



## *Galoncus perniciosus* INFESTATION IN A ZOO TIGER

Jacob Alexander<sup>1</sup> Abdul Salam, S.<sup>2</sup> Madhavan Pillai, K.<sup>3</sup> and Divakaran Nair, N.<sup>4</sup>

Animal Husbandry Department, Kerala.

### HISTORY AND POST MORTEM FINDINGS

*Galoncus perniciosus* is a nematode parasite seen rarely in tigers and leopards. The worms are seen in fibrous nodules or tumours on the wall of the intestine and lead to death from septicaemia. In Thiruvananthapuram Zoo, *Galoncus perniciosus* infection was identified in a male tiger aged 17 years on post mortem examination and subsequent histopathologic and parasitic studies.

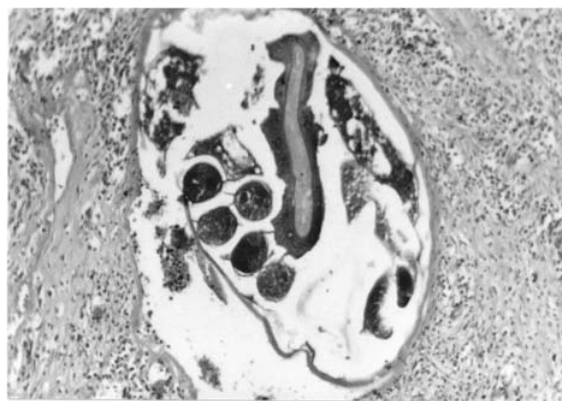
This tiger, which is also known to have parented white (albino) tigers, showed signs of colic followed by anorexia, absence of defaecation and toxæmia. The animal did not respond successfully to treatment and succumbed five days following the onset of the initial symptoms.



**Fig 1 Nodules of varying sizes in the intestinal wall.**

On post mortem examination the intestine was bloated, tense and diffusely congested. There were more than twenty whitish nodules of varying sizes in the intestinal wall. In one area the nodule was large enough to have blocked the intestine completely. On incision the nodules had an inner cavity, which opened to the intestinal lumen and contained thick sanguineous pus that came out to the lumen on expression.

Histopathology of these nodules revealed cross sections of adult nematode parasites in the muscular layer of the intestine, surrounded by an inflammatory reaction comprising of numerous plasma cells and neutrophils, and a few eosinophils. Proliferation of granulation tissue was seen around this reaction. Some stained ova could also be detected along the necrotic tract, which opened to the lumen of the intestine.



**Fig 2. Cross section of the nodule. Note the parasite inside.**

The parasites both male and female were collected from the nodules by microscopic dissection. The morphological features of the head, tail, bursa, cuticle and ova revealed the species to be *Galoncus perniciosus* of the family Ancylostomatidae.

Traceable reports on the incidence of *Galoncus perniciosus* are comparatively rare. Pthyal and Madhavan Pillai *et al* had reported in 1993, the death of a wild Indian Leopard *Panthera pardus fusca* (Meyer) due to parasitism with the lung fluke *Paragonimus westermani* (Kerbert, 1878) and the hookworm

<sup>1&2</sup>Veterinary Surgeon, Animal Husbandry Department, Thiruvananthapuram, Kerala. <sup>3</sup>Professor, Dept. of Parasitology (Retd.)  
<sup>4</sup>Professor, Centre of Excellence in Pathology, College of Veterinary & Animal Sciences, Thrissur.



*Galoncus perniciosus* (Linstow, 1885). Cohrs has reported *Galoncus perniciosus* infestation in tigers in 1928.

The observations discussed in this paper warrant a detailed investigation to screen the tiger and leopard populations, both captive and wild, and to elucidate the pathogenesis and life cycle of the parasite. Research in developing better methods to diagnose the infestation is highly warranted, as the ova may not be observed during faecal sample examination due to its low number. Efficacy of conventional treatment should also be assessed as the adult worm is seen embedded in nodules.

#### ACKNOWLEDGEMENT

The authors are thankful to Mr.C.S. Yalakki, Former Director of Department of Museums & Zoos, Thiruvananthapuram for the encouragement and facilities provided to undertake this study.

#### REFERENCES

- Anderson, R. C. (1992) Nematode parasites of vertebrates Their development and transmission. CAB International, Willingford, Oxon.UK.
- Cohrs, P. (1928) *Paragonimus westermani* und primares Plattenepithel-Karzinom in der Lunge, sowie parasitare durch *Galoncus perniciosus* verursachte Knoten im Dunndarm eines Königs-tigers. Beitr.Path.Anat.81:101-20.
- Pythal, C., Madhavan Pillai, K., George Varghese, C. and Surendranathan, T. (1993) Death of a wild Indian Leopard *Panthera pardus fusca* (Meyer) due to parasitism with lung fluke *Paragonimus westermani* (Kerbert, 1878) and hookworm *Galoncus perniciosus* (Linstow, 1885). J. Vet. Anim. Sci.24 (1):44-46.

#### WEBSITE FOR KERALA VETERINARY AND ANIMAL SCIENCES UNIVERSITY LAUNCHED

[www.kvasu.ac.in](http://www.kvasu.ac.in)

Kerala Veterinary and Animal Sciences University, Pookot, Wayanad is the youngest Veterinary University in the world. Government of Kerala has established the university to give a better focus to education, research, entrepreneurship and extension in the field livestock production. Considering the research and career potential, university is planning to start various new generation courses in different aspects of animal and biological sciences. Moreover, the University is planning to explore research collaborations with other research institutions within the country and abroad and is interested in seeking endowments and fellowships from different academic agencies.

Kerala Veterinary and Animal Sciences University (KVASU) has gone online from 3rd February 2011. Hon'ble Union Minister for Food, Civil Supplies and Public Distribution System Prof. K.V.Thomas officially launched the website in a function held at Hotel Mascot, Thiruvananthapuram. Sri. C. Divakaran Minister for Food, Civil Supplies, Animal Husbandry and Dairying presided over the function. Sri. Subrato Biswas, IAS Secretary, Animal Husbandry and Dairying, Government of Kerala and Dr. B.Ashok, Vice Chancellor, Kerala Veterinary and Animal Sciences University have also graced the occasion.

Website of Kerala Veterinary and Animal Sciences University - [www.kvasu.ac.in](http://www.kvasu.ac.in) is very unique with regard to its content and management. Website clearly depicts University's motto "ideas in action." Emphasis is given to thrust areas like Academics, Research, Entrepreneurship, Clinical services, Research initiatives, News, Forthcoming events and Extension in Veterinary & Animal Sciences and Dairy Science & Technology. Taking into account the growing importance of market led extension approach as envisaged in the National Agricultural Policy, KVASU has included research highlights pertaining to sustainable livestock production in the website. Separate links has been assigned to different agencies working for livestock production, funding agencies, educational and career based articles.