

Daily Activities of Sun Bear (*Helarctos malayanus* Ursidae) in Bali Animal Rescue Centre

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Abstract. Sun Bear (*Helarctos malayanus*) is found in Indonesia such as in Sumatra and Kalimantan. *Helarctos malayanus* is the smallest bear in the world and listed as vulnerable animal. Baloo is a sun bear that is rescued and raised at Bali Animal Rescue Centre located in Tabanan Bali. Before it will be released to the natural habitat, it is important to understand its behaviour, so it will be survived in their natural habitat. This study aimed to investigate the daily activity of sun bear rais at Bali Animal Rescue Centre. Research has been conducted at Bali Animal Rescue Centre from 2nd – 26th January 2019. Observation o daily activities of sun bear was conducted from 08.00 – 16.00 local time. It has been found that most of daily time was spent on grooming (35%), followed by feeding/eating (27%), moving (26%), and stationary (24%). Baloo has hardly found vocalized or defecate/urinate. Baloo was resting around 11.00 am and active feeding/eating along the day as well as moving. She moved a lot at 08.00 am, as she was provisioned by the carer, less moving in the middle of the day (12.00 am) and before resting at 17.00 pm. The variation of time spent on the daily activities of the sun bear at the rescue center can be used as reference before she will be release to its natural habitat.

Keywords: sun bear; daily activity; feeding; rescue centre

I. INTRODUCTION

Sun Bear (*Helarctos malayanus*) is found in Indonesia such as in Sumatra and Kalimantan [1]. *Helarctos malayanus* is the smallest bear in the world with a weight ranging from 27 to 65 kg, with a body length of 1000 to 1400 mm, and with a tail length of 30 to 70 mm [2]. Sun bear is protected in Indonesian under the Minister of Life and Forestry Protection Regulation No. P 106 of 2018, and by the International Union for Conservation of Nature (IUCN), this bears changed their classification status which was previously states as Data Deficient list to Vulnerable. However, there are still people who still keep as a pet, so confiscated by the Indonesian Conservation and Natural Resources Agency. Confiscated animal will be stored in a place before being released back. One of the temporary shelters for sun bears is the Bali Animal Rescue Center (PPS Bali), located in Tabanan Regency, Bali.

The sun bear that was rescued in the Bali Animal Rescue Service named Baloo, aged 3.5 years. The hair of this animal is almost entirely black, except the mouth and chest are white brownish then extended to the eyes. This place aims to maintain the animal before it will be reselase to natural habitat. The release of animals into the wild from confiscated products must meet several criteria including animals must be healthy, have a permanent partner, be able to find food in the wild, and their daily behavior consistent

with the behavior in their natural habitat. The duration of sun bears kept as pet causes changes in heir daily behavior. Therefore it is necessary to habituate the bears to be released.

Bahaviour of animals are depend on their habitats. For example, feeding behavior of animals depends on food sources and availability. In natural habitat, sun bears, for example act as frugivory when fruits are abundance and switched to insectivorous when fruits are scare [1]. In captivity, where the food are provided, this feeding behaviour may change. This difference in behavior is very important to study, especially in animals that have long existed in the captivity, which is very different from their natural habitats. An individual of sun bear, name Baloo is rised in the Bali Animal Rescue Center, before it will be released to the natural habitat. The curiosity for his behaviour is important to study, since there is not enough information available. This study aimed to determine the daily behavior of sun bears that are rised in Bali Animal Rescue Centre, before they will be released into their natural habitat. Daily activity of sun bears observed such as grooming, playing, sleeping, stay stationary, defecate/urinate, vocalisation, moving and eating/feeding [3].

In their natural habitat, sun bear marks their territory between 4-5 km², which relatively high overlapping

territory between individual [4]. They move around 8 km for foraging in one day [5]. In natural habitat, food for sun bears was largely depend on fruit production, which rarely occurs, therefore the sun bear has to adapt to eat other food source such as insects. Although, by the name they sound to have feed on sun, but sun is an expensive source of food in the wild [6].

