

Phylogeny and Phylogeography of *Aethalops* from Sundaland using Mitochondrial 12S rRNA Gene

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ABSTRACT

One of the smallest fruit bats in Pteropodidae is *Aethalops*. This genus is known to be confined in montane forest, which is generally above 1000 meters above sea level (m.a.s.l.). Bornean *Aethalops* is generally known as *Aethalops alecto* in most previous literature. This study aimed at constructing the phylogenetic relationship of *A. alecto* and *A. aequalis* in Sundaland and determining gene flow within Bornean *A. aequalis* using partial mitochondrial 12S rRNA gene. Seven populations of *A. aequalis*, representing Sabah and Sarawak and a single population from Kalimantan were observed, whereas *A. alecto* were represented by four populations from Indonesian islands. From the phylogenetic analyses and minimum spanning network, there were two major clusters within the genus, with *Aethalops. A. aequalis* in Borneo were clearly distinguished from *A. alecto* from the islands of Indonesia. However, phylogenetic analyses within *A. aequalis* were unresolved at the population levels in Sabah and Sarawak. Therefore, it can be concluded that *A. aequalis* is the species found only in Borneo. High genetic similarities were detected among the populations of *A. aequalis* in Sabah and Sarawak. Hypothetically, the Kalimantan harbors ancestral populations of *A. aequalis* in Borneo, with high genetic divergence from Sabah and Sarawak populations.

Keywords: *Aethalops*, populations, phylogeny, phylogeography, Sundaland, 12S rRNA

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INTRODUCTION

The montane bat *Aethalops* is among of the smallest Old World fruit bat (Pteropodidae), which is also known as Pigmy Fruit Bat or tailless fruit bat. *Aethalops* is confined in the montane forest above 1000 m (Payne *et*