

Diversity and Conservation status of Mammals in Wang Kelian State Park, Perlis, Malaysia

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ABSTRACT: A series of surveys in Wang Kelian State Park, Perlis were carried out since 2009 to 2011 to document the diversity of mammals. Two sampling stations; 1) the Wang Burma cave trail and 2) the Orchard leading to Tasik Meranti were sampled for small mammals using mist-nets, harp traps, cage traps and were accounted through direct observation. The highlight of this study includes new geographic records for *Rhinolophus chiewkweeae* and *Rousettus leschenaultii* for the state of Perlis. Additionally, there were also 30 new distributional records of mammals in this protected area, increasing the total known mammals of Wang Kelian State Park to 86 species. Although having poorly known mammals such as *R. chiewkweeae* and *Macaca arctoides* in this park, the diversity of mammals in Wang Kelian State Park is still underestimated as the species cumulative curve over time has yet to reach a stationary phase. In conclusion more surveys need to be done especially the northern part of the park near the Malaysia-Thailand border and Tasik Meranti in order to look at possible occurrences of threatened mammals highlighted in this study.

INTRODUCTION

Malaysia, one of the 17 megadiverse countries has a very unique assemblage of mammals. There are 344 species of mammals known to occur in Malaysia which is approximately 6.2% of the total known mammals in the world (IUCN 2012). The abundance of these mammals varies from common to rare and diversity and composition of mammals differs in different habitats across the country. As Malaysia has a smaller land mass but high diversity of mammals, the threat of extinction is very much imminent if no careful management is in place. Twenty one species mammals in Malaysia are currently Endangered or Critically Endangered, and this reflects the threat that many other species of mammals may face in the near future (IUCN 2012). Protected areas serves as reservoir habitats for these mammals, thus a good understanding on the diversity and abundance of mammals in protected areas is crucial for conservation and management purposes.

Wang Kelian State Park situated in northwest Perlis within the Nakawan Range from 06°43.5' N to 100°10.5' E. It is the first protected area to be established in the northern part of Peninsular Malaysia and it forms a trans-frontier protected area with the Thaleban National Park in Satun, Thailand (Muhamad and Abang 2011). Beside this, Wang Kelian State Park also has its ecotourism attractions such as the Wang Burma Cave I and II and a marked trail that leads to Gunung Perlis. Perlis being the most northern state in Peninsular Malaysia, has several unique mammals such as *Macaca arctoides*, *Bandicota indica* and *B. bengalensis* which are not found in the southern part of this country (Latiff *et al.* 2002). Although *M. arctoides* is common in other regions of mainland South and Southeast Asia, Wang Kelian State Park is the only protected area in Peninsular Malaysia where this species can be found.

Both Bandicoot Rats (*B. indica* and *B. bengalensis*) are introduced species originated from that can be found in the northern region of Peninsular Malaysia. However up to date there are no records of these rodents in Wang Kelian State Park.

Previous surveys back in 1992, 1993 and 2002 indicate that Wang Kelian State Park has a total of 59 species of mammals (Sharma 1992; DWNP 1993; Shukor *et al.* 2002a, b). Given the strategic positioning of this state park and the fact that this area is the only site in Peninsular Malaysia where semi-deciduous forest occurs, it is crucial that ongoing surveys to document biodiversity of the protected area should be carried out. Thus a series of surveys were done as a continuous effort by Universiti Sains Malaysia together with Universiti Kebangsaan Malaysia (since 2002) and Universiti Malaysia Kelantan (recently) to document the total mammalian diversity in this site. The current survey results are an update to the information on mammalian species richness and their conservation status in this protected area.

MATERIALS AND METHODS

Permission to enter at Wang Kelian State Park, Perlis was approved by Forestry Department of Perlis and permission to conduct research on wildlife was approved by the Department of Wildlife and National Parks, Malaysia. The assessment of the diversity of mammals at Wang Kelian State Park, Perlis (Figure 1) was conducted from 2009–2011 for four sampling periods: 1) 27–29 March 2009, 2) 2–4 April 2010, 3) 11–13 March 2011 and 4) 27–3 November 2011. Trapping were carried out at 2 sampling stations; 1) along the trail leading to Wang Burma Cave I and II, and 2) an orchard near Meranti Lake. Mist nets and four-bank harp traps were placed in presumed flyways