

An Epizootic of **Canine Ehrlichiosis** (Tropical Canine Pancytopenia)
in Thailand

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OBJECTIVE :

To study the epizootiology of Canine Ehrlichiosis (TCP) in a population of military working dogs, and to evaluate the efficacy of currently recommended prophylactic and therapeutic measures in a natural outbreak.

BACKGROUND :

Canine ehrlichiosis was first suspected in Thailand in March 1974 among a group of 7 German Shepherd dogs working at Lopburi, Thailand. The methods used to confirm this tentative diagnosis and the control measures instituted thereafter at the Military Working Dog Center, (MWDC) Pakchong, Thailand from June 1974 through March 1975 have been previously described (1, 2). This report consists of a continuation of those studies plus the extension of the serologic testing to include some of the Royal Thai Army (RTA) and Royal Thai Air Force (RTAF) installations in the provinces where most of the older, trained dogs actually work.

DESCRIPTION :

The population of working dogs at the MWDC has increased from an average of 175 dogs, during the period June 1974 - March 1975, to 262 dogs in March 1976. This number includes only those dogs actually present at the MWDC at this time and over six months old. As of March 1976 we have identified and serologically tested for ehrlichiosis, at least once, 514 dogs. This increase (from 301 in March 1975) is partially due to the increase in the numbers of dogs reaching six months of age at the MWDC and partially due to testing at RTA and RTAF installations in some of the more remote provinces.

It has not proved to be practical to attempt to regard the dogs at the MWDC and the dogs at remote installations as populations since almost all of the dogs come from the MWDC originally and return there periodically. To date, however, almost all of the control measures have been centered at the MWDC although many serologically positive dogs have been treated upcountry and tick control recommendations were made at all installations that were visited.

In September 1975, RTA and RTAF installations in Lopburi, Chieng Kam, Phisanuloke, Chieng Mai, Nan, Chieng Rai, Takhli, Lopburi, Nakorn Pathom, Prachuab, Nakorn Srithamraj, Hat Yai, and Don Muang (Figure 1) were visited and 120 dogs were bled.

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Dogs were bled at the MWDC on June 4-5 1975, July 18, 1975, September 10-11, 1975, October 6, 1975 and on March 29-30 1976. The results of this serologic testing are shown in Table 1 which also includes all testing done upcountry in September 1975. Unfortunately due to problems with antigen production at WRAIR and the University of Illinois, the results for the July, September and October serology were received in March 1976.

All dogs found to be serologically positive were treated with tetracycline (30 mgm/lb/day for 14 days). Dogs entering the MWDC for any reason were quarantined for 14 days, dipped for ticks four times and given 3 mgm tetracycline/lb/day for 14 days. Recommendations for tick control were made at all installations that were visited. Prophylactic tetracycline (3 mgm/lb/day) was not given to any dogs (except for those in quarantine) this year. All other control measures that had been instituted at the MWDC (2) were continued.

PROGRESS :

As of 31 March 1976, 514 dogs have been tested serologically at least once. There are currently 87 dogs that were positive on their last test (which was, in some cases, two years ago) for a positive percentage of 17% overall. This is the lowest positive percentage since the initiation of testing in June 1974 (Table 1). There were 241 dogs tested at the MWDC in March 1976 and of these there were 23 positives (9.5%). There were 10 serologic conversions to positive at the MWDC between September 1975 and March 1976. Four of these were old positives that had had one negative test at the 1:10 dilution.

From March 1975 through March 1976 there was one case of ehrlichiosis seen at the MWDC Veterinary Hospital. On March 1, Kerchief, tattoo number 5217, a 2 year old female German Shepherd, was returned from upcountry to the hospital with epistaxis, anorexia and a temperature of 105.6°. Tetracycline therapy was instituted 1 March 76 on the basis of clinical symptomatology. She was serologically positive when bled on 29 March. No other cases were clinically diagnosed and serologically confirmed during this period.

During June 1975, 10 dogs in the breeding section converted to positive and a recommendation to treat all of the 16 serologically positive dogs was made. In September 1975 there were 2 more new positives in the breeding section and in March 1976 there were 2 more. All of these were treated.

DISCUSSION :

The report in the 1975 SMRL Annual Report (2) stated that prophylactic tetracycline was being given to all dogs except the young adults at the MWDC. This was a misunderstanding between personnel at SMRL and those at the MWDC. Actually tetracycline prophylaxis was administered in June, and August 1974 and in January, February and March 1975 and has not been used since.

Due to budgetary limitations it was not possible to administer prophylactic tetracycline to any dogs this year. During the same period heavy demands for dogs were made from the field resulting in some dogs going out to work at one year rather than 16 months as in the past.

Despite problems with test results, non-availability of drugs, rapid turnover and frequent movement of dogs the number of obvious clinical cases of ehrlichiosis and the percentage of dogs found to be positive continued to decline indicating that application of the recommended control measures will control the disease even when they are used under somewhat less than perfect conditions.

