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Mammals Biodiversity in Balik Bukit and Balai Kencana Resort, Bukit Barisan Selatan National Park

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Abstract. Mammals biodiversity have been observed based on camera trap in Resort Balik Bukit and Balai Kencana. This research to know the diversity of mammals in Balik Bukit and Balai Kencana Resort, Bukit Barisan Selatan National Park, under the program and collaboration with WWF Indonesia Southern Sumatera Program. A total of 36 units of camera traps mounted randomly on 31 grid cells (2x2). Photos and videos data sorted manually based on the species of animals found and processed using the Advanced Renamer Application, Karen Directory Printer, Ms. Excel and ArcGIS. There are 23 species of mammals (13 families, N=3756). The most common animals were red muntjac (*Muntiacus muntjak*) (n=356) and pig-tailed macaque (*Macaca nemestrina*) (n=346), while the fewest were siamang (*Symphalangus syndactylus*), banded linsang (*Prionodon linsang*), sunda stink-badger (*Mydaus javanensis*) and short-tailed mongoose (*Herpestes brachyurus*) (n=1).

1. Introduction

The third Sumatran largest protected area, Bukit Barisan Selatan National Park (BBSNP) spans two provinces, Bengkulu and Lampung, with most of the park lies in Lampung and undergoing rapid forest conversion. It contains some of the largest lowland rain forest remaining in Sumatra which continue under pressure of illegal logging, hunting and deforestation. Surveys have been conducted and updated reports is highly necessary. The BBSNP, with 17 resorts, have 12 mammals, include sumatran rhino (*Dicerorhinus sumatrensis*), sumatran elephant (*Elephas maximus sumatranus*), sumatran tiger (*Panthera tigris sumatrae*), malayan tapir (*Tapirus indicus*), sambar deer (*Rusa unicolor*), lesser mouse deer (*Tragulus javanicus*), water buffalo (*Bubalus bubalis*), muntjak deer (*Muntiacus muntjak*), sumatran serow (*Capricorn sumatrensis*), wild dog (*Cuon alpinus*), Malayan sun bear (*Helarctos malayanus*). Primates include siamang (*Symphalangus syndactylus*), dark-handed gibbon (*Hylobates agilis*), long-tailed macaque (*Macaca fascicularis*), pig-tailed macaque (*Macaca nemestrina*), silvered langur (*Presbytis cristata*) dan banded langur, yellow-handed langur (*Presbytis melalophos*) [5]. Camera trapping is one of the latest technology being used to survey and monitor wildlife, especially the elusive, secretive or low density animals [1, 3]. The primary objectives of this camera trap survey



was to update the mammal diversity in Balik Bukit and Balai Kencana Resort, Bukit Barisan Selatan National Park, Lampung.

2. Materials and Methods

Research was done based on camera trap data by WWF Southern Sumatera Program in Balik Bukit and Balai Kencana Resort, BBSNP, August 2016-February 2017. Camera trap set up was under sumatran rhino (*Diccorhinus sumaterensis*) monitoring program. There were 36 camera traps set up in 31 grid cell (figure 1).

Data obtained was separated based on grid cell, set up time, camera trap and memory card codes, and video separations were based on animals identified. Video data were coded using Advanced Renamer application, such as “1010-53-36aOCC03C019M00058ParmarEK0000120160803203828.AVI”. It contains grid cell information (1010-53-36a), camera trap set up time (OCC03), camera trap ID (C019), memory card ID (M00058), animal species (e.g. Parmar, for *Pardofelis marmorata*), video title (EK00001), year (2016), month (08), date (03), hour (20), minute (38), second (28), and file format (.AVI). The data names were printed in pdf format by Karen Directory Printer application and were transferred into Ms. Excel for reading purposes. Data was analyzed by descriptive based on literatures.

