhat/globular	Rounded larger	Small, compact, oval	Medium, circular	Medium, rounded
Genital pore	Irregularly alternate	In anterior half	In the middle	In anterior half	Unilateral, irregularly alternate
Host	<i>Ovis aries</i>	<i>Camelus dremedaries</i>	<i>Buffelus caffer</i>	<i>Ovis bharal</i>	<i>Capra hircus</i>
Locality	Europe, Africa, Asia	East Africa	Asia, Africa	Aurangabad, M.S., India	Chalisgaon, M.S., India

The infection of *Stilesia shindei* to intestine of *Capra hircus* is more. The severity of infection is depend on the number of parasite. Their infection also indicate seasonal variation. The main clinical symptoms occur in *Capra hircus* are weight loss, reduced food intake, diarrhea, poor growth and reduced yield.

CONCLUSION

The parasitic diseases causes increase mortality rate and greater economic losses also. Hence to avoid severe infection preventive control measures should be applied related with immunological aspect.

The name *Stilesia shindei* n.sp. is proposed in honor of Prof. G.B. Shinde, grand research guide and Ex - registrar Dr. B.A.M. University Aurangabad who has contributed a lot of knowledge of Cestodology.

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