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Research Article

Survey on the Small Mammals in Sg. Kangkawat Research Station Imbak Canyon Conservation Areas

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Abstract

Sg. Kangkawat Research Station is a newly established research station in the Imbak Canyon Conservation Area, Sabah which encompasses both primary and secondary forest areas. Limited data is available on the small mammal diversity for this particular area. Therefore, a survey-based study on small mammal diversity was carried out between the 29th September – 8th October 2018 along the established trails within the vicinity areas of this research station. Small mammal trapping was done using traps (mist nets, harp traps, cage traps and pitfall traps) employed randomly along the Nepenthes trail, the Kawang trail, the South Rim trail and the Pelajau trail. This study documented a total of 32 small mammal species i.e. represented by 26 species (15 spp. of new records for ICCA) of volant small mammals (Chiroptera) and 6 species of non-volant small mammals (Rodentia, Scadentia, Insectivora, Carnivora). The total number of specimens recorded was 108. A new distribution record on the Free-tailed Bat, *Chaerephon* cf. *johorensis*, was documented for Sabah and Borneo during this study.

Keywords: Small mammals; Chiroptera; Rodentia; Scandentia; Insectivora; Imbak Canyon Conservation Area; Sabah

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Introduction

The background knowledge about the pattern of mammal species richness and community composition in most parts of Borneo Island is still lacking (Bernard et al, 2013). So far, there are at least 271 known mammal species of Borneo with at least 242 species of mammals occupying various types of terrestrial habitat and 63 species of terrestrial mammals that are endemic species of Borneo (Phillipps & Phillipps, 2018). Mammal surveys are important to document patterns of species richness, diversity and compositions in different sites, together with different forest conditions (Bernard et al, 2013). This vital information will facilitate sound decisions related to biodiversity conservation (Bernard et al, 2013).

Few surveys on mammals have been done in Imbak Canyon Conservation Area (ICCA) covering localised areas such as Mt. Kuli research station (Bunya et al., 2012; Matsubayashi et al., 2011; Ong et al., 2013). Extensive mammals' surveys have been done covering the many areas in ICCA and its surrounding secondary logged forests using camera traps (Bernard et al, 2013). Those studies have contributed to the checklist of mammals in ICCA where 45 species of small mammals were documented (Ong et al., 2013). In this study, small mammals refer to small-sized mammals including volant (bats) and non-volant small mammals. There are at least 182 species of small mammals in Borneo (Order Chiroptera – 99; Order Scandentia – 45 spp.; order Rodentia – 29 spp.; order Insectivora – 1 sp.; order Eulipotyphla – 8 spp.) (Phillipps & Phillipps, 2018) and ICCA has recorded approximately 14% of the Borneon species of small mammals (25 spp. – 11 spp. Chiroptera, 10 spp. Rodentia and 4 spp. Scandentia) (Bunya et al., 2012; Matsubayashi et al., 2011; Bernard et al, 2013; Ong et al., 2013).

A survey on small mammals was carried out in the Sg. Kangkawat research station, ICCA from 29 September to 8 October 2018 covering the base camp area and four main sites in Sg. Kangkawat Research Station: Nepenthes trail, Kawang trail, South Rim trail and Pelajau trail. The forest habitat surrounding Nephentes trail, Kawang trail and South Rim trail are categorized as primary forest and forest areas in Pelajau trail are mainly secondary forest. This study aimed to add the small mammals' inventory data in the ICCA region, specifically to initiate the inventory data in Sg. Kangkawat research station. The assemblages of small mammals in Sg. Kangkawat research station was documented based on four main orders: order Chiroptera, Rodentia, Scandentia, and Insectivora. Data from this study can be used in species monitoring and biodiversity conservation.