



Cobboldia elephantis larval infestation in an Indian wild elephant from Tamil Nadu, India

KEYWORDS

Cobboldia elephantis, stomach bot, Wild elephant, Tamil Nadu

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ABSTRACT *An Indian wild elephant (Elephas maximus) was found died in the forest range of Bargur and post mortem examination was conducted on site. On post-mortem examination, the stomach of the elephant was heavily infested with the larvae and numerous haemorrhagic ulcers in the gastric mucosa. There were no significant lesions in other organs. The collected larvae were sent to Department of Parasitology, Veterinary College and Research Institute, Namakkal for confirmative diagnosis and species identification. The anterior end of the larvae had two powerful oral hooks, abdominal segments had 8 rows of spines around the body and the posterior end had 2 spiracles, each showed three longitudinal parallel slits. Based on these morphological characters, the larvae were identified as Cobboldia elephantis*

Introduction

Cobboldia is a genus of parasitic flies in the family, Oestridae. Adult flies of Cobboldia elephantis lay their eggs near the mouth or base of the tusks of an elephant. The larvae hatch and develop in the mouth cavity and later move to the stomach. Upon maturing, the third stage larvae exit from the mouth and drop to the ground and pupate (Fowler et al. 2006). A fossil species, Cobboldia rusanovi is known from the frozen remains of Mammoths (Grunin, 1973). Cobboldia roveri, the green elephant stomach bot fly has been noted from the African Forest Elephant (Kinsella et al.2004). The genus is named after Thomas Spencer Cobbold (1828 - 1886) who described the first species as Gastrophilus elephantis (Spencer et al. 1882). The stomach bot, Cobboldia elephantis commonly infest Asian elephant and several authors have reported the infestation of larvae of these flies from various states of India viz., Assam (Raquib 1970), Tamil Nadu (Joseph et al. 1987), Orissa (Panda et al. 2005), Kerala (Kakkassery et al. 2011), Andhra Pradesh (Venu, 2015) and Karnataka (Javare Gowda, 2016). The present paper reports the occurrence of C. elephantis larvae from the stomach of a free range Indian wild elephant from TamilNadu, India.

Materials and Method

An Indian wild elephant was found died in the forest range of Bargur, the place where close to the borders of the two south Indian states viz., Karnataka and Tamil Nadu. The dead elephant post mortem examination was conducted on site. The detailed post-mortem examination was conducted as per the standard procedure and the gross examination of all organs was carried out. The larvae were collected from stomach of elephant and sent to Department of Parasitology, Veterinary College and Research Institute, Namakkal for confirmative diagnosis and species identification. The larvae were processed as per Zumpt (1965) and species was identified based on the morphological characters described by Soulsby (1982). The intestinal contents were also collected in a polythene zipped cover and sent to the laboratory. The contents were examined grossly for the presence of mucus, blood or any parasitic segments and then

processed by sedimentation method as per the standard procedure for the detection of parasitic eggs/ova.

Results and Discussion

The wild, free range Asian elephants are highly susceptible to various endo and ecto parasitic diseases. The Post-mortem examination showed that the stomach was filled with haemorrhagic fluid and thousands of larvae (Fig.1). The gastric mucosa revealed numerous haemorrhagic ulcers, marked congestion and severe gastritis. As there were no significant postmortem lesions in other organs. No other parasites were found during the post mortem examination. On faecal examination, no parasitic ova or oocysts could be detected. The pathogenesis of C. elephantis larvae in elephants has not been well established; however, it has been reported that the infested animal showed the symptoms of gradual emaciation disinclination to food and loss of condition (Raquib, 1970). The arthropod larvae were processed and the anterior end of the larvae had two powerful oral hooks (Fig.2), abdominal segments had 8 rows of spines around the body (Fig.3) and the posterior end had 2 spiracles; each showed three longitudinal parallel slits (Fig 4). This is in accordance with Venu et al. (2013), Panda et al. (2005), Javare Gowda et al. (2016) who reported the larvae of C. elephantis from the stomach of a free range wild elephant from various parts of country. In conclusion, the death of the elephant could be due to heavy infestation of stomach bots, resulting in severe gastritis.



Fig.1 Stomach containing
C. elephantis larvae

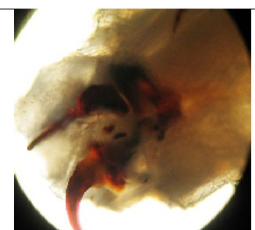


Fig.2 Anterior end of C. elephantis larva
showing the oral hooks



Fig.3 Abdominal segment of *C. elephantis* larva showing the row of spines

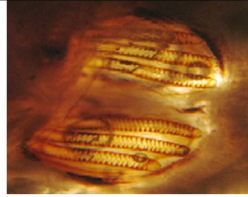


Fig.4 Posterior spiracles of *C. elephantis* larva

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