Many types of trees in Kalimantan, where sun bears are found, bear fruits at almost the same time, so that sun bears eat as much fruit as possible during the season. The fruiting season of the trees, which belong to Dipterocarpaceae, only occurs once in 2-10 years in very short time. Sun bears also eat insects, especially various types of termites and their larvae, ants and larvae, beetles and forest cockroaches. These insects are also play a role to help the process of decomposition of dead organic matter such as weathering leaves, stems, and other plant parts. Sun bears love sun, but sun is a bonus because it is rarely found in the forest.

II. RESEARCH METHODS

Research has been conducted at Bali Animal Rescue Centre from 2nd – 26th January 2018. Observation o daily activities of sun bear was conducted from 08.00 – 16.00 local time. The daily activities of sun bear observed were categorized as grooming, playing, sleeping, (stay/stationary), defacate/urinaton, vocalisation, moving and eating. Grooming was defined as the activity of cleaning by licking, rubbing and scratching part of the body; playing was defined as the activity using or not using tools such as rolling, waving; sleeping was defined as

activity of stay with the eye closed; stay (stationary) was defined as no displacement was made; vocalisation defined as any sound was made; eating was defined as any activities from taking and chewing food. Data collected are presented proporsionally of each activities and time.

III. RESULTS AND DISCUSSION

Deforestation of tropical rainforest have degraded many landscapes to the point that they now no longer support viable populations of threatened species. Sun bear, *Helarctos malayanus*, is one species that is treathen due to the destruction of rainforest. Sun bear is the smallest species in the ursine family, adult weight around 27–65 kg inhabits Southeast Asia’s tropical rainforests [4,7]. In Indonesia the sun bear can be found in Sumatera and Kalimantan (Borneo) islands [4,5].

Sun bear is a nocturnal animal, but they are also active during the day time. In Bali Animal Rescue Centre, the sun bear was active during the day, when the observation conducted from 06.00 am to 05.00 pm. Nocturnal and diurnal activities were observed in brown bear, in which yearlings were active during the day while adult during the night, and subadults active in between [8]. Diurnal activites of brown bear in the wild vary with the intensity of human presence. In areas with low human activity, bear tend to be active during day time (diurnal), but active during night time (nocturnal) when there were human presence in the area [9]. Other study found that when hunting activities were absen in the bear habitat and more familiar with the presence of human, bears switch their activities form nocturnal to diurnal [10].

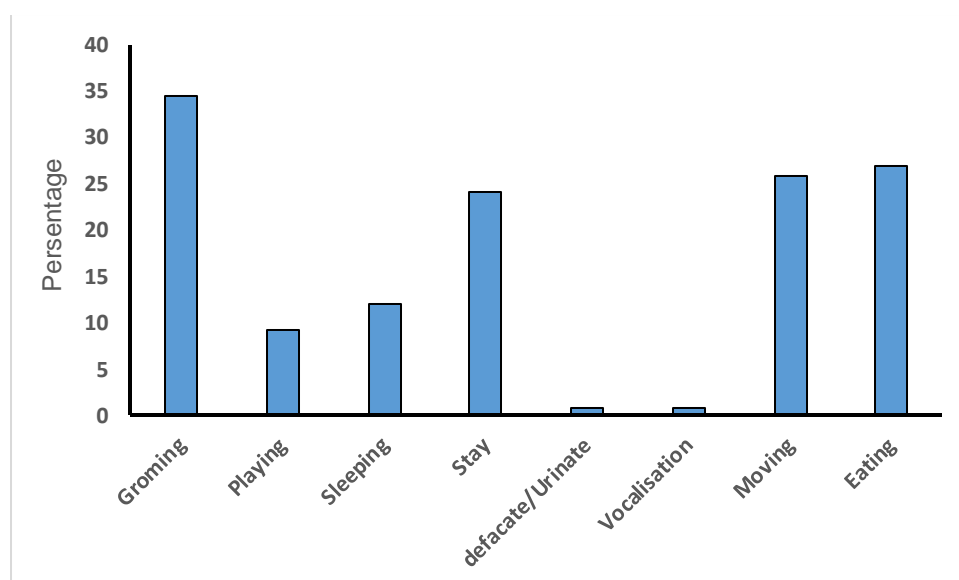


Fig. 1. The percentage of time spent by sun bear for each activity

Daily activities of sun bear in Bali Animal Rescue Centre, who was active during day time found that the activity was dominated by grooming (35%), while 27% their time was used for eating, 26% for moving and and

24% for stay (no displacement) (Figure 1). They used their time for sleeping and playing for about 12% and 10% respectively. They hardly found making noise (vocalisation) and defecate or urinate.

