First report of *Cobboldia elephantis* (Cobbold, 1866) larvae in a free ranging wild elephant from Andhra Pradesh, India

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Abstract Larvae of *Cobboldia elephantis* have been reported from the stomach of a free ranging wild elephant (*Elephas maximus*) while conducting post mortem examination at Palamner forest range, Chittoor district of Andhra Pradesh state, India. This is the first report of *C. elephantis* in free ranging wild elephant in Andhra Pradesh state, India.

Keywords *Cobboldia elephantis* · Wild elephant · Andhra Pradesh · India

Introduction

The stomach bot, *Cobboldia elephantis* occurs in Asian elephant and several authors reported the infestation of larvae of these flies from various states of India viz., Assam (Raquib 1970; Datta et al. 1972; Chakraborty et al. 1994), Tamil Nadu (Joseph et al. 1987), Orissa (Panda et al. 2005) and Kerala (Kakkassery et al. 2011). Matsuo and

Suprahman (1997) reported the same infestation in Sumatran elephant in Indonesia. The present paper places the first report of heavily infested larvae of *C. elephantis* from Andhra Pradesh state, India.

Case report

A 10 year old female free ranging wild elephant was found dead near the forest of V. Kota, Chittoor district of Andhra Pradesh (Palamner forest range). The place where the elephant died is close to the borders of the other two south Indian states i.e., Karnataka and Tamil Nadu, where the wild elephant movements were common.

On post-mortem examination the stomach of the elephant was heavily infested with the larvae of *C. elephantis* (Fig. 1). These dipterous larvae were collected and brought to the laboratory for further processing and identification. No other parasites were found during the post mortem examination. However, faecal material was also collected from the dead body to examine for the presence of endoparasite infection. The collected arthropod larvae were processed as per the procedure described by Zumpt (1965).

Results and discussion

After processing, the elephant stomach bots were identified as *C. elephantis* based on the morphological descriptions (Zumpt 1965). Anterior end with two powerful oral hooks with cephalopharyngeal skeleton (Fig. 2), the abdominal segments with a row of belt like spines (Fig. 3) and characteristic posterior spiracles with three longitudinal parallel slits in each posterior spiracle (Fig. 4) suggests that the larvae are of *C. elephantis*. On faecal sedimentation

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Fig. 1 Heavily infested elephant stomach with *C. elephantis* maggots in situ during post mortem

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

examination no parasitic ova or oocysts could be detected. The pathogenesis of *C. elephantis* larvae in elephants has not been well established; however it is believed that, the infestation would always end fatally (Panda et al. 2005). Raquib (1970) reported that, stomach bot infested elephants showed symptoms of gradual emaciation, disinclination to food and loss of condition. In the present case, major part of the stomach was studded with 2–3 cm sized maggots of *C. elephantis*. Similar observation was noticed by Panda et al. (2005), where as Kakkassery et al. (2011) found only 100–200 stomach bots during postmortem examination. On removal of these maggots the gastric wall was found with small sized ulcers. Congestion and severe inflammation of the gastric mucosa was also noticed. Similar observations were reported earlier by Panda et al. (2005). In conclusion, *C. elephantis* is usually common in Asian elephants and this paper places on record for the first

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

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

time, the presence of stomach bot infestation in free ranging wild elephant in Andhra Pradesh.

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