

## STUDY REPORTS

2. Title : Plague Study

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Objective To continue surveillance for plague in Thailand and investigate factors in the ecology of plague which may affect the disease potential in selected areas of Thailand.

Background Plague has not been reported from Thailand since 1952. However, human plague has increased significantly in Viet Nam with many official reports of plague occurring in Indonesia and Burma. Several unofficial reports have also indicated that plague is present in both Cambodia and Laos. A surveillance program has been established to:

1. Carry out periodic examination of wild and domestic rodents and their parasites for evidence of plague infection in border areas where there is heavy traffic into Thailand.
2. Define ecologic areas that would be capable of supporting and/or maintaining enzootic plague.
3. Establish insecticide susceptibility of rodent fleas in these areas.
4. Establish ecologic data on wild rodents and their ectoparasites.

Progress Field trips to Chanthaburi and Trat Province were carried out during the month of March 1968 in two selected areas within several kilometers of the Cambodian border. Table one is a list of animal species and their ectoparasites collected in these areas.

The 4379 ectoparasites obtained from these animals are currently being identified. Blood was collected from 173 of these animals and the sera examined for evidence of plague antibody by the haemagglutination test. All sera were devoid of plague antibody.

Spleen and brain tissue were removed from all animals, pooled, triturated and immediately inoculated into 4 laboratory mice for isolation of Scrub and Murine typhus. A total of 36 pools were inoculated with 3 rickettsial isolations. Two scrub typhus isolations were obtained from tissue pools of R. exulans collected from houses of one village and 1 as yet unidentified isolation from a tissue pool of free living R. rattus near this same village.

The small numbers of fleas collected precluded any insecticide resistance testing.

Examination of ectoparasites for rickettsial isolations are currently in progress.

Table 1. Animals and Ectoparasites Collected from Chanthaburi and Trat Provinces (Mar 68)

Trat Province	Number collected	Mites	Number of Ecto parasites			
			Fleas	Chiggers	Ticks	Lice
Host: <u>R. exulans</u>	11	—	13	—	—	—
<u>R. rattus</u>	25	366	6	137	3	12
<u>R. berdmorei</u>	4	44	—	—	—	—
<u>T. glis</u>	1	—	—	—	—	—
<u>R. niviventer</u>	1	14	1	—	—	—
<u>R. losea</u>	1	27	5	—	2	2
TOTAL	44	451	25	137	5	14
Chanthaburi Province						
Host: <u>R. exulans</u>	129	—	8	—	4	8
<u>R. rattus</u>	55	395	10	1661	—	7
<u>R. rajah</u>	18	1547	4	7	1	—
<u>R. berdmorei</u>	3	3	31	—	4	—
<u>T. glis</u>	10	—	18	—	2	—
<u>M. berdnorei</u>	10	5	31	—	—	1
TOTAL	225	1950	102	1668	11	16
GRAND TOTAL	269	2401	127	1805	16	30