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Population dynamics study of *Stilesia* a cestode parasite from Pune district

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Abstract
The survey-based study has been undertaken to investigate the arbitrary infections of the cestode infections specifically Genus *Stilesia* for the period June 2002 to May 2005 from the Pune district, statistical study is survey based. The study has an importance from commercial economical point of view.

Keywords: cestode, parasite, slilesia

Introduction

Cestode infections are among the major parasitic diseases in India and other tropical countries. The domesticated mammal's sheep and goat are important components of the food chain. They get infected by cestodes during grazing; there is not estimate of suffering from cestode infections. Such infections cause indigestion, diarrhea and are associated with the poor absorption readymade nutrients resulting malnutrition. The infections of *Stilesia* worms are common but some time fatal for these vertebrates. Due to these infections the host suffers from malnutrition and shows the direct effect on the yield of meat, milk etc. Considering economic importance, the survey based statistical work has been carried out. Many authors [1, 2, 4, 5, 7, 14] have carried out studies on the cestode parasites and on population dynamics of cestode parasites.

Materials and Methods

The intestinal loops of *Ovis bharal* were collected from slaughterhouses of various locations from Pune district brought to the laboratory and dissected. From the infected intestine worms were separated, washed flattened on the slides, and preserved in 4% formalin. The preserved worms were washed gently in distilled water then stained in hematoxylin, dehydrated through alcohol grades. After dehydration cleared in xylene and mounted in D.P.X. The microscopic observations and camera Lucida drawings of whole mount worms were used for taxonomic identification. The whole mount slides of the cestodes were observed and identified as and *Stilesia* (Rallietl893). *Stilesia* cestode parasites are long with thin musculature. The scolex is distinctly marked off from the short strobilus, it is broader than long. The suckers are four in number, oval arrange in two overlapping: pairs. Neck is short and wide. The mature segments are broader with short projections at the posterior corners of the segments. Testes are 20-25 in numbers and oval situated in two lateral fields. Cirrus pouch is small elongated, oval at one third from the anterior margin of the segment obliquely placed. Ovary is small and oval near the anterior margin of the segment with 3-4 short acini. Vagina posterior to cirrus pouch. Genital pores are medium in ' size, oval, and marginal.

Excretory canals are elongated. In gravid proglottids par uterine organ is dense and visible. It is observed that Sheep and Goat from Pune district were are infected by *Stilesia* genus of cestodes.

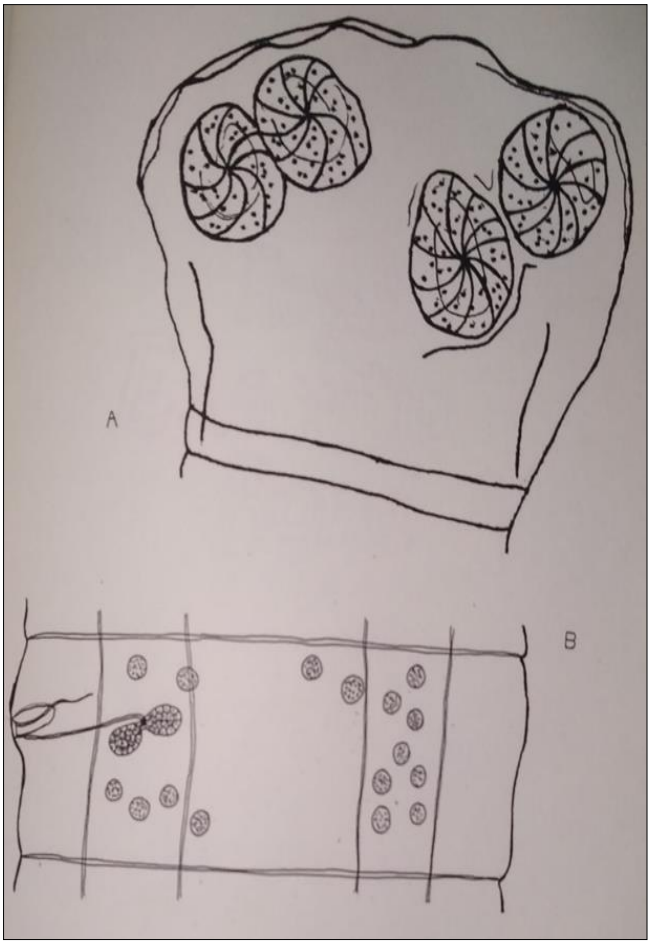

Fig. 1: Camera lucida drawing of *Stilesia deshmukhi*, A-Scolex-Mature proglottid

Table 1: Intensity, Density and Percentage incidence of parasitic infection (June2002-May 2005)

