

Case Report

**A CASE OF NASAL MYIASIS DUE TO *OESTRUS OVIS* (NASAL BOT
FLY) IN A NELLORE SHEEP**

***Amaravathi M¹, Ch. Srilatha², R. Venu³ and K. Sujatha⁴**

Department of Veterinary Pathology, College of Veterinary Science,
Sri Venkateswara Veterinary University, Tirupati – 517502

¹Ph D Scholar, Department of Veterinary Pathology, C.V.Sc, Tirupati

²Professor and University Head, Department of Veterinary Pathology, C.V.Sc, Tirupati

³Associate Professor, Department of Veterinary Parasitology, C.V.Sc, Tirupati.

⁴Professor, Department of Veterinary Pathology, C.V.Sc, Tirupati

E-mail: ammu.nihal@gmail.com (*Corresponding Author)

Abstract: A three year old adult sheep was presented to Veterinary Dispensary with the clinical history of head shaking, nasal discharges and it died due to respiratory distress. On necropsy examination, both mature and immature larvae were recovered from the nasal cavity. The *Oestrus ovis* larvae were confirmed based on the presence of flat, dark pigmented, D-shaped posterior respiratory spiracles and large black oral hooks.

Keywords: Nasal bot fly; Nasal myiasis; *Oestrus ovis*; Sheep.

Introduction

Oestrus ovis is the most cosmopolitan and well known myiasis caused by dipterous insect, which affects the health of sheep and goats in many parts of the world (Gracia *et al.*, 2006). Infestation of sheep with the larvae of the nasal botfly, *Oestrus ovis* has been recognized since early times and the first case was recorded in Australia in 1906. The parasitic phase of *Oestrus ovis* begins after adult females deposit first larval stage larvae into the nostrils of hosts, these larvae subsequently develop into second and third larval stages in the nasopharyngeal cavities and frontal sinuses (Zumpt, 1965). Sneezing and nasal discharges are the major clinical signs in infected animals (Valadez *et al.*, 2011). Here, we present a case of nasal myiasis in a sheep caused by the parasite *O.ovis*.

Case history:

A three year old sheep was presented to the veterinary dispensary, with the history of head shaking and nasal discharges. But, the animal died next day itself because of severe respiratory distress. The post mortem examination of sagittal section of head immediately after death revealed both mature and immature larvae in the nasal passages (Fig. 1). The live

larvae were carefully removed from the nasal passages and collected in phosphate buffer saline for further morphological examinations.

Results and Discussion:

Key identification features of the larvae of *Oestrus ovis* were quite evident on the dorsal and ventral surfaces. Larva revealed flat, dark pigmented D-shaped posterior respiratory spiracles and large black oral hooks (Fig. 2). Larva also revealed broad transverse blackish bands dorsally (Fig. 3) and irregularly placed strong transverse rows of spines ventrally (Fig. 4). Microscopically, D-shaped closed, dark black coloured, stigmal plates with radially arranged respiratory holes were observed (Fig. 5 & 6). Based on the history, clinical signs, necropsy and morphological findings of larva, it was diagnosed as *Oestrus ovis* infection.

As different stages of *Oestrus ovis* larvae were detected in the nostrils of sheep, this indicates that sheep nasal bots infestation could take place regardless of season. In the present case, the maximum number of the larvae collected from sheep head was 8 larvae. But Gabaj (1992) was able to collect 11 larvae from individual sheep. These different findings in the degree of infestation may be due to many factors like general health of the animals, nutritional status, climatic conditions and the number of adult flies around them. The clinical signs and larval morphological features observed in the present study were in accordance with Zumpt (1965) and Urquhart *et al.*, (2003).

Conclusion

It can be concluded from the present study that nasal myiasis was diagnosed in a three year old adult sheep based on the clinical signs, gross and morphological characters of larvae.

References

- [1] Gabaj, M.M., Beesely, W.N. and Awan, M.A.Q. (1992) *Oestrus ovis* myiasis in Libyan sheep and goats. *Tropical Animal Health and Production*. **25**, 25 – 27.
- [2] Gracia, M.J., Lucientes, J., Peribanez, M.A., Calvete, C., Ferrer, L.M. and Castillo, J. A. (2006). Kinetics of *Oestrus ovis* infection and activity of adult flies. *Parasite* **13**: 311-313.
- [3] Soulsby, E. J. L. (1982). *Helminths, Arthropods and Protozoa of Domesticated Animals*. Bailliere Tindall, London.
- [4] Urquhart, G. M., Romour, J. A., Duncan, J. L., Dunn, A. M. and Jennings, F. W. (1996). *Oestrus ovis* treatment and control. *Veterinary Parasitology*. 2nd Edition. P. 164.
- [5] Valadez, C. E., Ascencio, F., Jacquiet, P., Dorchie, P. and Palacios, C. R. (2011). Sheep and goat immune responses to nose bot infestation: a review. *Med. Vet. Entomol.* **25**:117-125.

