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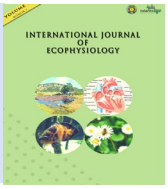

Behavior of Individual Orangutan Sumatera (*Pongo abelii*) Before Direintroduction at The Orangutan Quarantine Station, Sibolangit, Deli Serdang, North Sumatera

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Abstract. The individual behavior of orangutan (Pongoabeli) before reintroduction to the wild was studied from March to June 2012 in orangutan quarantine station Batumbelin Sibolangit, Deli Serdang. The research used focal animal sampling method, at the same time the data recording was taken using instantenous method. The result showed that solitary behavior (39.34%) which was dominated by feeding (20.60%). The second highest (35.31%) was resting which was dominating by sitting (16.87%) followed by moving behavior (13.58%) which mostly was branching (7.54%). The least activity was competitive behavior (1.88%) which was dominated by streaking down each other (0.82%). The result also indicated an abnormal behavior among 3 orangutans observed such as eating their own feces.

Keyword: Batumbelin, Behavior, Orangutan, reintroduction, quarantine station

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1 Introduction

The diversity of animals that live in Indonesia's forests is one of the highest in the world, 20% of the world's primate species can be found in Indonesia. Primates that live in forests have varying features and sizes, ranging from the smallest primates such as Tangkasi (Tarsius pumilis) found in Sulawesi, to the largest species such as orangutans (Pongo abelii and Pongo pygmaeus) which are only found in Sumatra and Kalimantan [8].

Orangutans are one of the best known wildlife and amaze almost everyone in the world. The morphology and behavior of orangutans that are similar to humans is an attraction for primate

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observers and local and international tourists. Admiration for orangutans does not have a positive effect on their chances of survival in nature. Information about behavior and its existence in nature is not sufficiently available, so there is a lot of pressure on the forest as its habitat and the condition of its population that continues to decline [4].

One of the efforts that have been made by the Government to maintain the existence of orangutans includes the reintroduction process which is an effort to release and transfer animals from confiscation and gifts from the community into their actual habitat in nature, which is still one geographic area of distribution [5].

The reintroduction program for confiscated orangutans has been running for more than 20 years, the program still receives a lot of dubious criticism. The reasons for these criticisms are the low level of success of the reintroduction program due to the very low adaptability of orangutans in new places, and the large operational costs that must be incurred. This is evidenced by the large number of individual orangutans who cannot survive after the reintroduction process. The causative factor that is thought to have occurred is due to changes or deviations in the behavior of the orangutan before it was reintroduced while in the rehabilitation area [6].

Observation to determine the behavior of individual orangutans before being reintroduced is very important considering that there are still few data on the behavior of individual orangutans before being released at the Batumbelin Orangutan Quarantine Station, research on individual orangutan behavior before being introduced at the Batumbelin Orangutan Quarantine Station aims to determine the percentage of common behavior, the frequency of each. each existing behavior category, the dominating behavior that is carried out, and the presence or absence of behavior deviations in orangutans.

2 Materials and Methods

Observation of orangutans' daily behavior or activities in quarantine uses the time budget method. Observations were made to follow the diurnal orangutan life pattern, which is when the orangutans start their activities (at 07.00) until they are completely rested (around 18.00). Observations were made on orangutans who were the focus (focal animals), namely orangutans that were about to be released. Data on orangutan observation objects that will be released can be seen in (Table 1).

Table 1. Data on orangutan observation objects that will be reintroduced

No.	Name	Gender	Age	Origin	Status Description
1.	Luna	Female	4.5	Singkil/Aceh	Result of Confiscation
2.	Tono	Male	6	K. Simpang	Result of Confiscation
3.	Jecko	Male	4.5	Langsa	Result of Confiscation

Data recording was carried out in Instantaneous, namely by recording each individual orangutan behavior every two minutes. According to Altman this method of recording was made possible because of the slow nature of orangutan activities, both in movement and in other activities. The calculation of the percentage of orangutan activity is determined using the formula used in previous research by Williyanti (2010) as follows:

% Activity Categories = (Activity category)/(Total activity category) x 100

Data analysis was carried out descriptively by displaying orangutan daily activity data in the form of tables and figures.

