

## DIVERSITY OF CHIROPTERANS IN LIMESTONE FOREST AREA, BAU, SARAWAK

MOHD - AZLAN J., NEUCHLOS J. and ABDULLAH, M.T.

*Animal Resource Science and Management Program,  
Faculty of Resource Science and Technology, Universiti Malaysia Sarawak,  
94300 Kota Samarahan, Sarawak.*

### ABSTRACT

A study on understory chiropteran diversity and relative abundance was examined using harp traps and mist nets around Bau Limestone area, Sarawak. A total of 23 species from four families were captured during 20 sampling nights. This represents approximately 24% of the total species recorded in Borneo. A total of 107 and 43 individuals of bats were captured using harp traps and mist nets respectively. The most frequently captured species was *Penthetor lucasi* followed by *Hipposiderous galeritus*, which comprised 25% and 14% of the total capture respectively. Even though the species accumulation curve showed signs of levelling out, additional effort at the sub-canopy and canopy level may yield in higher diversity record.

### ABSTRAK

Kajian ini telah dijalankan memahami kepelbagaian dan kelimpahan relatif Chiroptera dengan menggunakan perangkap harp empat-lapis dengan jaring samar di kawasan batu kapur Bau Sarawak. Sejumlah 23 spesies dan empat famili telah berjaya ditangkap selama 20 malam sampel. Ini mewakili 24% dari keseluruhan kelawar yang telah direkod di Borneo. Sejumlah 107 dan 43 kelawar telah ditangkap menggunakan harp empat lapis dan jarring samar. Spesies yang paling banyak sekali ditangkap ialah *Penthetor lucasi* dan *Hipposideros galeritus* dengan 24.7% dan 14.7% masing-masing dari keseluruhan tangkapan. Lengkungan akumulatif harian telah menunjukkan sampel di kawasan kajian adalah mencukupi, namun penangkapan tambahan di peringkat sub kanopi dan kanopidijangka akan memberikan hasil diversity yang lebih menyeluruh bagi kawasan tersebut.

Key words: Chiropterans, Diversity, Limestone caves,

### INTRODUCTION

Chiropterans represent approximately 44% and 42% of the total mammalian fauna in Borneo and Peninsular Malaysia respectively. (Medway 1983; Payne *et al.*, 1985). It consist of 177 genera, 925 species and this diverse group of mammals is divided into two suborders; Megachiroptera and Microchiroptera (Wilson *et al.*, 1996). Megachiroptera consist of four families, Pteropodidae, Harpyionycterinea, Nyctineninae and Macroglossinae. Megachiroptera or fruit bats feed on fruits, nectar, leaves and flower (Corbet and Hill, 1992). There are 77 species of Microchiropterans had been recorded in Borneo and ten species are new distribution records for

Sarawak (Payne, 1985; Abdullah *et al.*, 1997; Abdullah *et al.* 2000; Abdullah *et al.*, 2003).

Fairy Cave was constituted as a nature reserve in 1992, and it accommodates a high diversity of animal species providing roosting sites for variety of chiropteran species. However this cave is surrounded by degraded forest and cultivated area, which may limit the food distribution of some bat species.

Chiropterans play an important role in regulating tropical rainforest ecosystem (Marshall, 1985; Fujita and Turtle, 1991; Davison and Zubaid, 1992). In view of this, a number of studies have been conducted in Sarawak (Hall, 1996; Abdullah and Hall, 1997; Abdullah *et al.*, 1997; Salleh *et al.*, 1998; Tuen *et al.*, 2000; Hall *et al.*, 2001; Arabi, 2000; Hall *et al.*, 2002; Imelda *et al.*, 2003; Jub *et al.*, 2003; Karim *et al.*, 2004). These studies include the distribution, diversity

\* To whom correspondence should be addressed.