

Population Estimation of Proboscis Monkeys in Mangroves at Kuching Wetland National Park, Sarawak

AHMAD FITRI AZIZ* & CHARLIE JUSTIN MERGIE LAMAN

Faculty of Resource Science and Technology, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia

*Corresponding author: fitziz61@gmail.com

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ABSTRACT

Boat survey on proboscis monkey (*Nasalis larvatus*) population in Kuching Wetland National Park (KWNP) was conducted to estimate the current population density and population size of this primate. The survey was conducted on September 2015 and January 2016 covering a cumulative distance of 128.91 km of mangrove riverbank. A cumulative total of 158 individuals comprising 19 groups, including one all-male group and three solitary males were recorded throughout the survey. The population density of proboscis monkeys in mangrove forest at KWNP was estimated at 1.63 individuals/km² or 0.20 groups/km². Based on the extrapolation of the estimated population density data, the population size of proboscis monkey in mangrove forest at KWNP was estimated to be 82 individuals. Last published report on the estimation of proboscis monkey population in Sarawak was more than 30 years ago. This study was conducted as a part of the efforts to assess the current population status of proboscis monkey in Sarawak.

Keywords: Estimation, population density, population size, proboscis monkey

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INTRODUCTION

Proboscis monkey (*Nasalis larvatus*) is a large sexually dimorphic Colobine primate that is endemic to Borneo. It occurs in Brunei, Indonesia (Kalimantan) and East Malaysia (Sabah and Sarawak). An adult male proboscis monkey can be easily identified by its large and pendulous nose. However, an adult female proboscis monkey possesses a smaller and pointed nose (Phillipps & Phillipps, 2016). In both sexes, proboscis monkey has reddish-brown fur but a male has more striking and contrasts in colour, with a mane hair behind its back (Bennett & Gombek, 1993). The weight of an adult male proboscis monkey can reach up to 24 kg, while an adult female is usually half of this size, making the proboscis monkey to be the largest Colobine monkey (Allen & Coolidge, 1940; Schultz, 1942; Wolfheim, 1983; Phillipps & Phillipps, 2016). An infant proboscis monkey is born with dark brown fur and its face is covered with dark blue colour (Bennett & Sebastian, 1988).

The natural habitats of proboscis monkey are restricted to the lowland coastal rainforests and always associated with waterways including mangroves, riverine, peat and fresh water swamp

forests (Kawabe & Mano, 1972; Salter *et al.*, 1985; Bennett & Gombek, 1993; Meijaard & Nijman, 2000). During the day, it will forage inland, normally less than 1 km away from the riverbank and always return before dusk to sleep (Salter *et al.*, 1985; Bennett & Sebastian, 1988; Yeager, 1989; Matsuda *et al.*, 2008). The basic social unit of proboscis monkey is a harem group that consists of an adult male, several females and their offsprings (Bennett & Sebastian, 1988). Within several groups, a secondary level of social organisation may occur where they may travel and sleep together in close proximity (Bennett & Sebastian, 1988).

In the Red List of Threatened Species, International Union for the Conservation of Nature (IUCN), proboscis monkey is classified as an Endangered species (IUCN, 2017) and is listed in Appendix I, in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Similar to other primates, habitat degradation and destruction become the major threats to the survival of proboscis monkey in Borneo (Meijaard & Nijman, 2000). The population trends of proboscis monkey showed a great decreased by more than 50% during the past 40 years (Meijaard *et al.*, 2008). In Sarawak, many of the