Thesis Title : A study on the Zoonotic-transmission of Brugia malayi (Lichtenstein, 1927) in Southern Thailand

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ABSTRACT

In the attempt to find the most suitable blood film staining technique for use in the field in differentiating the microfilariae, it was found that microfilariae of Brugia malayi and B. pahangi showed similar morphological characters when stained with Giemsa by normal rountine method. However, when special method for staining "Innenkorper" or "Inner body" with Giemsa was used, differentiation could be made by the difference in length of the structure between the two species. Similar result was obtained when staining with Haematoxylin and Eosin, but

the method was more time-consuming and thus was less practical for use in the field. The histochemical staining technique for the somatic distribution of microfilarial acid phosphatase activity which was claimed to be another taxonomic tool by many investigators was also tried, but the results failed to show the uniqueness of the characteristic pattern of the enzyme activity in microfilariae of each species.

Since the adults of a filarial parasite derived from a naturally infected domestic cat from Suratthani Province were identified as B. malayi in 1987, it was suspected that domestic cats could be a reservoir host of Brugian filariasis. This research was therefore aimed to find out whether the vectors of B. malayi were capable of transmitting the disease between human and cats by identifying the blood meal of the mosquitoes in the endemic areas. The studies were made in 4 villages of Ronpiboon District, Nakornsrithammarat Province and 5 villages of Su-ngai-padi District, Narathiwat Province in which cats were also found to harbour the parasite. It was shown that the vectors of B. malayi in the endemic areas bit both human and cats. This indicated that domestic cats could be the reservoir host of the parasite and capable of transmitting the disease via the mosquito vectors.