3 Result and Discussion

Behavior of Some Orangutan Individuals Before Reintroduction at the Batumbelin Orangutan Quarantine Station

The results of the research on 3 (three) individual orangutan children to be released, namely Luna (± 4.5 years), Tono (± 6 years) and Jecko (± 4.5 years) at the Batumbelin Orangutan Quarantine Station, can be grouped into 5 categories of individual orangutan behavior. - Each varied percentage, namely moving, resting, social behavior, self-behavior, and competition (Figure 1).

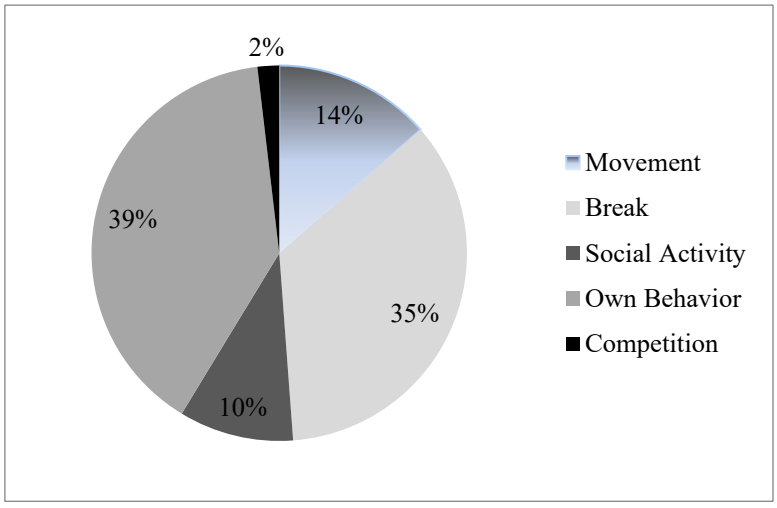

Figure 1. General Percentage of Daily Behavior of the Three Individual Orangutans to be Reintroduced.

The results showed that the highest daily behavior was self-behavior (39.34%) and the lowest was competitive behavior (1.88%) (Figure 1). The high percentage of their own behavior in the 3 (three) children of orangutans is due to the age of the orangutans being observed to be children so that the 3 (three) individuals tend to spend time playing. Playing is a division of its

own behavior category apart from eating and urineization / defecation. The high percentage of the category itself indicates the nature of orangutans who live alone or are solitary.

Orangutans are generally individual or solitary and at certain times can live side by side with other individuals, such as during reproduction, and female mothers with children who are not yet independent. Furthermore, The one of the most prominent behaviors for orangutan children is playing. Games in a social environment are more attractive to orangutan children when compared to competition between orangutans [8][9].

Competition or competing is a category of behavior itself that has the lowest percentage, this is related to the age of 3 (three) orangutans who are still children. At the age of 5-8 the sexual behavior of orangutans has begun to appear, they are happy to play with other teenage orangutans [7]. In general, the observed orangutans behave themselves high throughout the day, which is because the age of the orangutans is still children which encourages the least competitive behavior they do in the cage.

