## DIVERSITY OF BATS IN TWO PROTECTED LIMESTONE AREAS IN SARAWAK, MALAYSIA

by

M.R.A. Rahman, Roberta Chaya T. Tingga, Noor Haliza Hasan, Sigit Wiantoro, Anang Setiawan Achmadi, Eileen Lit, Besar Ketol, Huzal Irwan Husin and M.T. Abdullah

## **Abstract**

An assessment of bats diversity from the two limestone protected area of Sarawak, Niah National Park (NP) and Wind Cave Nature Reserve (NR) was conducted from November 2007 until April 2009. The assessments were aimed at updating the current state of bats diversity in relation with previous studies done at limestone areas in Sarawak. Eight to twelve mist nets and three harp traps were used, with accumulated effort of 572 trap-nights for both Niah NP and Wind Cave NR. A total of 1,520 individuals representing 36 species from 17 genera and 10 families were recorded. Penthetor lucasi, Hipposideros cervinus and Cynopterus brachyotis were the three most abundant species captured in both sampling areas. Meanwhile, nine species of bats are new records for both areas. Seven out of nine are new records for the Niah NP; Hipposideros ater, H. bicolor, H. cineraceus, Coelops robinsoni, Rhinolophus trifoliatus, Murina rozendali and Kerivoula hardwickii, while H. ridleyi and Tylonycteris robustula are new records for Wind Cave NR. This present information is crucial for the future management and conservation of cave area by wildlife management agencies in Sarawak.

Keywords: Bats diversity, limestone protected area, Niah National Park, Wind Cave Nature Reserve, new records.

## INTRODUCTION

arawak is the largest state in Malaysia, covering an area about 124,449.5 km² (16.67 %) out of 746,337 km² total area of Borneo (MacKinnon *et al.*, 1996). Limestone forest is one of the nine main forest types documented in Sarawak (Hazebroek and Abang Morshidi, 2000). In Sarawak, the limestone forest covers