RESEARCH COMMUNICATION

Sparganosis in non-human primates

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ABSTRACT

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Over a period of 15 years, the larval stages of Diphyllobothriid tapeworms of the genus *Spirometra* were found during routine necropsy in four of 3 007 non-human primates at the Institute of Primate Research (IPR).

Keywords: Diphyllobothriid, non-human primates, sparganosis, *Spirometra*

The spargana were recovered from two vervets (*Cercopithecus aethiops*), one olive baboon (*Papio anubis anubis*), and one Highland syke (*Cercopithecus mitis albortorquas*). The animals were in good physical condition and, upon opening the abdominal cavities, numerous unattached white and soft, ribbon-like, motile tape-worm larvae were found (Fig. 1). Many were lying on the mesentery and on most of the abdominal organs, and some were found unattached on the abdominal muscles and subcutaneous tissues.

While the syke and the two vervets had died of pneumonia, and the latter also had mild focal pleuritis, the baboon was an experimental sacrifice with no other gross lesions.

Although sparganosis may be asymptomatic, the following have been associated with infection in monkeys: elephantiasis, eosinophilia and local inflammatory response (Muller 1938; 1990).

The spargana were identified on the strength of the characteristic deep invaginating cleft found on the anterior aspect (Fig. 2), their size and location, and the absence of suckers and hooklets, which will usually differentiate spargana from cysticerci and coenuri (Muller 1938).

The only way to make a definitive identification is to recover adult worms from kittens or other suitable hosts fed live larvae. Only *Spirometra mansoides* has been identified in this way previously (Muller 1974). Sparganosis has been reported in East African monkeys, vervets and baboons (Kuntz & Myers 1970), vervets (Morton 1969), and sykes (Nelson, Pester & Rickman 1965).

While the hyena has been implicated as the main definitive host of Diphyllobothriid species in the Maasai area of Kenya (Nelson *et al.* 1965), other carnivores like the bat-eared fox, lion, leopard, wild cat and the serval have also been shown to be definitive hosts in Africa (Nelson *et al.* 1965).

The sparganum from the African baboon is found also in man, and has a deeply invaginated scolex forming a veritable well at the anterior end of the worm (Nelson *et al.* 1965), quite unlike the shallow dimple seen in other species (Kuntz & Myers 1970). Kuntz & Myers (1970) were the first to recover invasive or "proliferative" types of spargana from East African vervet monkeys.

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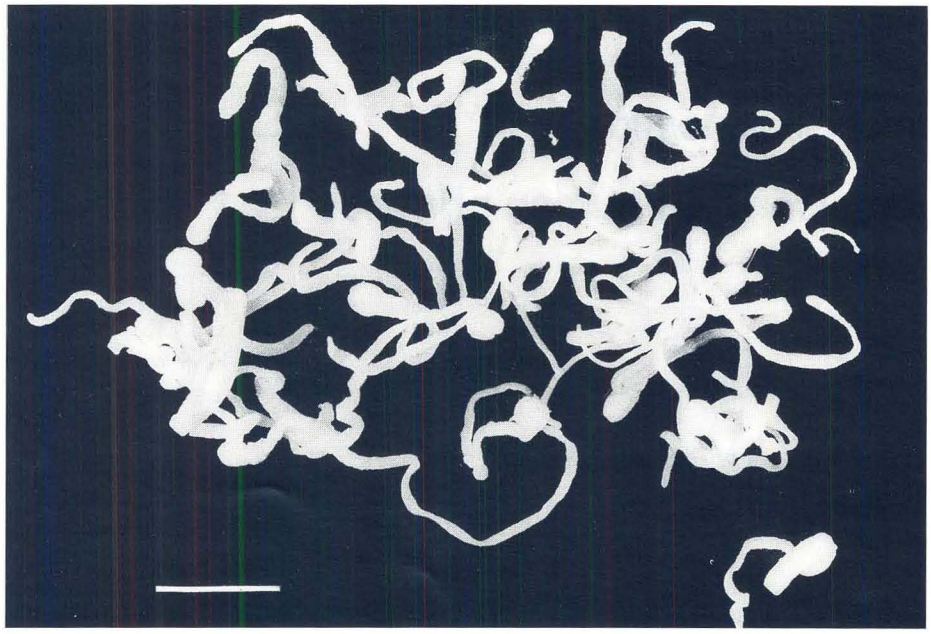

FIG. 1 A number of sparganum larvae retrieved from one of the vervet monkeys

Scale: Bar = 4 cm

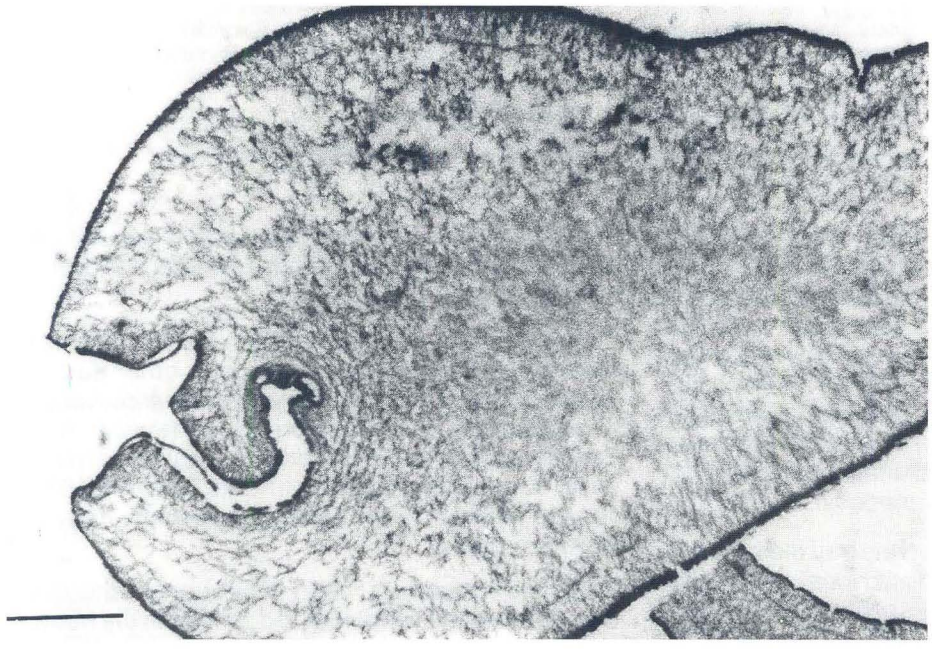

FIG. 2 A cross-section of the scolex of a larva, exposing the cleft

Scale: Bar = 0,3 m

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