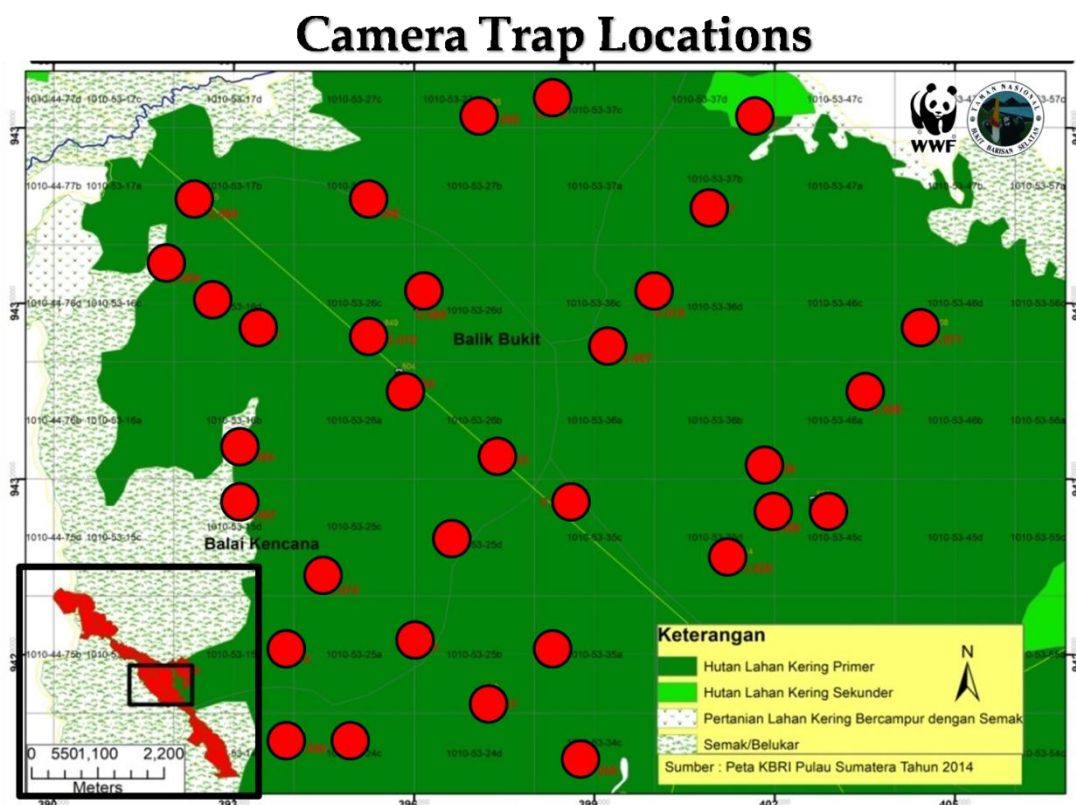


Figure 1. Camera trap set up in Balik Bukit and Balai Kencana Resort, Bukit Barisan Selatan National Park

3. Results and Discussion

There were 3756 files of 3523 videos (93.7%) and 233 pictures (6.2%) with 4954 night traps, and 23 mammals of 13 families (Table 1). The least mammals found was the vulnerable species (IUCN, 2018), siamang (*Sympalanguis syndactylus*) (n=1), arboreal primates and rarely found in forest floor, and it needs the forest for its daily activities (Figure 2). Pig tailed macaque(*Macaca nemestrina*)



Figure 2. Siamang in Balik Bukit and Balai Kencana Resort, Bukit Barisan Selatan National Park



Figure 3. Pig-tailed macaque in Balik Bukit and Balai Kencana Resort, Bukit Barisan Selatan National Park

(Figure 3) (n=346), which has greyish brown hair and brighter color beards [4], found actively during the day on the forest floor. They were in group of 20 - 30 individuals, and ecologically vulnerable [2].

