

SEATO MEDICAL RESEARCH STUDY ON ECTOPARASITES

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Objective To assemble information on the distribution and host-parasite relationships of the ectoparasites of vertebrates in Thailand, especially those of known or suspected importance in transmission of diseases of Public Health importance.

Description Ectoparasites are removed from mammals, birds and other vertebrates collected in connection with various disease studies in Thailand. The ectoparasites are preserved, sorted into major groups and identified at SMRL or submitted to specialists abroad for identification. Aliquots of collections used for inoculations of test animals are given priority in these identifications. Studies on the taxonomy and ecology of the various vertebrate hosts are also conducted.

Progress

Chiggers During the period of this report 6,656 microscope slide mounts of chiggers from 402 collections were prepared and identified. Twelve new species of the genus Leptotrombidium (Trombiculidinus) were collected. Descriptions of six of the above species have been submitted to scientific journals for publication, and descriptions of the others are in preparation. Descriptions of two new species, one belonging, by current definitions, to the genus Cheladonta Lipovsky et al., and the other to the genus Susa Audy & Nadchatram have been described. Because these two species are apparently closely related it has been proposed that the definition of the genus Cheladonta be expanded to include species presently in the genus Susa which would be reduced to subgeneric status. Fifteen additional new records of chiggers from Thailand were also recorded in SMRL collections during this period:

- (1) Rocky Mountain Laboratory, Hamilton, Montana
- (2) Dugway, Utah
- (3) Department of Defense, Washington, D.C.
- (4) Bishop Museum, Honolulu
- (5) Institute for Medical Research, Kuala Lumpur
- (6) Applied Scientific Research Corporation of Thailand
- (7) University of Maryland, Baltimore

Table 1. Species Composition of Collections of Chiggers from Birds Made in Nakhon Si Thammarat, Chanthaburi and Chiang Mai Provinces, Thailand.

Province	Total No. of Chigger Collection	Number of Collections and Species composition					
		<u>L. (L.) scutellare only</u>	<u>L. (L.) scutellare with other spp.</u>		Other species only		
			No. of Coll.	Species	No. of Coll.	Species	
Nakhon Si Thammarat	15	0	0	15	<u>L. (L.) deliense</u> <u>L. (L.) magna</u> <u>Siseca rara</u>		
Chanthaburi	36	0	0	36	<u>T. (C.) macclurei</u> <u>L. (L.) arvina</u> <u>Toritrombicula desipiata</u> <u>Helenicula scanloni</u> <u>Schoutedenichia centralkwangtunga</u> <u>Neoschoengastia longipes</u> <u>Neoschoengastia solitus</u> <u>Neoschoengastia sp.</u> <u>Odontacarus audyi</u> <u>Whartonia maai</u>		
Chiang Mai	177	158	18	1	<u>L. (L.) scutellare</u> <u>L. (L.) deliense</u> <u>L. (L.) elisbergri</u> <u>L. (L.) scanloni</u> <u>L. (L.) sp.</u> <u>Odontacarus audyi</u>		

Hosts Tupaia glis, Menetes berdmorei, Rattus rattus, Homo sapiens.

Family LEPTOSYLLIDAE
Subfamily MESOPSYLLINAE
Genus Acropsylla

4. Acropsylla girshami Traub 1950

Localities Chiang Rai Prov., Mae Chan Dist. (Ban Kien Prao); Nong Khai Prov., Muang Dist. (Ban Tan Chum)

Hosts Rattus rattus, Bandicota indica

Family ISCHNOSYLLINAE
Subfamily THAUMAPSYLLINAE
Genus Thaumapsylla

5. Thaumapsylla briviceps orientis (Smith, 1954)

Localities Chiang Rai Prov., Chiang Sean Dist.; Prachin Buri Prov., Aranyaprathet Dist. (Ban Nong Prue)

Hosts Rousettus leschenaulti

Family CERATOPHYLLIDAE
Subfamily CERATOPHYLLINAE
Genus Macrostylophora

6. Macrostylophora hastatus (Jordan & Rothschild, 1921)

Localities Chiang Mai Prov., Hot Dist. (Ban Bo Kaeo, Huai Mae Sanam), Muang Dist. (Doi Suthep, Huai Kaeo); Nakhon Ratchasima Prov., Pak Chong Dist. (Khao Yai National Park); Nan Prov., Sa Dist. (Ban Pha Hang).

Hosts Tupaia glis, Petaurista petaurista, Hylomys phayrei, Callosciurus erythraeus, Call. finlaysoni, Call. caniceps, Tamlops maccllellandi, Dremomys rufigenys, Menetes berdmorei, Rattus rajah.

7. Paraceras sp.

Locality Chiang Rai Prov., Mae Chan Dist. (Ban Pha Tang).

Host Rattus rattus.

Family PULICIDAE
Subfamily ARCHAEOPSYLLINAE
Genus Ctenocephalides

8. Ctenocephalides felis felis (Bouche, 1835)

Localities Chiang Rai Prov., Mae Chan Dist. (Ban Pha Tang); Nong Khai Prov., Muang Dist. (Ban Tan Chum); Udon Thani Prov.

Hosts Homo sapiens, Lepus siamensis, Canis familiaris, Rattus rattus, R. exulans, Gyps indicus.

9. Ctenocephalides felis orientis (Jordan, 1925)

Localities Chiang Mai Prov., Hot Dist. (Huai Mae Sanam); Ubon Ratchathani Prov., Phibun Mangsahan Dist. (Chong Mek).

Hosts Nycticebus coucang, Lepus siamensis, Rattus berdmorei.

Subfamily PULICINAE
Genus Pulex

10. Pulex irritans Linnaeus, 1758

Locality Chiang Rai Prov., Mae Chan Dist. (Ban Pha Tang).

Host Homo sapiens.

Subfamily XENOPSYLLINAE
Genus Xenopsylla

11. Xenopsylla cheopis (Rothchild, 1903)

Localities All over Thailand.

Hosts Suncus murinus, Rattus rattus, R. norvegicus,
R. exulans, R. berdmorei, Bandicota indica.

Notes Common on R. rattus and R. exulans but very rare on others.

12. Xenopsylla vexabilis ssp.

Localities Nong Khai Prov., Muang Dist. (Ban Tan Chum);

Prachin Buri Prov., Aranyaprathet Dist. (Ban Lao Oi);

Sakhon Nakhon Prov., Muang Dist. (Ban Nong Hian); Udon

Thai Prov., Muang Dist. (Ban Chiang Pin, Ban Kao Noi).

Host Rattus berdmorei.

Summary Fifteen new records of chiggers from Thailand were accumulated during this year, and descriptions of fourteen new species are being prepared for publication. It was observed that 88 per cent of chiggers from collections of birds from Chiang Mai province were Leptotrombidium (L.) scutellare, a vector of scrub typhus in northern latitudes. Twelve species of fleas from Thailand were recorded and a checklist prepared.