

## METASTRONGYLOSIS IN A NON-DESCRIPTIVE PIG IN TAMIL NADU

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### ABSTRACT

*Lungworms are found to be a serious problem in pigs by causing severe infections. The worms were collected during post mortem from a 6 year old male, non – descriptive pig at Periyeri hamlet of Thuringikuppam, Polur taluk, Thiruvannamalai district, Tamil Nadu which was raised and hand fed as a single animal and had access to the agricultural field. On post mortem examination, the trachea was severely congested and occluded with pus and the lungs were congested in which the lung worms wriggled out with pus while sectioning the lungs. The worms were morphologically identified as *Metastrongylus sp.* in a non-descriptive pig in Tamil Nadu.*

**Keywords:** Lungworms, *Metastrongylus sp.*, pig, Tamil Nadu

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### INTRODUCTION

Lungworm infection is one of the major problems in swine production (Patra *et al.*, 2013). Lungworms that infect swine include *Metastrongylus elongatus*, *M. pudendotectus* and *M. salmi*. *Metastrongylus elongatus* infections which are the most common infection with more than one species can occur. The occurrence

of lungworm in pig in India was reported by Patra *et al.*, (2013). Mohanty *et al.* (2014). In this paper the occurrence of lungworm infection in a non-descriptive pig in Tamil Nadu, India was reported.

### MATERIALS AND METHODS

The worms were collected during post mortem from a 6 year old male, non – descriptive pig at Periyeri, hamlet of Thuringikuppam, Polur taluk, Thiruvannamalai district, Tamil Nadu which was raised and hand fed as a single animal and had access to the agricultural field. The animal had clinical symptoms before death including frequent cough, off-feed and debility. It did not respond to antibiotics (Oxy LA), anti-inflammatory

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and suppurative therapy. A total of 10 worms were collected from the lung during postmortem and preserved in 70% ethanol. The morphometrical measurements of worms were done using a linear scale. The worms were identified based on the keys provided by Soulsby (1982) and Gassó *et al.* (2014).

## RESULTS AND DISCUSSION

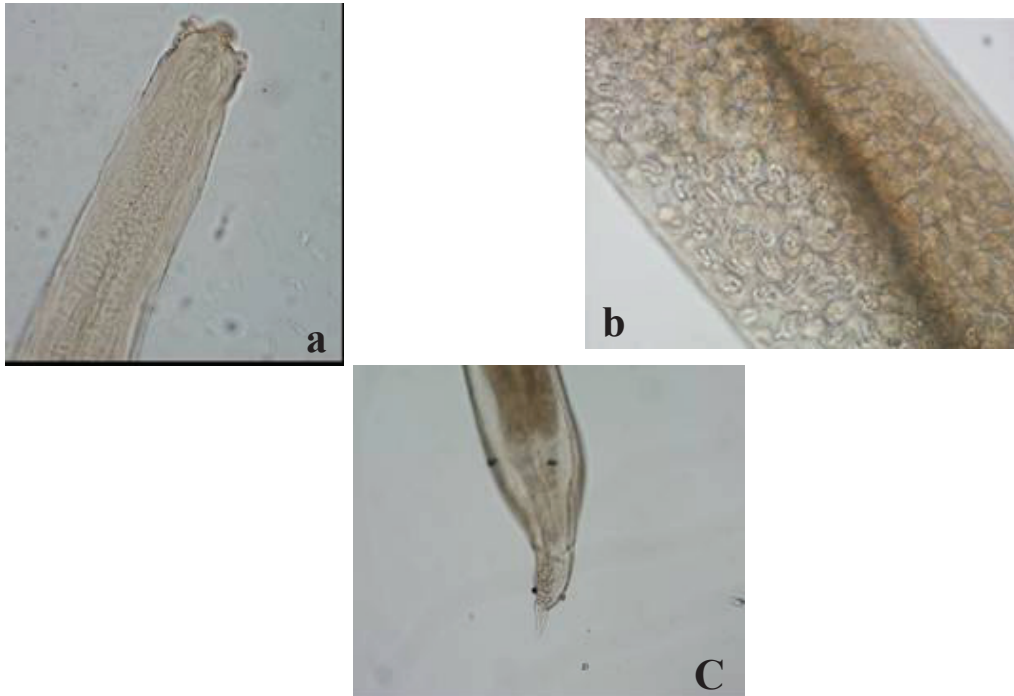
On post mortem examination, the trachea was severely congested and occluded with pus and the lung was congested in which the lung worms wriggled out with pus while sectioning the lungs. The worms collected were morphologically identified as *Metastrongylus elongatus* based on prominent lips surrounding the oral aperture, flexed ventral side of the posterior end, vulval opening near the anus and middle segment with fully developed embryo (Figures 1a, b and c). In India, the prevalence of *Metastrongylus elongatus* infection was 40% in young piglets in Mizoram (Patra *et al.*, 2013) and 20% in local pigs in Odisha (Mohanty *et al.*, 2014). Likewise, Morita *et al.*, (2007) recorded four species of *Metastrongylus viz.*, *Metastrongylus elongatus*, *M. salmi*, *M. asymmetricus* and *M. pudendotectus* in western region of Tokyo, Japan.

In the present study, *M. elongatus* was collected in a single, non-descriptive pig in Tamil Nadu, India. Similarly, Nssien and Adesehinwa (1999) stated that *M. elongatus* was the most common with a frequency of 95.83% (460 worms), followed by *M. pudendotectus* with 4.17% (20 worms) in pig at the Bodhija Municipal Government

Abattoir in Ibadan, Nigeria. In contrast, the prevalence for metastrongylid infections in wild boar was 93.5% in southern Germany (Barutzki *et al.*, 1990), 96.5% in Italy (Poglayen *et al.*, 2016) and whereas it was 92% in France (Humbert and Henry, 1989). Out of five lungworms in wild boars, *M. elongatus* and *M. pudendotectus* were considered to be dominants, followed by *M. salmi* in Poland (Nosal *et al.*, 2010).

In this study, 10 worms in lungs were recorded whereas Fernandez-de-Mera *et al.* (2003) reported average of 633 nematodes per lung of imported captive-bred wild boars at Spanish which was greater than that of the distinct, free-ranging population. This implies that the mean lungworm load of wild boars was greater in environments with larger animal densities, which were essentially inevitable in confinement. Similarly, Wallgren and Pettersson (2022) reported *Metastrongylus spp.* in older wild boars at Corsica, Spain and Italy.

In the present study, the lungworms were collected from the bronchi and bronchioles of a non-descriptive pig. Similarly, *Metastrongylus salmi*, *M. confuses*, *M. pudendotectus*, *M. elongatus* and *M. asymmetricus* were collected from the bronchi and bronchioles of wild boars in Europe (Kutzer and Hinaidy, 1971), United States (Smith *et al.*, 1982) and southern France (Humbert and Henry (1989). Three species of nematodes were found namely, *Metastrongylus elongatus*, *M. salmi* and *M. pudendotectus* in wild boars in Central Asia, including Kazakhstan, Tajikistan and Uzbekistan (Baitursunov, 2010).



**Fig. 1.** *Metastrongylus* sp. a. Head end with six lips, b. Tail end with flexed ventral side of the posterior end and vulval opening near the anus, and c. middle segment with fully developed embryo.

## CONCLUSION

From this research, it was concluded that lungworm, *Metastrongylus elongatus* was reported in a non-descriptive pig of Thiruvannamalai district, Tamil Nadu, India.

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