

Short Communication

New distribution record of the Ashy Roundleaf Bat *Hipposideros cineraceus* Blyth 1853 in Sarawak, Malaysian Borneo: Conservation implications

Siti Nurlydia Sazali¹, F.A. Anwarali^{2*}, K. Besar¹, Wahap Marni¹ and M.T. Abdullah¹

¹Department of Zoology, Faculty of Resource Science and Technology, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia.

²Department of Biological Sciences and the Museum, Texas Tech University, Lubbock, TX 79409, USA. *email: fanwaral@gmail.com

ABSTRACT. Here we report a new distribution record of the Ashy Roundleaf bat (*Hipposideros cineraceus*) from Mount Murud, Sarawak. These specimens were initially assigned to *H. ater*, in the field using external attributes and measurements. As these specimens' external measurements overlaps other morphologically similar *bicolor* species group (e.g., *H. bicolor*, *H. cineraceus* and *H. dyacorum*), the recognition of these specimens remains uncertain. We employed morphometric hierarchical cluster analysis and molecular DNA sequencing techniques to provide species level discrimination between other similar *bicolor* species group individuals. Results from the analyses suggest that specimens assigned as *H. ater* were misidentified, and comparisons with other related species description provide evidence for the recognition of *H. cineraceus*. Subsequently, this documents the first record of *H. cineraceus* distribution in Mount Murud, Sarawak. Specimens studied here diverged genetically (5 %) in cytochrome *b* gene from those in Peninsular Malaysia, suggesting that *H. cineraceus* individuals in Borneo or at least in Sarawak may represent a different evolutionary lineage. We propose the revision of the *H. cineraceus* conservation status, especially for those in Borneo to be changed to

endangered species status, given the scarcity of their distribution and genetic divergence. Further studies incorporating specimens from other populations from the Asian mainland and Borneo may provide insights in reevaluating the taxonomic status and their specific conservation status in this *H. cineraceus* complex.

Keywords: Sarawak, Cluster analysis, Cytochrome-*b*, Conservation status

Between 29 May and 7 June 2005, a field survey was conducted at Mount Murud, Sarawak (Figure 1). Three adult male specimens assigned as *Hipposideros ater* were collected using four-bank harp traps by Anwarali *et al.* (2007a) at Raven's Court, Mount Murud (04°09'22.7N; 115°46'58.2E, 1335 m above sea level). These specimens were identified in the field using external characters: forearm length, tibia length, tail length, noseleaf structure and pelage coloration following Payne *et al.* (1985). The first record for *H. ater* in Sarawak was recorded by Abdullah *et al.* (2003) at Jambusan Cave, Bau followed by Anwarali *et al.* (2007b) in Bako National Park. Both of these reports have only used external measurements to establish species identification. As external