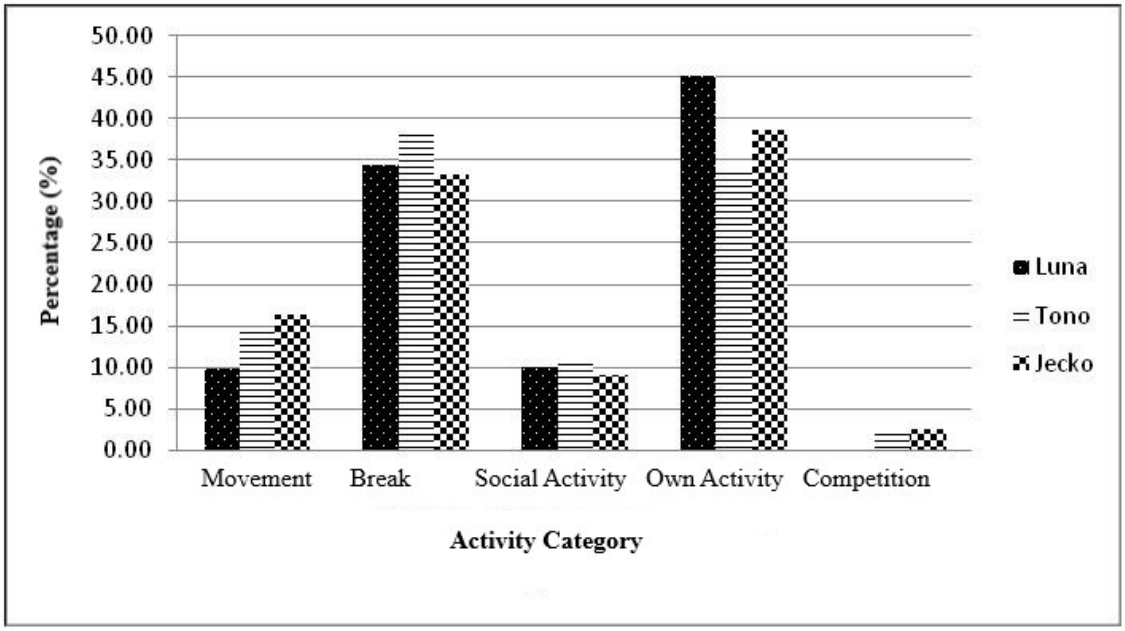

Figure 2. Percentage of daily behavior carried out by each individual orangutan that will be released.

The percentage of daily behavior carried out by each individual orangutan child who will be released shows that the behavior itself is the behavior with the highest percentage done by Luna (45.18%) and Jecko (38.75%). The highest percentage of resting behavior was done by Tono (38.17%). The lowest behavior category was carried out by the three individual orangutan children with competitive behavior with the percentage of Luna (0.47%), Tono (2.66%), and Jecko (2.51%) (Figure 2). The complete percentage of each individual orangutan behavior can be seen in (Table 2).

Table 2. Percentage share of each observed orangutan behavior before reintroduction.

Behavior Category	Behavior Sharing	Activity Percentage (%)
Own Behavior	Eating	20.60
	Playing	16.66
	Urination / Defecation	1.79
	Nesting	1.11
		39.34 %
Break	Sitting	16.87
	Standing	5.67
	Laying Down	11.22
	Slepping	1.55
		35.31 %
Social behavior	Payying attention	9.02
	Asking	0.52
	Hugging	0.36
		9.89 %
Move	Bipedal	1.67
	Quadrepedal	4.45
	Branchiasi	7.47
		13.58 %
Competition	Scramble	0.3
	Dropping each other	0.82
	Fighting	0.76
		1.88 %
Total Persentase		**100 %**

In Table 2, it can be seen that the division of each category of behavior that dominates the most on its own behavior consists of eating (20.60%) and playing (17.77%), resting behavior consisting of sitting (16.87%) and lying down (11.22%), on social behavior, namely paying attention (9.02%), moving behavior, namely branching (7.47%) and competitive behavior, namely dropping each other 0.82%. From the overall distribution of each orangutan's behavior, the highest behavior is eating with a percentage of 20.60% and the lowest behavior is fighting with a percentage of 0.3%.

The eating behavior category has the highest percentage compared to other behavioral shares. The high food behavior category is due to the regular schedule of regular feeding from the Quarantine Station manager and the development of orangutans that have begun to show their wild nature again like wild orangutans in general. In nature orangutans do more than 47% of their daily activities to eat. Orangutans can be said to be able to survive in their new environment if their feeding activities reach an optimal point in 47% of their daily activities [2].

