

# Population census and age category character of Stump-tailed macaque, *Macaca arctoides*, in Northern Peninsular Malaysia

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**Abstract.** Syamil AR, Mohd-Ridwan AR, Amsah MA, Abdul-Latiff MAB, Md-Zain BM. 2019. Population census and age category character of Stump-tailed macaque, *Macaca arctoides*, in Northern Peninsular Malaysia. *Biodiversitas* 20: 2446-2452. *Macaca arctoides* is reported to be distributed only in the northern part of Malay Peninsula. Intensive scientific observations have never been carried out before on this neglected macaque in the northern range. Thus, in this article, an estimation of population data on the Malaysian stump-tailed macaques that were found in Wang Kelian forest areas in Perlis State Park, Malaysia is presented. Intensive field observations were conducted from Sept 2018 to January 2019 with scanning sampling. The study revealed a total of 171-176 stump-tailed macaques, consisting of 44 (25%) adult males, 28 (16%) adult females, 19-22 (11%) sub-adult males, 16-19 (10%) sub-adult females, 43 (25%) juveniles, and 21-23 (13%) infants. Two main groups were observed, which were the Nomad and the Batat groups. Their ranging areas appear to sometimes overlap each other, while some Nomad members were observed in the Batat group. The age structure can be differentiated through body size and pelage coloration. The stump-tailed macaque populations in Wang Kelian are sensitive to human presence, while their habitat area is threatened by human illegal poaching activities. More conservation efforts are needed to conserve this neglected macaque from local extinction.

**Keywords:** *Macaca arctoides*, stump-tailed macaque, beruk kentoi, Wang Kelian, Malaysian primates

## INTRODUCTION

The Stump-tailed macaque, *Macaca arctoides* (Geoffroy, 1831), or locally known as beruk kentoi in Malaysia, is an understudied primate group opposed to its sister clade, *M. fascicularis* (Abdul-Latiff et al. 2014a; 2014b; 2014c; Ruslin et al. 2019). In Malaysia, the stump-tailed macaque is restricted to the state of Perlis in Northern Peninsular Malaysia (Md-Zain et al. 2010a; Roos et al. 2014). Their distribution covers Cambodia, southwestern China, northeastern India, Laos, northwestern Peninsular Malaysia, northern Myanmar, Thailand, and Vietnam (Htun et al. 2008). In India, the stump-tailed macaque was reported to be critically endangered, while in Bangladesh, it was reported to be locally extinct (Molur et al. 2003). The stump-tailed macaque has various pelage colors in shades of red, brown, and black (Fooden 1990; Koyabu et al. (2008). Based on pelage color and geographical distribution, Lekagul and McNeely (1988) classified *M. arctoides* into two subspecies. Northern populations from southern China to the northern mountainous areas of Thailand with bright brown pelage represent *M. a. arctoides*, and southern populations that inhabit the lower latitudes of Southeast Asia with black coloring represent *M. a. melanota*; however, different color

variants in *M. arctoides* have been observed to coexist within the same populations of southern (Fooden 1990) and western Thailand (Malaivijitnond and Hamada 2005) and hence have not been classified as subspecies (Fooden 1990; Koyabu et al. 2008).

Stump-tailed macaques are uniquely classified as both arboreal and terrestrial species (Smith et al. 2008) with claims that they spend most of their time foraging and traveling on the forest floor (Fooden 1990). Although still unknown, Srivastava (1999) estimated that the home range for this species is several square kilometers and that they live in multimale-multifemale social groups with troop sizes varying from 10 to 60 individuals (Fooden 1990). These social groups are female-bonded, with the core of the group consisting of related females that develop preferential relationships and support each other during conflicts (Thierry 2007). In Perlis, both *M. arctoides* and *M. fascicularis* are present in Wang Kelian (Jayaraj et al. 2013). It was assumed there is no interspecific association among them as observed by Malaivijitnond and Hamada (2005) at Wat Tham Khao Daeng. In addition, our preliminary observation also indicated that the third Malaysia macaque species, *M. nemestrina*, also dwells sympatrically in Perlis State Park forest areas.