

## CASE REPORT

# MAMMONOGAMUS (SYNGAMUS) LARYNGEUS INFECTION : A FIRST CASE REPORT IN THAILAND

Vichit Pipitgool<sup>1</sup>, Kamron Chaisiri<sup>2</sup>, Prasit Visetsupakarn<sup>2</sup>, Vajiroon Srigan<sup>2</sup>, and Wanchai Maleewong<sup>1</sup>

<sup>1</sup>Department of Parasitology, Faculty of Medicine, Khon Kaen University, Khon Kaen 40002, Thailand,

<sup>2</sup>Kranuan Hospital, Kranuan District, Khon Kaen 40170, Thailand.

*Mammonogamus laryngeus*, synonymous with *Syngamus laryngeus*, is a nematode worm of the family Syngamidae which is a common parasite in the respiratory tract of cattle (Olsen, 1974). Many cases of human infection have been reported throughout the world, mostly from tropical countries (Weinstein and Molovi, 1971; Grell *et al*, 1978). In Thailand, no human case has been recorded. We document here the first case of *M. laryngeus* infection identified in Thailand after the infection had occurred in Malaysia.

A 32 years old Thai farmer from Kranuan District, Khon Kaen Province, Thailand had spent four months in the rainforest of Kalantan state, Malaysia as a woodcutter from May 1991 to August 1991. About 2 months after arrival in Malaysia, he had developed illness with cough, thick mucoid sputum, pyrexia and malaise. Furthermore, he developed pulmonary hemoptysis and weight loss. On 10th September 1991, he was referred to Kranuan Hospital, Khon Kaen, Thailand.

On examination, recent weight loss was apparent. There were crepitations in the lungs; chest x-ray was normal; sputum was negative for acid fast bacilli; blood pressure was 100/70 mm Hg; there was a slight fever; the white cell count was 12,500/mm<sup>3</sup> with 80% neutrophils, 17% lymphocytes and 3% eosinophils; albumin and total protein were normal. Stool examination found *Strongyloides stercoralis* larvae, and eggs of *Opisthorchis viverrini*, *Taenia* species, Echinostome species, hook-worms, *Trichuris trichiura*, and *M. laryngeus*. Examination of sputum specimens expectorated after a severe bout of coughing showed many copulating worms producing a characteristic shape. Ninety-six worms were observed between 11-14 September 1991. He recovered completely after

treatment with mebendazole (200 mg/day) for 10 days consecutively and was discharged after 12 days after hospitalization.

Fig 1 shows the Y-shaped paired worms in normal saline solution. The male worm is smaller than the female and the two are permanently joined in copula. The worm was identified as *M. (Syngamus) laryngeus*.

This diagnosis was confirmed by microscopic examination. Ten paired worms were fixed with 70% alcohol. Following fixation, the female worms were  $15.27 \pm 0.06$  mm long and  $0.67 \pm 0.06$  mm wide (n = 10). The mouth is wide, the buccal capsule is thick and cup-shaped with eight subequal teeth at the bottom. It is provided with a thick muscular wall down to its junction with the esophagus. Immediately around the oral opening there is a thick cuticular ring surrounded by three pairs of petal-like lips. In the notch between each two lips there is a minute papilla. The vulva is situated a short distance in front of the middle plane of the body.



Fig 1—Male and female joined in their characteristic manner.  $\times 4$ .

At the posterior end about  $0.45 \pm 0.06$  mm ( $n = 10$ ) is sharply tapering and pointed.

The male measured  $4.97 \pm 0.41$  mm in length and  $0.42 \pm 0.06$  mm in width ( $n = 10$ ); the buccal capsule was similar to that of the female. The bursa and rays were short. Spicules were not present.

Eggs were identified from the sputum and feces. In sputum or stool held for 24 hours, segmented oval eggs were found (Fig 2), measuring an average  $75.86 \pm 3.88 \times 46.31 \pm 3.43$   $\mu$ m ( $n = 72$ ).

Eggs held in distilled water at room temperature ( $28^\circ\text{C}$ ) developed to a first stage larva by the seventh day, and a motile larva by the tenth day (Fig 3). These larvae did not emerge from the shell when held for seven additional days.

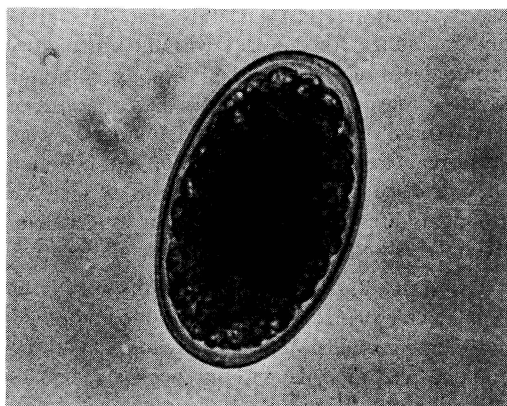


Fig 2—Egg of *M. laryngeus*. Unsegmented, recovered from the sputum.  $\times 200$ .

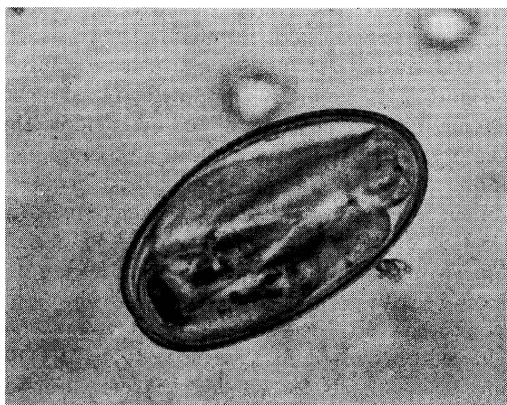


Fig 3—Embryonated egg of *M. laryngeus* from stool culture.  $\times 200$ .

Beaver *et al* (1984) reviewed more than 78 reported cases of human infection, mostly from tropical America. Fifty-one were reported from Martinique or from France in people who had been in Martinique. Others were reported from Puerto Rico, Dominica, St. Lucia, Trinidad, Guyana, Brazil and the Philippines. To our knowledge, this report is the first case of a human diagnosed with *M. (S.) laryngeus* in Thailand. The present case may have acquired the infection in Malaysia. Human mammonogamosis (syngamosis) may be difficult to diagnose even when the organism is producing symptoms, and most reports have highlighted the unexpected manner in which the diagnosis was made. The clinical presentation of this case also agrees with previous reports (Grell *et al*, 1978; Birrel *et al*, 1978). Previously treatment of *Mammonogamus* infection was with thiabendazole (Grell *et al*, 1978), whereas in the present case mebendazole was successful.

This case report is intended to alert doctors dealing with people from Thailand and nearby countries to consider and exclude this unusual parasite when presented with respiratory problems defying more conventional diagnosis.

## REFERENCES

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