[6] Zumpt, F. (1965). Myiasis in man and animals in the old world. In: *A Textbook For Physicians, Veterinarians and Zoologists*, London, UK. p. 255.

LIST OF FIGURES:



Fig. 1: Sagittal section of the head of sheep revealed Larvae of *Oestrus ovis* in the nasal passages along with inflammation of nasal mucus membranes

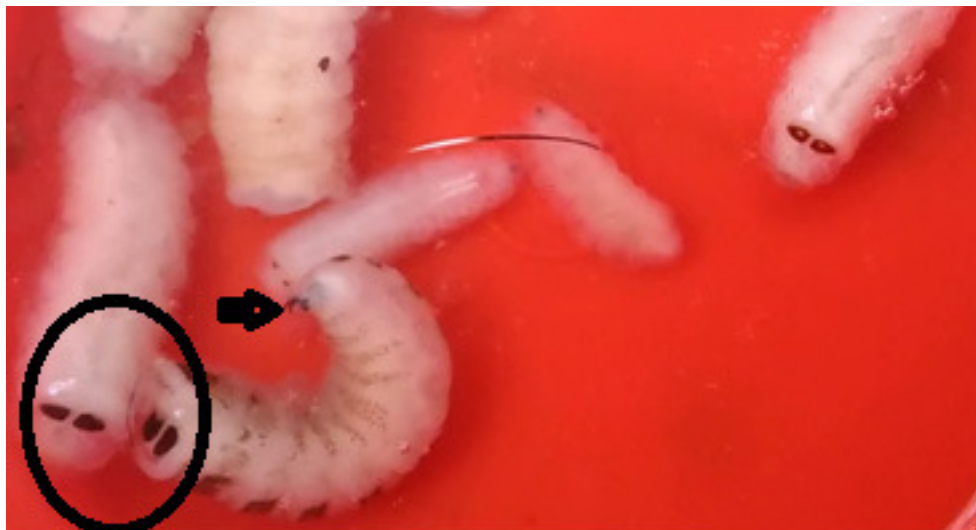


Fig. 2: Larva showing flat, D-shaped posterior spiracles (circle) and large black oral hooks (arrow).



Fig. 3: *Oestrus ovis* larva dorsal view showing broad transverse blackish bands



Fig. 4: *Oestrus ovis* larva ventral view showing irregularly placed strong transverse rows of spines ventrally

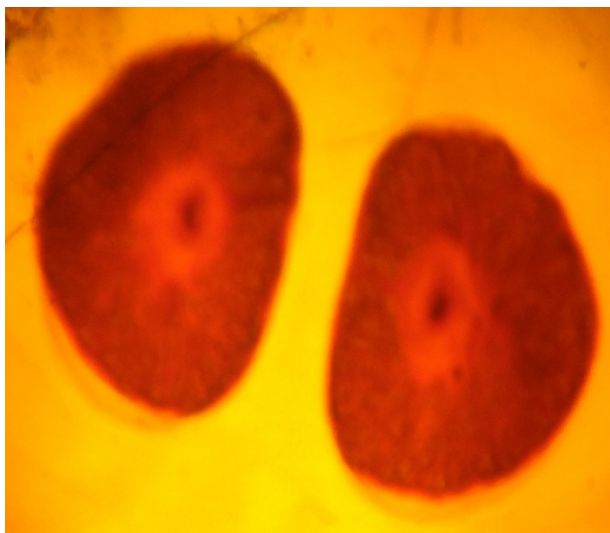


Fig. 5: Note D-shaped closed, dark black coloured, stigmal plates with radially arranged respiratory holes x 40

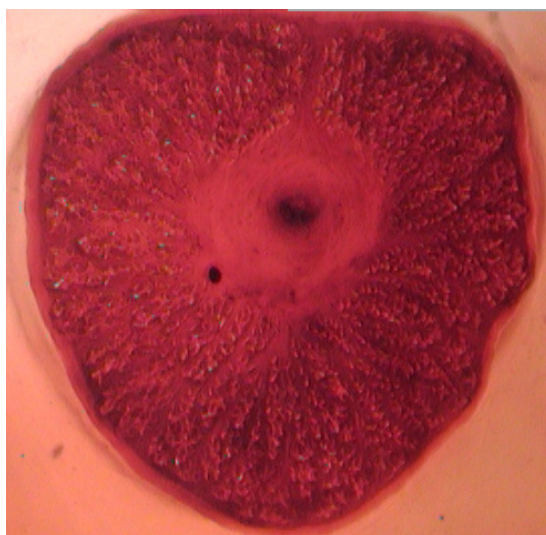


Fig. 6: Note D-shaped closed, dark black coloured, stigmal plates with radially arranged respiratory holes x 100