

# ECTOPARASITES OF SMALL MAMMALS IN FOUR LOCALITIES OF WILDLIFE RESERVES IN PENINSULAR MALAYSIA

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**Abstract.** Field surveys of ectoparasites on rodents and scandents were conducted in four localities of wildlife reserves in Peninsular Malaysia from October 2008 to November 2009. A total of 16 animals comprising 5 species of hosts were caught and examined for ectoparasites. The hosts examined were *Maxomys rajah*, *Maxomys whiteheadi*, *Leopoldamys sabanus*, *Lariscus insignis* and *Tupaia glis*. Of these hosts, 9 genera, consisting of 14 species of ectoparasites were extracted. Three species of ticks (Ixodidae), 7 species of mesostigmatid mites (Laelaptidae), 3 species of chiggers (Trombiculidae) and 1 species of listrophorid mites (Listrophoridae) were identified. The infestation rate of ectoparasites observed ranged from 12.5% to 62.5%. Among the ectoparasites found, *Ixodes granulatus* and *Leptotrombidium deliense* are of known medical importance.

**Keywords:** ectoparasites, small mammals, wildlife reserves, Peninsular Malaysia

## INTRODUCTION

Ectoparasites are a diverse and highly adapted group of animals that infest the external body surface of vertebrates (Hanafi-Bojd *et al*, 2007). They are considered a main vector of zoonotic diseases and play an important role in the transmission of a wide variety of diseases. Ticks are notorious vectors of numerous pathogenic organisms, such as protozoa, rickettsiae, bacteria and viruses. These organisms cause serious and life-threatening illnesses in humans and animals (Chul-Min *et al*, 2006). Animals

and their ectoparasites play important roles in distribution of arboviruses, streptococcal infections, choriomeningitis, plague, tularemia, leptospirosis and spirochetosis (Manson and Stanko, 2005). In Peninsular Malaysia, information regarding ectoparasites on small mammals has been studied by the Institute for Medical Research (IMR) (Leong and Marshall, 1968; Mariana *et al*, 1996; Chuulun *et al*, 2005; Mariana *et al*, 2005a,b; Mariana *et al*, 2006a,b; Mariana *et al*, 2007; Mariana *et al*, 2008a,b; Nadchatram, 2008; Mariana *et al*, 2009).

The tropical rainforest of Malaysia is rich in flora and fauna species diversity (Harrisson, 1962; Fleming, 1973). In Peninsular Malaysia, the Department of Wildlife and National Park (DWNP) is the management authority responsible for

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