Figure 3. Orangutan (Luna) eating behavior at Batumbelin Sibolangit Orangutan Quarantine Station.

Eating behavior (Figure 3) is a behavior that begins when orangutans start to see food / drink, choose, take, put food in their mouth, bite, chew, and swallow until they stop eating / drinking. Drinking supplies for orangutans in cages using pipelines and designed to make it easier for orangutans to use them. Orangutans are trained by pressing like a button at the end of a pipe so that the water will flow. Orangutans are one of the primates who have very high intelligence so that the learning process takes place faster by paying attention and immediately trying them.

At the Batu mbelin orangutan quarantine station, orangutans eat almost all kinds of fruit and vegetables that are given to them. The types of fruit and vegetables that are given must be endeavored to make in a variety of ways so that orangutans are familiar with the types of fruit and vegetables they feed. The target orangutans were also seen looking for food around the cage such as insects perching or insects that make nests around the orangutan cage (Figure 4). The ability of orangutans to have a source of food is a form of orangutan learning and shows that orangutans are highly intelligent animals [7].

Figure 4. Insect eating behavior of Orangutan (Jecko) at Batu Mbelin Orangutan Quarantine Station.

The type of feed that only focuses on fruit sometimes causes orangutans to consume insects and young leaves around the cage, sometimes orangutans are seen consuming their own feces. In this case, Tono was seen eating his feces that had fallen on the floor of the cage.

The behavior of orangutans eating other orangutans' excrement includes deviant eating behavior. Deviating eating behavior is inappropriate behavior for orangutans that can endanger the digestive health of orangutans, such as eating their own feces and chewing. This deviant eating behavior which found that mother and child orangutans eat their own chews in the Bukit Lawang Ecotourism, Gunung Leuser National Park [11].

Fighting behavior is the lowest percentage of behavior compared to other behaviors, this is because orangutans are observed more often when in isolation cages so that their interaction time with other orangutans is lower than when in socialization cages. The age factor of orangutans is that they are still children, so that the orangutans observed spend more time eating and playing [7].

Behavior Category of Each Orangutan at Batu Mbelin Orangutan Quarantine Station.

Own Behavior

The percentage of individual behavioral categories of each individual orangutan observed (Luna, Tono, and Jecko) varied from one another (Table 3).

Table 3. Percentage of individual orangutan behavior categories for reintroduction.

Own Behavior	Luna (%)	Tono (%)	Jecko (%)
Eating	58.40	58.15	57.77
Playing	35.40	35.87	36.80
Urination/Defecation	3.36	3.08	2.71
Nesting	2.84	2.90	2.71

In Table 3, it can be seen that eating behavior is the category of behavior itself that has the highest percentage, in 3 individuals observed, namely Luna (58.40%), Tono (58.15%) and Jecko (57.77%). The high category of eating behavior of the three individuals shows that the three individual orangutan children have begun to show daily development of behavior such as in the wild which requires each individual to survive.

The level of eating activities greatly affects the survival rate of orangutans. The higher the eating activity, the higher the orangutan's ability to survive. Apart from the high level of

orangutan eating activity, orangutan knowledge of the types of food found in the forest also gtans to survive in their new environment [2].

Nesting behavior is the category of behavior itself with the lowest percentage, of the three individuals, namely Luna (2.84%), Tono (2.90%), and Jecko 2.71%). Tono had the highest nesting behavior with a percentage (2.90%) followed by Luna (2.84%) and Jecko (2.71%). The results showed that after giving twigs and leaves in the afternoon the three individuals used the leaves more for playing and even for eating, so that when it got dark, most of the leaves given would be damaged and cause the three individuals to make nests less often.

Resting Behavior

Resting behavior is divided into sitting, standing, lying down and sleeping (Table 4).

