

**OCCURRENCE OF *Hyalomma* spp. AND ZOONOTICALLY
SIGNIFICANT *Lipoptena cervi* ON INDIAN SPOTTED
DEER (*Axis axis*) IN NAGPUR: A REPORT**

¹Dr. Priya J. Gawande and ²Dr. Bahar Baviskar

¹Assistant Professor, Department of Veterinary Parasitology,
Nagpur Veterinary College, Nagpur

²Director, WILD-CER, Nagpur

E-mails: ¹priyagawande@mafsu.in, ¹drpriyagawande@gmail.com (*Corresponding Author*)

²baharbaviskar@gmail.com

Abstract: Ticks and flies were collected from the Indian spotted deer (*Axis axis*) bought for post-mortem. After the gross examination ticks were collected in 70% alcohol with the help of forceps. It was processed and mounted on a glass slide using DPX. It was identified as *Hyalomma* spp. based on morphological characters. Eyes are present and they are round. Capitulum with hypostome and palpi is long. The specimen was small, spherical yellowish brown in color with hard chitinous covering, posterior border festoons were observed. After examination the leathery brownish color wingless fly was identified as *Lipoptena cervi*.

Keywords: Indian spotted deer, *Axis axis*, *Hyalomma* spp., *Lipoptena cervi*, Deer ked fly

Introduction

Deer ked fly (*Lipoptena cervi*) is a blood-sucking dipterous ectoparasite of cervids. It is a biting wingless fly, which primarily feeds on mammalian blood. These flies are commonly encountered in temperate regions including Europe, Serbia, North America and Northern China. There is very few reporting from India though the prevalence of this parasite doesn't seem any less in the deer population.

Hyalomma spp. ticks are inornate, eyes present, festoons absent. Hypostome and palps are long. Spiracles are comma shape in male and triangular in female. These are two or sometime three host tick. Larvae and nymph feed on small wild mammals and birds. Adults feed on domestic ruminants and horses.

A carcass of spotted deer was screened for the presence of ectoparasite with special attention to the head, ears, axillary and inguinal regions. After a thorough examination of carcass ticks and flies were collected from the body surface. Ticks and flies were collected in a sample bottle. Deer ked flies breed one larva at a time and soon become pupa which fall on the ground and hatch in winged flies. After finding a host they lose their wing and remain on the same deer as a permanent parasite (Haarlove 1964).

Material and method

Ticks were collected from ears and inguinal region. While flies were collected from the body surface of spotted deer. Ticks were preserved in 70% alcohol. Few samples of flies were preserved in 70% alcohol and rest were preserved for dry mount. Ticks were washed with water for overnight, processed with ascending order of alcohol concentrations i. e. 30, 50, 70, 90 and absolute alcohol. Then ticks were cleared and mounted on the glass slide by using Canada balsam. After preparation of the slides, they were observed under the microscope for identification. Identification was done based on morphological characters described by Sen and Flecher (1962) and Bowmen (1999).

Result

Based on examination the ticks were identified as *Hyalomma* spp. and flies were identified as *Lipoptena cervi*.

The samples were processed and identified based on morphological characters; ticks were identified as *Hyalomma* spp. based on morphological characters. Eyes are present and they are round. Capitulum with hypostome and palpi is long. The specimen was small, spherical yellowish brown in color with hard chitinous covering, posterior border festoons were observed. Flies were identified as *Lipoptena cervi*, which is also called a Deer ked fly. The fly is leathery, brownish in color and the head sunken into thorax. Incidental bites to humans may barely be noticed which develop into redden welt after three days (Soulsby, 1982). Itchy lesions may last up to 15-20 days but pruritic papules may last for a year (Bequart, 1942). Complement cell-mediated immune response and IgE are responsible for Ked dermatitis. (Tapio Rantenen et al, 1882). Strickland et al (1981) pointed out that other species of keds serve as vectors of trypanosomes in domestic sheep and goats and suggested that *Lipoptena* spp. could be a vector of *Trypanosoma cervi*. Dehio et al (2004) could isolate *Bartonella scoenbuchensis* from deer keds midgut. *L. cervi* has also been reported in dogs (Hermosilla et al 2006) which may cause moderate to severe dermatitis in dogs.

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