

## REPORT ON ZONOTIC DISEASES & ECTOPARASITES DETECTED IN WILD CAUGHT RODENTS IN THAILAND

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The epidemiology of many zoonotic diseases in Southeast-Asia is not well defined. Scrub typhus and leptospirosis are common and medically significant, while other zoonotic diseases such as Spotted Fever group *Rickettsiae* have been identified, but their overall medical significance is unknown. The main objective of the project is to define reservoirs and/or vectors involved in several zoonotic diseases in Thailand. Rodent surveillance was conducted. Traps were set up for 1-3 nights. Captured rodents were euthanized. Chigger-mites, ticks and fleas were removed from captured rodents. Blood and serum samples were collected and animal tissue samples (liver, spleen, kidney and urinary bladder) were dissected out from the animals, and later being examined and detected for any pathogens. From October 2002 to October 2003, 3,292 animals were collected from 18,300 traps set up in 239 trapped-nights covering 47 trap sites (7 residential and 40 urban sites) in 18 provinces of Thailand. Captured animals belonged to 27 species. *Rattus rattus* was the dominant species (1,140), followed by *Rattus exulans* (780) and *Bandicota indica* (710). Almost 30,000 ectoparasites were removed from wild-caught animals. The majority were chigger-mites (98.41%). Fifty-percent belonged to the genus *Leptotrombidium* (scrub typhus vector). Other species included *Schoengastia* spp. and *Blakarrtia* spp. Tick specimens were found on 0.98% and fleas 0.61% of collected animals. There were five species of ticks collected. *Haemaphysalis badicota* was the predominant species caught, followed by *Ixodes glanulatus*, other *Haemaphysalis* spp., *Rhipicephalus* spp., and *Dermacentor* spp. Only 2 species of fleas were collected with *Xenopsylla cheopis* (rat flea) being the predominant flea. Using both the commercial diagnostic kits available and in-house molecular assays, 1,619 wild caught animals were examined and screened for zoonotic diseases. Six zoonotic diseases were detected in 520 animals: Scrub typhus, Murine Typhus, Bartonella, Leptospirosis, Babesiosis, and Trypanosoma. Most were positive for scrub typhus. Other zoonotic diseases still being evaluated *Borrelia*, *Ehrlichia*, Plague, and other *Rickettsiae*.

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