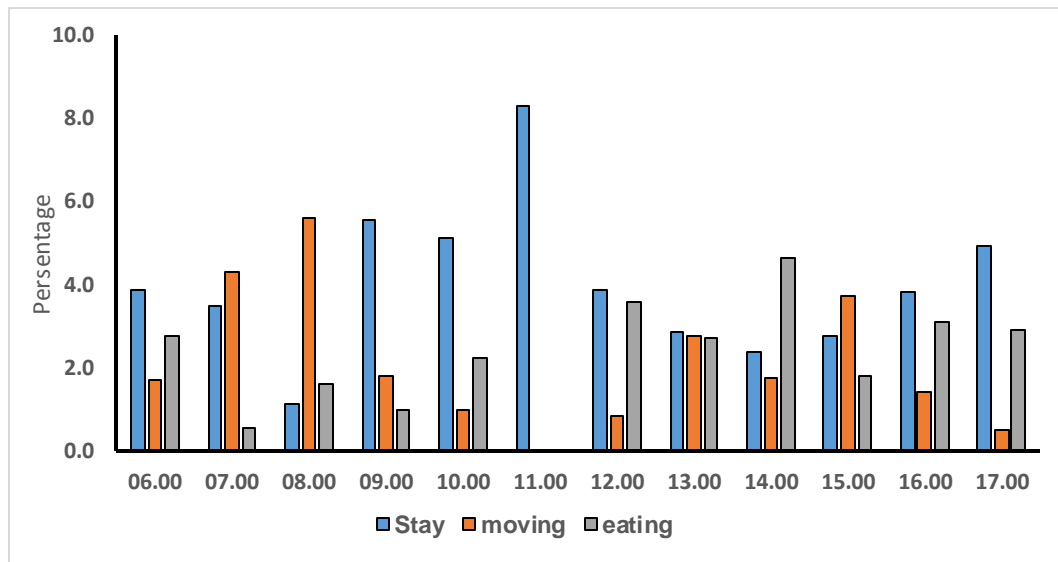


Fig. 2. The percentage of time spent by sun bear on three activities commonly conducted

When three activities, namely stay, eating and moving, were figured out by hourly time, representation of those three activities of all time in 100% (Figure 2), it was found that start from 09.00 am to 12.00 noon, most of their time used for stay (resting), with the peak time for stay was at 11.00 am. In early morning at 06.00 – 07.00 am, large amount of time was used for stay, where they were just start for the day. Similar pattern was observed at the end of the day when they prepared for resting at 16.00 – 17.00 pm. Feeding activities was found almost at all time, except at 11.00 am. Feeding activities was highest at 14.00 pm when the staff at the Bali Animal Rescue Center feed the bear. Another slot of feeding was provided at 08.00 pm, but the feeding activities was not as active as in the afternoon. Sun bear was found active feeding in early morning (06.00 am) when they have just started for the day, by having the scrap food left from the day before. At 08.00 am, she did not active feeding as much as resting, although the staff providing food at that time, they preferred resting. Moving activity was observed at all time, but not at 11.00 am. The bear started moving at 06.00 pm and peak at 08.00 am. The bear was less active at 10.00 am before mid day resting and 12.00 noon after resting, then at 17.00 before night resting. In the wild or natural habitat, sun bears shows switching their eating habit, which depend on the availability of food sources. Sun bears are feeding on fruit (frugivory) during fruiting season, insects (insectivorous), small mammals and sun when fruit is scarce [1]. The capability of sun bears to change their diet from one to more nutritious resources,

and effectively store fat, so survive during periods of low food availability [1].

IV. CONCLUSION

It can be concluded that daily activities of sun bear in Bali Animal Rescue was grooming, followed by feeding/eating, moving and stay, but rarely making sound. Of the three activities commonly conducted on daily bases, it seems that the bear was resting at early time, before midday after moving at reasonable time during morning time.

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