

Distribution and Ecology of Ectoparasites of Vertebrates in Southeast Asia

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OBJECTIVE: To assemble information on the systematics, geographic and seasonal distribution and the host-parasite relationships of the ectoparasites of vertebrates in Southeast Asia.

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

PROGRESS:

1) Distribution and Systematics of trombiculid mites. During the period of this report chiggers from many species of hosts collected by the Migratory Animal Pathological Survey (MAPS) were submitted to SMRL for identification. These chiggers were collected from the following provinces:—Chiangmai, Nan, Nakhon Ratchasima, Nakhon Sawan, Petchabun and Pitsanulok. One new species of the genus and subgenus Leptotrombidium was found in the collections from Chiangmai. One additional new record for Thailand (Trombicula (Sasatrombicula) kukongensis Chen & Hsu, 1963) was collected from Hipposideros bicolor in Pak Thong Chai district, Nakhon Ratchasima province.

2) Survey of house-dust mites in Thailand. House-dust mites are one of the most common causative agents of bronchial asthma and allergic rhinitis in Thailand. A study was undertaken to determine which species are actually common or native in house dust. Samples of house-dust were collected (most frequently from edges of mattresses) weighed and examined for mites. A total of 412 collections of house dust mites were made from the following 15 provinces: Ayuthaya, Chanthaburi, Chonburi, Krungthep (Bangkok), Lop Buri, Nakhon Pathom, Nakhon Ratchasima, Ratchaburi, Samut Prakan, Samut Sakhon, Suphan Buri, Surat Thani, Thonburi, Trang and Udon Thani. Mites belonging to 9 known families and 5 unidentified families were found in these collections (Table 1). The largest number of dust samples containing mites were collected from Bangkok and Thonburi. Only single samples of dust were collected in Chanthaburi and Udon Thani and these contained no mites. Dust samples containing the highest concentrations of mites were collected in Thonburi (3665 mites/gm) and Bangkok (3485 mites/gm). Mites belonging to the family Pyroglyphidae were found in 92 of the 95 positive collections and made up the largest part (95.6%) of the collections. Percentages of mites of the family Cheyletidae, Glycyphagidae and Acaridae in these collections were 2.1%, 1.6% and 0.4%, respectively. Mites of other 10 families constituted only minor and perhaps insignificant fractions of the whole population. Four species of Pyroglyphid mites were present in these collections: Dermatophagoides chelidonis, D. farinae, D. pteronyssinus and Malayoglyphus intermedius. Of these four species D. pteronyssinus was the most frequently collected species, and D. farinae the next most commonly encountered.

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Table 1.
Distribution of Dust Mites in Studled Provinces.

Provinces	Family of Dust Mites													
	Bdellidae	Cheyletidae	Raphignathidae	Tarsonemidae	Acaridae	Glycyphagidae	Listrophoridae	Pyroglyphidae	Haplochthoniidae	Family A	Family B	Family C	Unknown D	Unknown E
Ayutthaya					+	+		+						
Chanthaburi														
Chonburi		+						+						
Krungthep	+	+			+	+	+	+	+	+	+	+	+	+
Lop Buri								+						
Nakhon Pathom		+					+	+			+			
Nakhon Ratchasima							+	+						
Ratchaburi								+						
Samut Prakan		+					+	+						
Samut Sakhon								+						
Suphan Buri		+						+						
Surat Thani		+						+						
Thonburi		+	+	+	+	+	+	+						
Trang				+	+	+		+	+					
Udon Thani								+						