

RESEARCH NOTES

TETRAPETALONEMA (SANDNEMA) *DIGITATA* (CHANDLER, 1929) CHABAUD & BAIN, 1976, INFECTION IN THE BANDED LEAF MONKEY, *PRESBYTIS MELALOPHOS* (RAFFLES) IN PENINSULAR MALAYSIA

Several species of filarioids are known from Malaysian primates (Institute for Medical Research, Bull. No. 19, 1983). Recently Mak *et al.*, (1980, *Southeast Asian J. Trop. Med. Pub. Hlth.*, 11 : 141) reported *Tetrapetalonema* (*Sandnema*) *digitata* (= *Dipetalonema digitatum*) in a new host the Dusky Leaf Monkey, *Presbytis obscura* from Kuala Berang in the state of Trengganu. This was the first record of the parasite from Malaysia. Here we report the finding of *Tetrapetalonema digitata* in an additional host, the Banded Leaf Monkey, *Presbytis melalophos*.

A survey was carried out by the Division of Medical Ecology in Kuala Berang, Ulu Trengganu to study the blood and endoparasites of animals. Out of a total of 89 animals captured 15 were monkeys, namely, 13 Dusky Leaf Monkeys, *P. obscura* and 2 Banded Leaf Monkeys, *P. melalophos*.

In the present study one of the adult Banded Leaf Monkeys, *P. melalophos* harboured one male and two female worms while the other harboured one male adult worm of *Tetrapetalonema* (*S.*) *digitata* in the peritoneal cavity. The present finding of adults of *T. (S.) digitata* represents a new host of the parasite in Malaysia.

The male worms measured 90.5 (87-97) mm in length and 240 (225-255) mm in width. The nerve ring was 336 (312-351) μ m from

the anterior end and the oesophagus was 850.5 (540-1161) μ m in length. The left and right spicules were 230 (218-241) μ m and 84 (83-85) μ m in length respectively. The tail was 98.5 μ m in length. The adult females measured 189.3 (183-200) mm in length and 360 mm in width. The nerve ring was 318 (312-328) μ m and the vulva opening was 1200 (930-1470) μ m from the anterior end. The oesophagus was 1,326 μ m long. The tail was 56 (477-621) μ m in length.

Previously, *D. digitatum* was reported in primates, namely from *Hylobates hooklock* from India (Chandler, 1929, *Proc. U.S. Nat. Mus.*, 75 : 1), *H. leucogonys* from Indochina (Sandground, 1933, *Z. Parasitenk.*, 5 : 401), *H. lar entelloides* from Thailand (Sandground, 1938, *Bull. Mus. Comp. Zool. Harv.*, 85 : 49) and *Macaca speciosa* from India (Weber and Hawking, 1955, *Parasit.*, 45 : 401).

Recently, Chabaud and Bain (1976, *Ann. Parasitologie*, 511 : 365) in their revisionary work on the genus *Dipetalonema* have included *Dipetalonema digitatum* under *Tetrapetalonema* (*Sandnema*) on the basis of some morphological characters of the oesophagus and the position and arrangement of the papillae.

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TRICHOSTRONGYLUS INFECTION IN A THAI BOY

During the follow-up programme of treatment of soil-transmitted infections in children at the Paediatric Department, Hospital of Tropical Diseases, Bangkok, eggs resembling those of hookworms were found. They were however larger and narrower in shape and some with pointed ends. To study the morphological characteristic of the eggs, the clinical and parasitology findings of the case were followed up.

The patient was a 10-year-old Thai boy, native of Phitsanulok province North, Thailand. He lived all his life in the Phitsanulok until he was taken to the Rehabilitation Home for Children (Ban PakKred), Pak Kred, Nonthaburi province, Thailand. On October 28, 1983 he was seen at the hospital.

