

Survey for Bancroftian Filariasis in Kanchanaburi Province

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OBJECTIVE: To determine the incidence of microfilaremia among villagers within Sangkhlaburi district, Kanchanaburi Province, and to assess the potential of this area for more detailed studies of bancroftian filariasis.

BACKGROUND: Harinasuta, et. al.⁽¹⁾ examined blood films from 1,549 people from 10 villages along the river Kwae Noi in Kanchanaburi province. Approximately 13% of these were positive for microfilariae. In addition, they found various larval stages of *Wuchereria bancrofti* in 2 species of *Aedes* and 3 species of *Anopheles* mosquitoes; however, third stage larvae were found only in mosquitoes of the *Aedes* (*F.*) *niveus* group. This group of mosquitoes is in a state of taxonomic confusion, and it is suspected that as many as 5 species may presently be identified as *Aedes niveus*. Thus, the identity of the vector of bancroftian filariasis in this area is in doubt.

Table 1. Mosquitoes Collected in Sangkhlaburi District, Kanchanaburi Province—November 1973

Species	Biting man inside houses	No. Collected
<i>Aedes</i> (<i>S.</i>) <i>albopictus</i>		2
<i>Mansonia</i> (<i>Mn.</i>) <i>dives</i>		3
	Resting inside houses	
<i>Aedes</i> (<i>S.</i>) <i>aegypti</i>		2
<i>Armigeres</i> (<i>Armi.</i>) <i>subalbatus</i>		2
<i>Armigeres</i> (<i>Lices</i>) <i>magnus</i>		1
<i>Culex</i> (<i>C.</i>) <i>pipiens quinquefasciatus</i>		3
<i>Culex</i> (<i>C.</i>) <i>vishnui complex</i>		1
<i>Culex</i> (<i>Culicio</i>) <i>pallidothorax</i>		1
<i>Heiz</i> sp.		8
	Biting man outside houses	
<i>Anopheles</i> (<i>An.</i>) <i>barbirostris</i>		3
<i>Anopheles</i> (<i>C.</i>) <i>maculatus</i>		1
<i>Anopheles</i> (<i>C.</i>) <i>philippinensis</i>		1
<i>Aedes</i> (<i>S.</i>) <i>albopictus</i>		28
<i>Aedes</i> (<i>S.</i>) <i>annandalei</i>		2
<i>Aedes</i> (<i>S.</i>) <i>desmotes</i>		2
<i>Aedes</i> (<i>S.</i>) <i>gardnerii imitator</i>		6
<i>Aedes</i> (<i>F.</i>) <i>niveus group</i>		1
<i>Armigeres</i> (<i>Armi</i>) <i>subalbatus</i>		1
<i>Culex</i> (<i>C.</i>) <i>vishnui complex</i>		4
<i>Culex</i> (<i>C.</i>) <i>whitmorei</i>		5
<i>Mansonia</i> (<i>Mn</i>) <i>dives</i>		60
		<hr style="width: 100%; border: 0.5px solid black;"/> 137

Table 2. Results of Blood Film Examinations for Microfilariae, (MF) in 7 Villages of Sangkhlaburi District, Kanchanaburi Province—December 1973 and March 1974

Village	Males			Females			Both Sexes		
	No. Exam.	No. MF—pos	Per cent Pos	No. Exam.	No. MF—Pos	Per cent Pos	No. Exam.	No. MF—Pos	Per cent Pos
Ku Phadu	30	9	30	39	4	10	69	13	19
Lawa	21	1	5	22	1	5	43	2	5
Ni—thae	93	0	0	131	1	0.8	224	1	0.4
Nong Pa Dong	18	3	17	10	1	10	28	4	14
Kui Yatho	24	6	25	30	5	17	54	11	20
Via Ka Dee	13	3	23	12	3	25	25	6	24
Koeng Chada	15	2	13	11	0	0	26	2	8
Totals	214	24	11	255	15	6	469	39	8

DESCRIPTION: Three site visits were made to the Sangkhlaburi district during this reporting period. On the first visit in November 1973 the principal objective was to collect mosquitoes of the *Aedes (F.) niveus* group for taxonomic study. On the second and third visits, in December 1973 and March 1974, respectively, blood films were taken to determine the prevalence of microfilaremia in inhabitants of several villages located along the Kwae Noi river.

PROGRESS: From 9—15 November 1973 adult mosquitoes were collected while biting man, both inside and outside houses, as well as resting inside houses (Table 1). Only one adult specimen belonging to the *Aedes (F.) niveus* group was collected. These collections were made in the dry season when the populations of these mosquitoes were probably at their lowest levels. Harinasuta and his co-workers collected only 5 specimens of *Mansonia*, all of which were *M. uniformis*, in Sangkhlaburi district over a 13 month period. No *M. uniformis* were collected in November 1973; however, *M. dives* was the most common species collected biting man, with 63 of the 137 adults collected belonging to this species. Various members of the genus *Mansonia* are considered important vectors of bancroftian filariasis in Southeast Asia and other parts of the world, and it is possible that *M. dives* is involved in transmission of filariasis in Sangkhlaburi district as well. All of the adult specimens listed in Table 1 were dissected for filarial parasites but were found negative.

