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BATS OF MOUNT PENRISSEN, PADAWAN, SARAWAK

Jayaraj Vijaya Kumaran, Faisal Ali Anwarali Khan and M.T. Abdullah

ABSTRACT

We surveyed bats near the Hornbill Golf and Jungle Club Resort in the highland area of Penrissen from 27 to 29 January 2005. We caught 38 individuals of eight species in ten mist-nets and one harp-trap during two trapping nights. These represent new distributional records for Mount Penrissen (Payne et aL, 1998).

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INTRODUCTION

Bat surveys in the highlands of Borneo are scarce or appear as annotated records by some authors (Burhanuddin *et al.*, 1998; Mustafa *et al.*, 1999; Payne *et al.*, 1998; Abdullah *et al.*, 2004; Tuen *et al.*, 2004). All studies agreed that diversity of mammals decreased with increasing elevation. Temperature decreases 5°C for every 1000 m in elevation, resulting in different forest types at higher elevations, influencing resources available to the fauna residing there. Resource availability has been identified as the main factor affecting species-richness and ecological diversity in bat communities at higher elevations (Findley, 1993). Although diversity of faunas at higher elevation is low, montane endemics make the study of such areas interesting. However, the diversity and distribution of bats in the vicinity of Mount Penrissen has not been studied, although Payne *et al.* (1998) recorded two specimens from there.

The main objectives of our reconnaissance were to document the diversity of bats found on Mount Penrissen and to compare it

Fig. 1: Map of sampling site at Mount Penrissen.

with that found in other highland locations. This baseline information will be useful for future studies of other highland biodiversity.

MATERIALS AND METHODS

STUDY AREAS

Mount Penrissen, also called Borneo Heights, is located along Jalan Borneo Heights, Padawan, Sarawak. Our sampling station was near the Hornbill Golf and Jungle Club Resort, about 70 km south of Kuching and about 1000 metres (m) above sea level (a.s.l.) in primary tropical rainforest. This remote mountain hideaway is located between forest-clad plateaus near the Sarawak-Kalimantan border (Fig. 1). The highland climate, with moderate temperatures ranging from 18°C to 28°C adds to the uniqueness of the flora and fauna in the area.

Between 27 and 29 January 2005, we used 10 standard mist nets and a four-bank harp trap to capture bats on two consecutive nights. Mist nets consist of a fine nylon (50 or 70 denier) thread with mesh consisting of 36 mm squares fitted on a string frame that divides the nets into panels (Nagorsen and Peterson, 1980). We erected nets in spots believed to be flight paths, such as small streams, trails, and also near flowering banana trees (Karim *et al.*, 2004). We used a four bank harp-trap to capture microchiroptera because it is more efficient than two or three bank harp-traps, reducing the chance of bats escaping through the strings (Francis, 1989). We placed the harp trap across a small stream near the golf course. We checked the nets every two hours from 1730 hrs until 2030 hrs and closed them at 0630 hrs the following day.

SAMPLE PROCESSING, IDENTIFICATION, AND PRESERVATION

We transferred bats to cloth bags, until they could be weighed using a Pesola spring balance, and measured. Ear length, forearm length, tibia length, hind-foot length, wingspan, head-body length,