At the time of admission the boy appeared healthy without fever, BP 100/60 mm Hg, body weight 28 kg. Urine examination, CBC and blood chemistry were normal, except alkaline phosphatase was above normal value. Stool examination by direct smear for 3 days were positive for *E. histolytica* cyst, hookworm, *Trichuris trichiura* and *Strongyloides stercoralis*. Egg count by the Katz's modified thick smear technique (Katz *et al.*, 1972) were 22, 287 EPG (egg per gram) for hookworm (considered heavy) and 583 EPG for *T. trichiura* (considered a light infection) and a few eggs of the suspected *Trichostrongylus* were also found.

The patient's stools were re-examined thrice a week, for 2 months by the floatation technique. The eggs resembling those hookworms were longer, larger, also showed advanced segmentation. One end was rounded and the other slightly pointed. The size measured 85-105 microns in length and 37-41 microns in width which was clearly visible under the low-power microscope (Fig. 1.). It was concluded that they were *Trichostrongylus* eggs.

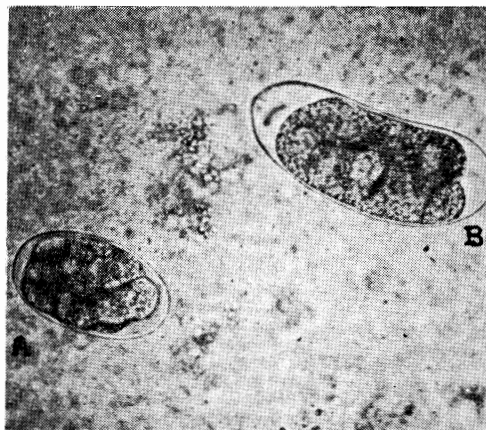


Fig. 1—Comparison of hookworm egg (A) and *Trichostrongylus* egg (B) $\times 200$.

The cultivation of the eggs by Harada-Mori technique was done but only larvae of *S. stercoralis* and *Necator americanus* were found. On collection of *S. stercoralis* larvae, one larva with a typical bead-like swelling at the tip of the tail resembled *Trichostrongylus* sp. larvae (Fig. 2).

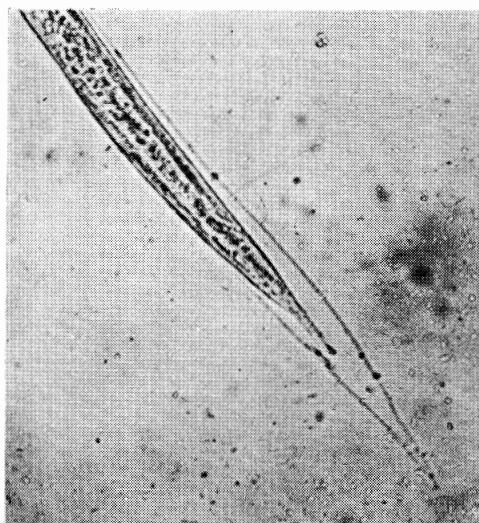


Fig. 2—*Trichostrongylus* larva, with a typical bead-like swelling at the tip. $\times 200$.

On December 26, 1983, pyrantel pamoate (Combantrin) 300 mg was given to the boy and the stool examined for adult of *Trichostrongylus* sp. by the sedimentation technique but only adults of *N. americanus* and *S. stercoralis* were found. The stools were negative for eggs, and the boy was discharged on January 13, 1984.

Although adult *Trichostrongylus* sp. were not obtained, the boy was considered to be infected with *Trichostrongylus*. The eggs are in agreement with the description of *Trichostrongylus* sp. (Fig. 1), the larva tail terminated in a minute knob (Fig. 2), patient responded to treatment with pyrantel pamoate. Trichostrongyliasis is considered a

zoonotic helminthiasis and *T. colubriformis* is mainly a zoonotic species (Ghadirian *et. al.*, 1975. *Amer. J. Trop. Med. Hyg.*, 24 : 935; Lie Kian Joe, 1947. *J. Parasit.*, 33 : 359). In Thailand, *T. colubriformis* has been reported from sheep and cattle in north and northeast Thailand (Sukhapesna, 1981. *Thai. J. Vet. Med.*, 11 : 248). This boy was a native of Phitsanulok which is in northern part of Thailand; it is probable that he acquired *Trichostrongylus colubriformis* infestation.

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