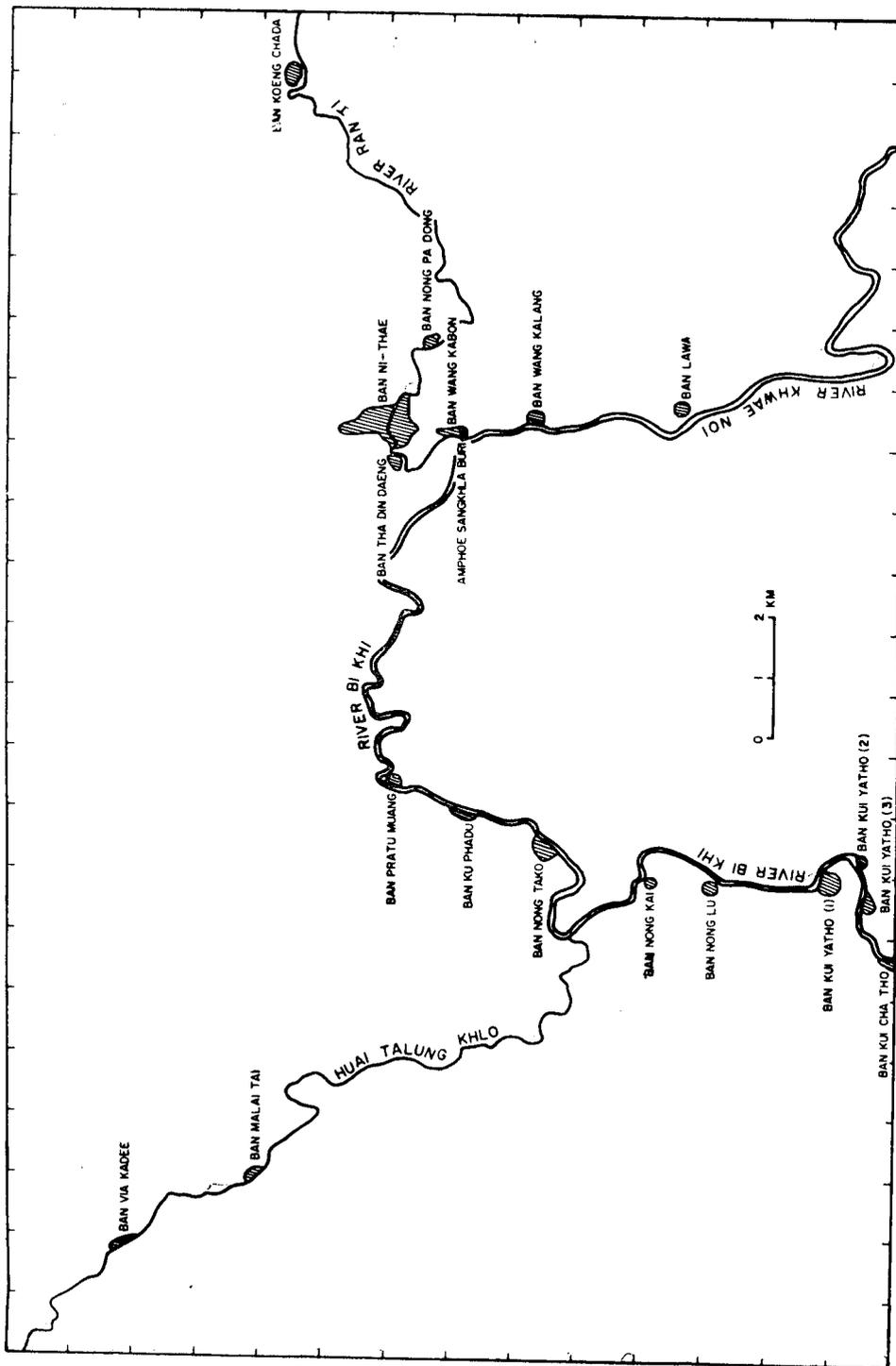


FIGURE 1. MAP SHOWING THE DISTRIBUTION OF VILLAGES ALONG THE RIVER KHWAË NOI AND SOME OF ITS TRIBUTARIES, SANGKHLABURI DISTRICT, KANCHANABURI PROVINCE.

Results of blood—film examinations for microfilariae taken from seven villages within the Sangkhlaburi district are shown in Table 2. Of the 460 slides examined, 39 (8%) of the total number examined were positive for *Wuchereria bancrofti*. The incidence of microfilaremia ranged from 0.4% for Ni—thae village to 24% for Via Ka Dee (Fig. 1). The youngest person found to have circulating microfilariae was an 18 year old female from Ni—thae; however, in Ni—thae over 50% of the sample population were less than 15 years of age, whereas, all persons sampled in the other villages were older than 15 years. Eleven percent of the blood films from males were positive whereas only 6% of the slides from females had microfilariae.

REFERENCES:

1. Harinasuta, C. et al.: Southeast Asian J. Trop. Med. Pub. Hlth 1: 233—245, 1970.