Research Activity Report
Supported by "Leading Graduate Program in Primatology and Wildlife Science"
(Please be sure to submit this report after the trip that supported by PWS.)

	2024. 05. 17
Affiliation/Position	Wildlife Research Center/M2
Name	Saidi, Mohamed Mohamed

1. Country/location of visit

Koshima Island, Miyazaki Prefecture

2. Research project

Field Training course on Animal Behavior and Ecology

3. Date (departing from/returning to Japan)

2024. 05. 07 – 2024. 05.13 (6 days)

4. Main host researcher and affiliation

Prof. Hideki Sugiura WRC, Kyoto University

5. Progress and results of your research/activity (You can attach extra pages if needed)

Please insert one or more pictures (to be publicly released). Below each picture, please provide a brief description.

a) Allogrooming behavior observation of Japanese Macaque (*Macaca fuscata*)

Allogrooming; a form of caregiving through physical contact, typically where one animal uses its hands, mouth, or other part of its body to touch another animal is an important behavior for animals. Allogrooming is known to be driven by the maintenance of social bonding intention among animals, social ranking within animal groups, endorphin hormone circulation in the body that triggers feelings of relaxation and joy, as well as hygienic and health factors for instance prevention of parasitic diseases like louse (Danbun 2010).

In this field training, I was motivated to follow Japanese Macaque which is scientifically recognized as "*Macaca fuscata"* and observe their allogrooming behavior. Interestingly, I bumped into a pregnant individual named "*Tsutsuji*" whom I noticed to be aggressive during feeding time and more energetic with lots of play and screaming. Based on these habits during feeding, I keenly followed and discovered her pregnancy could influence some of her behaviors. "*Tsutsuji"* is an 11-year-old high-ranked female individual who belongs to the Main group of Japanese Macaque at Koshima island. This individual is known to groom or be groomed by another individual within the same group by the individual named "*Tsukasa*", a young sister to "*Tsutsuji"*. The overall intention of this observation was to understand the behavioral characteristics of high-ranked females on social grooming during pregnancy. The target individual was a pregnant "*Tsutsuji"* and her grooming partner was "*Tuskasa"* a sister to "*Tsutsuji"*.

After approximately hundred twenty (120) minutes of follow-up and observation of this pair, the results demonstrated that "*Tsutsuji*" preferred to groom more than to be groomed as the individual had higher grooming incidence (8) with average grooming time of after every 180 seconds for about twenty-four minutes and mean resting time of about 10 minutes. On the other hand, "*Tsukasa"* groomed "*Tsutsuji"* three (3) times only with mean grooming time of 120 seconds with a mean average resting time of 11 minutes. During this observation, I noted that "*Tsutsuji"* initiated her grooming by "*Tsukasa*" by laying down close to "*Tsukasa'* for her groom and '*Tsukasa"* devoted less grooming time than "*Tsutsuji"*.

Figure 1: Pregnant Monkey laying and being groomed by her sister Tsukasa at Koshima Island

For comparative purposes, another grooming pair of Japanese macaque "*Tsuwa*" and "*Kuro*" were recruited as the control group for the allogrooming behavior observation because "*Tsuwa"* who is a female individual of the same rank to '*Tsutsuji"* is not pregnant. The results of this control experiment showed that "*Tsuwa"* groomed her son "*Kuro"* with an average grooming time of approximately 9 minutes and a grooming frequency of 8 at a resting time of 3 minutes on average. Moreover, the lower-ranked male "*Kuro*" groomed his mother only once, an exercise that lasted for about 4 minutes. This control pair was observed continuously for about 82 minutes. During this observation, "*Kuro"* was observed to initiate his grooming to "*Tsuwa"* i.e "*Tsuwa*" patiently waited for "*Kuro's"* grooming i.e she didn't initiate it and was only observed once throughout. No intermittent playing activities between them were observed during resting time and "*Tsuwa*" devoted relatively high time grooming "*Kuro*" than the opposite.

Figure 2: Non-pregnant Monkey grooming her son Kuro

In summary, the results produced the following observational evidence

- ✓ Grooming was observed only between the pair for the whole observation period.
- ✓ Higher grooming time was observed in the control group than in the experimental group.
- ✓ Though insignificant due to variation in overall observation time, the pregnant monkey had relatively higher grooming frequency than the non-pregnant.
- ✓ The difference in the number of grooming (Frequency) was insignificant

Discussion on the obtained result is as follows

a) Pregnant monkey tends to be less social as already reported by Shimizu et al. 2014 because of the growing fetus in their womb is associated with the dropping of hormones responsible for relaxation and social bonding with the group of similar rank as they tend to be less isolative
b) Hormonal changes (High or low?) during pregnancy might be the reason for the intolerance of the pregnant monkey in grooming her partner as suggested by lower grooming time in *Tsutsuji*
c) A mother-to-son bonding escalated a social bonding than a siblingship pair resulting to higher grooming time in the control group
d) The fact that pregnant monkey prefers to be sort of a groomer more than a groomee contrary to my prediction ascertains the possibility that the endorphin hormone that is responsible for the sense of well-being, joy, and relaxation drops resulting to grooming impatience.

a) Feral Horse observation

I also followed feral horses at Cape Toi to elucidate their behavior characteristics in captivity. Horses are known to be less active with fewer activities and mostly engage in foraging most of their time. The duration for horse observation was 4 hours at Cape Toi intending to examine the behavioral characteristics of captive horses in natural conditions. About 115 horses are known to inhabit the Cape Toi captivity including semi-wild individuals at Pakalapaka forest. These individuals are recognized as the rarest breed in Japan that was introduced after World War II.

Figure 3: Adult horse foraging on short grasses at Cape Toi

b) Safety and Precautions in field survey

Through this field training, I was introduced to safety requirements and important precautions before embarking on field visits. This covered the need to check the weather forecast of the research site and considerations for other necessary precautions for the safety of the researcher for instance wearing costumes and the nature of the research of the site. Moreover, the use of site maps and GPS to navigate and locate the exact pathways and different locations, especially moving in thick forests was very significant to my overall understanding of conducting field data collection in field sites especially those involving animal observation activity.

6. Others

Acknowledgments

- Much appreciation to Prof. Hideki Sugiura for organizing this field course and leveraging an exciting platform for me to closely interact with apes and learn immensely about their overall behavior in captivity.
- I am thankful to Suzumura-san, field site supervisor at Koshima for the in-depth training on the identification of Japanese macaque in the Koshima island among others.
- I also enjoyed the presence of Maeda Tamao, Shimei Shirasawa, Khalid Mazid, and Ayumi Ogawa who are currently in Koshima for their research. I enjoyed their company and devotion to providing information about the behavioral research of Japanese Macaques in Koshima station and Horses at Cape Toi.
- Gratitude to my fellow WRC students for the wonderful cooperation, they showed me during this field training.