REFERENCES :

1. Davidson, D.E., Dill, G.S., Tingpalapong, M., Premabutra, S., Nguen, P.L., Stephenson E.H., and Ristic, M.: Canine Ehrlichiosis (Tropical Canine Pancytopenia) In Thailand. S.E.A.J.T.M. and P.H. 6 # 4: 540-543, 1975.
2. Davidson, D.E., Dill, G.S., Tingpalapong, M., Premabutra, S., Nguen, P.L., Ristic, M., and Stephenson, E.H.: An Epizootic of Tropical Canine Pancytopenia in Thailand. SEATO Medical Research Laboratory Annual Report 1975.

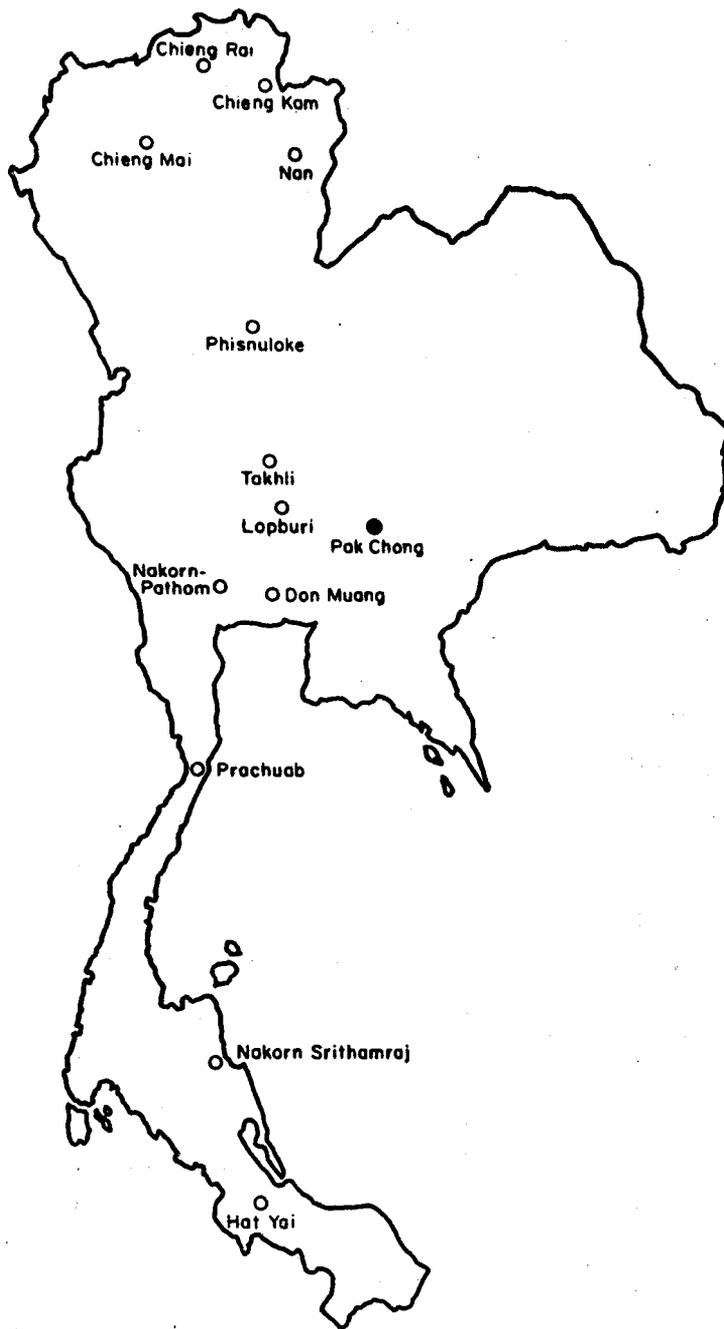


Figure 1. Thai Military Installations Where Dogs Were Tested for Canine Ehrlichiosis

Table 1. Results of Serologic Studies at Pakchong - June 1974 to July 1975

Date	Cumulative Number of Dogs Studied (a)	Serologically Positive Dogs			Serologically Negative Dogs			Cumulative Known Positive Dogs (a)	Cumulative Known Negative Dogs (a)	Percent Positive
		Converted To Positive	Added To Study	Total New Positive	Converted To Negative	Added To Study	Total New Negative			
4 Jun 74	176	—	86	86	—	90	90	86	90	49%
25 Jul 74	200	30	17	47	8	13	21	120	80	60%
Sep - Oct 74	242	13	12	25	6	33	39	136	106	56%
Dec 74 - Jan 75	294	3	2	5	45	53	98	93	201	32%
Mar - Apr 75	308	1	2	3	24	17	41	69	240	22%
Jun - Jul 75	345	10	2	12	9	36	45	72	273	21%
(a) Dogs which have died and dogs which were no longer under control of the Center are excluded.										
Sep - Oct 75	446	28*	13	41	27	73	100	94	352	27%
March	514	10	0	10	15	63	78	87	427	17%

* 19 at Pakchong, 9 up-country.