Month	Host	No. of host examined	No. of Host infected	No. of Parasite collected	Infection Intensity	Infection density	% Incidence
June 2002	Goat	3	2	5	2.5	1.6	66.6
July	Goat	4	3	6	3	1.5	50
Aug	Sheep	4	1	5	5	1.2	25
Sept	Goat	5	2	7	3.5	1.4	40
Oct	Goat	4	2	5	2.5	1.25	50
Nov	Sheep	4	2	6	3	1.5	50
Dec	Goat	2	1	2	2	1	50
Jan2003	Sheep	4	2	3	1.5	0.75	50
Feb	Goat	2	0	0	0	0	0
March	Sheep	5	3	2	0.6	0.4	60
April	Sheep	2	3	7	2.3	3.5	150
May	Goat	5	3	4	1.3	0.8	60
June	sheep	3	4	9	2.2	3	1.33
July	Goat	2	2	7	2.5	0.83	33.33
Aug	Goat	3	3	5	1.3	0.57	42.85
Sept	Sheep	5	2	4	2	0.8	40
Oct	Sheep	3	1	2	2	0.66	33.33
Nov	Sheep	5	2	5	2.5	1	40
Dec	Goat	6	4	7	1.7	1.16	66.66
Jan2004	Sheep	4	1	4	4	1	25
Feb	Sheep	3	3	4	1.3	1.33	100
March	Sheep	5	2	5	2.5	1	40
April	Goat	2	2	3	1.5	1.5	100
May	Goat	3	2	3	1.5	1	66.66
June	Goat	2	2	7	3.5	3.5	100
July	Goat	3	1	8	2	0.66	33.33
Aug	Goat	5	1	8	2	0.4	20
Sept	Sheep	2	2	1	1.5	1.5	100
Oct	Goat	1	0	0	0	0	0
Nov	Goat	4	2	3	1.5	0.75	50
Dec	Goat	6	2	4	2	0.66	33.33
Jan 2005	Goat	5	1	3	3	0.6	20
Feb	Sheep	3	1	2	2	0.66	33.33
March	Sheep	2	1	4	4	2	50
April	Goat	3	1	1	2	2	100
May2005	Sheep	2	1	3	3	1.5	50

Where-**Infection intensity** = No. of parasites collected/No. of hosts infected,
Infection density = No. of parasites collected/ No. of hosts examined.
Coincidence = No. of hosts infected X 100 / No. of hosts examined.

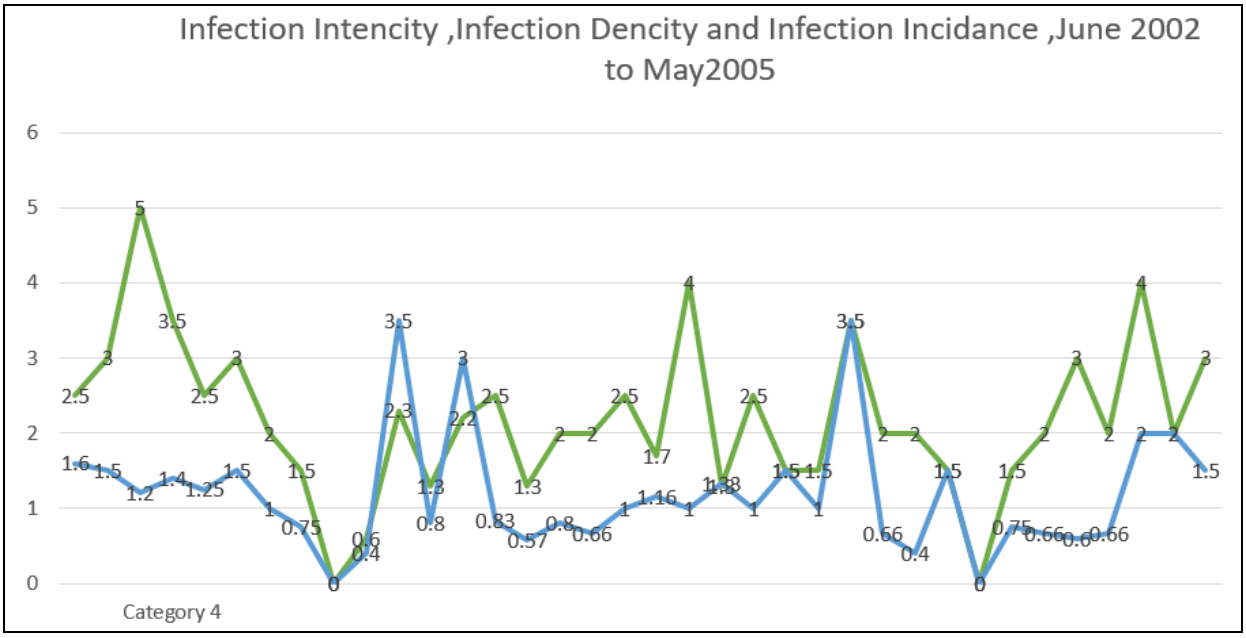

Fig 2

Table 2: Year wise Average Observation

Period	Average Infection intensity	Average Infection Density	Average percentage of incidence
June 2002 to May 2003	2.26	1.24	53.3
June 2003 to May 2004	2.08	1.15	49.09
June 2004 to May 2005	2.20	1.18	49.16

Result and Discussion

This study related to population dynamics revealed that from June 2002 to May 2003 the average infection intensity was 2.26, average infection density observed 1.24 and % of infection was 53.3

This study related to population dynamics revealed that from June 2003 to May 2004 the average infection intensity was 2.08, average infection density observed 1.15 and % of infection was 49.09

This study related to population dynamics revealed that from June 2004 to May 2005 the average infection intensity was 2.20, average infection density observed 1.18 and % of infection was 49.16

It is observed June 2002 to May 2003 the infection rate was very high (150). From June 2003 to May 2004 infection was moderate and June 2004 to May 2005 showed less infection. April 2003 depicted highest percentage of incident while February 2004, June 2004 and September 2004 depicted 100% incidences.

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