Table 4. Percentage of resting behavior categories

Resting Behavior	Luna	Tono	Jecko
Sitting	39.42	34.80	45.17
Standing	9.81	18.63	33.74
Lay down	47.04	43.06	17.93
Slepping	3.72	3.51	3.16

Information : each child of the orangutan to be reintroduced.

Luna (47.04%) and Tono (43.06%) had the highest percentage of lying down behavior, while Jecko had the lowest percentage of lying down (17.93%). During observations Luna and Tono appear to be more passive when compared to Jecko. When eating is over Luna and Tono usually spend more of their rest time lying down, this is inversely proportional to Jecko who spends more time resting with sitting behavior (45.17%) and standing (33.74%).

Social Behavior

Social behavior is divided into paying attention, asking, and following (Table 5). The highest social behavior for Luna is paying attention (98.25%) and asking (1.75%), Tono paying attention (100%), and Jecko paying attention (99.36%) and asking (0.64%). The three individuals paid more attention to activities around the cage rather than interacting with the orangutans around their cage. Activities around the pen include activities of quarantine staff during the cleaning of cages and areas around the pens, feeding and feeding, visits by veterinarians in several pens and researchers.

Tabel 5. Persentase kategori perilaku sosial masing-masing anak orangutan sebelum direintroduksi.

Resting Behavior	Luna	Tono	Jecko
Sitting	39.42	34.80	45.17
Standing	9.81	18.63	33.74
Lay down	47.04	43.06	17.93
Slepping	3.72	3.51	3.16

Information : each child of the orangutan to be reintroduced.
is divided into paying attention, asking, and following (Table 5).

Moving Behavior

Movement behavior has the third highest percentage after eating behavior and resting behavior, movement behavior is divided into quadrepedal, bipedal, and branchiation (Table 6).

Table 6. Percentage of mobile behavior categories for each child before being reintroduced.

Moving Behavior	Luna	Tono	Jecko
Quadrepedal	39.05	43.93	42.86
Bipedal	14.79	40.71	11.43
Branchiasi	46.15	15.36	45.71

The highest movement in Luna was branchiation in Luna (46.15%) and Jecko (45.71%), while in Tono was bipedal (43.93%). Field observations Luna and Jecko were seen to be very active climbing onto the roof of the cage and then swinging on the roof of the cage. Luna and Jecko prefer to move on the roof area of the cage rather than on the cage floor, when compared to Tono whose movement behavior is dominated by quadrepedal and bipedal which are usually carried out on the cage floor, this shows that Tono spends a lot of time moving.

Competitive Behavior

The lowest competitive behavior among all the daily behaviors carried out by the three orangutans is divided into scrambling, knocking over and scrambling (Table 7). Fighting behavior dominates the highest percentage of each individual. The high category of fighting behavior is due to the nature of orangutans to fight over their territory. At the time of observation, Jecko was seen biting another orangutan because he felt that his resting area was disturbed. Scrambling behavior has the lowest percentage of each individual (Table 7). At the time of observation, orangutans often fight for food when feeding or when the amount of food

given in the cage has started to run out, encouraging orangutans to fight for food. When the amount of food given in cages is still a lot of orangutans prefer to take a larger amount of food for their own consumption without paying attention to other orangutans who are also eating.

Table 7. Percentage of competition behavior categories for each baby orangutan before being

Introd

Competitive Behavior	Luna	Tono	Jecko
Scramble	0.00	2.33	25.58
Dropping each other	37.50	20.93	18.60
Fighting	62.50	76.74	55.81

4 Conclusion

The results of research on the Individual Sumatran Orangutan (Pongo abelii) Behavior before being released at the Batumbelin Orangutan Quarantine Station, Sibolangit Deli Serdang District, North Sumatra, it is known that of the 3 individuals observed, only 2 individuals (Luna and Jecko) are thought to be more likely to survive during the reintroduction process. (release) took place compared to Tono considering the existence of several deviant behaviors carried out by Tono individuals during the observation

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