

UNIVERSITI TEKNOLOGI MARA

**PATHOGENIC AND PARASITIC INFESTATION ON
URBAN RODENT AT WET MARKET MERU, KLANG**

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**Project paper submitted in partial fulfillment of the requirements
for the degree of
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Declaration by Student

Project entitled "Pathogenic And Parasitic Infestation On Urban Rodent At Wet Market Meru,Klang" is a presentation of my original research work. Wherever contributions of others are involved, every effort is made indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Tn Hj Mohd Pozi Bin Mohd Tahir as Project Supervisor and Mr Razali Bin Ishak as Co-supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons.)

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ABSTRACT

Pathogenic And Parasitic Infestation On Urban Rodent At Wet Market Meru, Klang

Jamaliah Bt Jalaludin

A cross sectional study of pathogenic and parasitic infestation on urban rodents and their rodent infestation was done in Wet Market at Meru, Klang. Risk assessment was conducted to identify the risk expose to human health. The objective of study is to determine the level of rodent infestation species and their pathogen and parasitic infestation on urban rodents at Wet Market Meru, Klang. All the rodents were trapped using single trap and double storey trap for three weeks duration. Captured rodents were identified, body comb and intestinal dissecting for parasite identification. Body and anal swab was done to identified the pathogen presence. Three species of rodent was found from the study comprise of *R. norvegicus* 22(52.4 %) , *R. rattus diardii* 15(35.7 %) and *Suncus Murinus* 5(11.9 %). Mites 34(81.0%) were the predominant ectoparasite found on three rodent species caught followed by fleas 5(25.0%). 34 (81.0%) rodents were found to be infested with at least one species of ectoparasite. Positive mites was common to both *R.norvegicus* and *R.rattus*. *R.norvegicus* harbor the highest prevalence of mites (95.5 %) than *R.rattus* (80.0 %). Two type of mite species was found on rodent body from *Laelaptidae* family which are *Laelaps nuttali* and *Laelaps echidinus*. Only 5 rats (11.9%) from this study found to be infected with fleas giving an overall flea index=0.25. Prevalence of flea infestation on *R.norvegicus* (9.52%) is higher than *R.rattus diardii* (2.38%) and *Suncus murinus* (0). *Xenopsilla Cheopis* is the only flea identified from all rats captured. Two groups of endoparasites (helminthes) were recovered from both stomach and gastrointestinal track of the sampled rats comprising 4 species of helminthes. Two species of Nematodes group which are *Strongyloides stercoralis*, Hookworms, and two species of Cestode group which are *Hymenolepis diminuta*, *Hymenolepis nana*. *R rattus diardii* greatly infested with both Nematode and Cestode followed by *R. norvegicus* and *Suncus Murinus*. The predominant species of helminthes in this study are *Strongyloides stercoralis*, 29(69.05%). For pathogen infection, 35 (83.33%) rodent captured were infected with at least one bacteria species which are *Escherichia coli* and *Salmonella* sp. High level of rodent infestation and the presence of high pathogen and parasitic infestation showed that there will be high risk to human health either in mean time or in future. It can be conclude that there were significantly difference for ectoparasite (mites) with $p < 0.05$. However, there were no significant difference for pathogen and other parasite with rodent species ($p > 0.05$).

Keywords: Pathogen, ectoparasites, endoparasites, risk assessment