Of Rodentia, there were malayan porcupine (n=52) and rat (n=4). Morphologically, rodent can be identified by its tooth form; whilst porcupine, the nocturnal rodent, with its spiky hairs [4]. There were 5 species Artiodactyla, wild boar (n=106), lesser mouse deer (n=2), muntjak deer (n=358), sambar deer (n=155), and sumatran serow (n=3). From order Perissodactyla there was malayan tapir (n=41) (figure 4).

Table 1. Mammals diversity in Balik Bukit and Balai Kencana Resort, Bukit Barisan Selatan National Park

Ordo/Family	Scientific name	Common name	Ecology status (IUCN)
Carnivora			
Felidae	<i>Pardofelis marmorata</i>	Marbled cat	NT
	<i>Neofelis diardi</i>	Clouded leopard	VU
	<i>Panthera tigris sumatrae</i>	Sumatran tiger	CR
	<i>Prionailurus bengalensis</i>	Leopard cat	LC
	<i>Catopuma temminckii</i>	Asian golden cat	NT
Viverridae	<i>Arctictis binturong</i>	Binturong	VU
	<i>Paguma larvata</i>	Masked palm civet	LC
	<i>Hemigalus derbyanus</i>	Banded palm civet	NT
	<i>Prionodon linsang</i>	Banded linsang	LC
	<i>Herpestes brachyurus</i>	Short-tailed moongose	NT
Ursidae	<i>Helarctos malayanus</i>	Malayan sunbear	VU
		Yellow-throated marten	VU
Musteliade	<i>Martes flavigula</i>		
Merphitidae	<i>Mydaus javanensis</i>	Sunda stink badger	LC
Artiodactyla			
Suidae	<i>Sus scrofa</i>	Wild boar	LC
Tragulidae	<i>Tragulus javanicus</i>	Lesser mouse deer	LC
Carvidae	<i>Muntiacus muntjak</i>	Muntjak deer	LC
	<i>Rusa unicolor</i>	Sambar deer	VU
Bovidae	<i>Capricornis sumatraensis</i>	Sumatran serow	VU
Rodentia			
Rattus	<i>Rattus sp.</i>	Rat	LC
Hystriidae	<i>Hystrix brachyura</i>	Malayan porcupine	LC
Perissodactyla			
Tapiridae	<i>Tapirus indicus</i>	Malayan tapir	EN
Primates			
Cercopithecidae	<i>Macaca nemestrina</i>	Pig tailed macaques	VU
Hylobatidae	<i>Sympalangus syndactylus</i>	Siamang	EN

Notes: NT=Near Threatened, LC=Least Concern, VU=Vulnerable, EN = Endangered, CR = Critic [2]



Figure 4. Malayan Tapir in Balik Bukit and Balai Kencana Resort, Bukit Barisan Selatan National Park

Of carnivores, there were 13 different species, binturong (*Artictis binturong*) (n=2), masked palm civet (*Pagum alarvata*) (n=14), banded palm civet (*Hemigalus derbyanus*) (n=49), banded linsang (*Prionodon linsang*) (n=1), short-tailed moongose (*Herpestes brachyurus*) (n=1), Malayan sun bear (*Helarctos malayanus*) (n=9), yellow-throated marten (*Martes flavigula*) (n=4), and sunda stink badger (*Mydaus javanensis*) (n=1). From order Felidae there was marbled cat (*Pardofelis marmorata*) (n=5), clouded leopard (*Neofelis diardi*) (n=13), sumatran tiger (*Panthera tigris sumatrae*) (n=17) (Figure 5), leopard cat (*Prionalurus bengalensis*) (n= 4), and asian golden cat (*Catopuma temminckii*) (n=15).



Figure 5. Sumatran Tiger in Balik Bukit and Balai Kencana Resort, Bukit Barisan Selatan National Park

4. Conclusions

There were 23 mammals caught in Balik Bukit and Bukit Kencana Resort, BBSNP. The most common mammals found were muntjak deer and pig-tailed macaque.

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