

BODY OF REPORT

SEATO Medic Study No. 24 Studies on Opisthorchis viverrini in Thailand -
Experimental Laboratory Hosts

Project No. 3A 025601 A 811 Military Medical Research Program
S. E. Asia

Task 01: Military Medical Research Program
S. E. Asia

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SEASIA (Thailand)

Reporting Installation: US Army-SEATO Medical Research Laboratory
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 Division of Medical Research Laboratories

 Department of Medical Zoology

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Objective: This study was initiated to determine which animals act as natural definitive hosts, or which could be successfully used as experimental definitive hosts.

Description: Various animals have been fed graded numbers of Opisthorchis and Paragonimus metacercariae, and fish have been examined for metacercariae of O. viverrini.

Progress: During the past year 5 rats, 16 tree shrews and 53 hogs were examined for parasites (Table 1). Eleven cats were infected with 200 metacercariae each to act as a source of eggs. The same was true for 4 rabbits. Four hamsters were infected with metacercariae which had been refrigerated for varying periods to test the longevity of the metacercariae. Six Macaca monkeys were fed from 200 to 500 cysts of O. viverrini but no adult worms were recovered after from 1 to 5 months. One additional monkey, fed 1200 metacercariae, is still being held but no

Table 1
ANIMAL EXAMINATIONS 1965

Kind	Scientific Name	Locality	Tot. Exam.	With parasites		
				Kind	No.	Percentage
Rat	Bandicota indica	Samsen, Bangkok	5	H. hepatica cyst	1	20.00
				Hymenolepsis	2	40.00
				Round worm	2	40.00
Tree shrew	Tupaia siamensis		16	Tape worm (Skin)	10	62.5
				Strongyloid	6	37.5
Hog	Sus Cristatus	Pitsanuloke	53	-	-	-

Table 2
ANIMALS INFECTED WITH OPISTHORCHIS VIVERRINI

Kind	No.+	No. Meta each	Duration	Results	Remarks
Cats	11	200	more than 2 months	still keep on	egg sources
Rabbits	4	200	more than 2 months	still keep on	egg sources
Hamster	2	50 1+2 day in refrig.	2 months	metacercariae viable	life span of <u>O.v.</u> metacercariae
	2	50 4 day in refrig.	1 1/2 months	still keep on	life span of <u>O.v.</u> metacercariae
Monkey	6	200-500	at graded period	no worms were discovered	<u>O.v.</u> metacercariae Migration study
	1	1200	10 months	still keep on	<u>O.v.</u> metacercariae Migration study

ANIMALS INFECTED WITH PARAGONIMUS

Kinds	No. Infect.	Kind of infection		Duration	Results
		Type	No. meta		
Cats	1	Paragonimus	14	5 months	2 worms discovered
	1	"	8	4 1/2 months	3 worms discovered
	1	"	3	3 months	None
	4	"	17-27	2 months	Continued
Hamster	1	"	5	2 months	None
Monkeys	2	Type A Meta.	600+1000	10 months	Continued
Mongoose	1	Paragonimus	90	2 months	Continued

eggs have been recovered in the stool. Seven cats were fed metacercariae of Paragonimus siamensis n. sp. (see SEATO Study No. 32). They were sacrificed and of these one was negative, one harbored 2 worms and the last harbored 3 worms. One hamster was fed 5 Paragonimus metacercariae, two monkeys and 1 mongoose were fed from 600 to 1000 metacercariae of Paragonimus. The animals have not yet been sacrificed (Table 2).

A total of 10,345 fish were examined of which 1558 (15%) harbored metacercariae of O. viverrini (Table 3).

Summary and Conclusions: Animals infected above will be sacrificed periodically. The study for susceptible experimental hosts for Paragonimus, Schistosoma and Opisthorchis will continue.

Table 3
FISH (CYCLOCHEILETHYS SIAJA) EXAMINATION, THAILAND 1964-1965

Date	No. Examined	Position with <u>O.v. metacercariae</u>	
		No.	Percentage
January 1964	1384	927	67
February 1964	1351	149	11
March 1964	983	98	10
April 1964	1008	111	11
May 1964	795	28	4
June 1964	774	43	6
July 1964	605	21	3
August 1964	719	44	6
September 1964	582	31	5
October 1964	526	48	9
November 1964	313	14	4
December 1964	432	21	5
January 1965	409	11	3
February 1965	464	12	3
Total:	10345	1558	15.06