

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.)

2023/2/15

Affiliation/Positio	Wildlife Research Center, D1/PWS L3
Name	Heping Li

1. Country/location of visit
Yakushima Island
2. Research project
Advanced training in field biology in 2023 Winter
3. Date (departing from/returning to Japan)
2023. 01. 28 – 2023. 02. 03 (7days)
4. Main host researcher and affiliation
Dr. Sugiura Hideki & Dr. Yoko Mitani, Professor at Wildlife Research Center, Kyoto University; Mr. Suzumura Takafumi at Koshima Field Station
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.
I attended Advanced training in field biology to experience terrestrial field research and learn to conduct individual identification on Yakushima macaque (<i>Macaca fuscata yakui</i>). In addition, I participate the sighting observations of humpback whale (<i>Megaptera novaeangliae</i>) from the land. I learnt some fundamental knowledge of terrestrial fieldwork and the method to identify Yakushima macaque based on some distinctive features. I also experienced the differences between sighting observations of marine mammals from the land and on the boat.
Overall schedule
1/28 Travelled from Kyoto to Yakushima. Pre-checked the spot for sighting observations of humpback whales. Brief introduction of the training course.
1/29 Searched for whale watching spots and conducted a sighting survey of humpback whales in the morning. Met two groups of Yakushima macaques and conducted observation in the afternoon.
1/30 Learnt basic observation methods of whale sighting survey and conducted sighting observations after that.
1/31 Conducted sighting survey of humpback whales in the morning. After lunchtime, searched for Yakushima macaque and conducted extensive observations.
2/1 Searched for Yakushima macaque in the morning and conducted sighting survey at the whale observation spot for two hours. After that, searching for Yakushima macaque.
2/2 Conducted whole-day observation of Yakushima macaque and did the individual identification. Summarized the data that we collected during the training course.
2/3 Cleaned up the field station and travelled back to Kyoto City.
Day 1 (1/28)
Half of the day was spent on transportation, and we arrived at Yakushima Airport around 13 o'clock. To save time, we bought some food first and started searching for nice spots for sighting observation of humpback whales. Thanks to the local volunteers, we achieved to observe some blows of humpback whales. However, the wind was quite strong that day and leveled up the difficulties for beginners to search for whales. Compared with the sighting survey from boats, our field of view was limited on the land. It was also difficult to keep observing their behaviors or take photo identifications due to the unreachable distance. Despite the challenging weather conditions, I observed a humpback whale launch itself out of the waters, which is also known as breach behavior. That was also my first sight of a humpback whale breach, as they seldom exhibit that behavior in the waters of Hokkaido.
Day 2 (1/29)
On the second day, we checked another two sighting spots for humpback whales and conducted sighting survey after deciding the observation place. During the one-hour observation, we found five individuals and observed various behaviors, including blow, dive, and fluke up (which indicates a deeper, longer dive). Whale observation ended with great joy. After lunchtime, we meet two groups of Yakushima macaques. We started the individual identification and tried to record their distinctive features. It was difficult for me, a person without any previous

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experience, to distinguish the differences between individuals. Following the guidance of Dr. Sugiura and Mr. Suzumura, I was able to identify some adult macaques with significant facial features. We followed some macaques uphill and saw a lovely scene, a huddling group of macaques for warmth in a sudden shower of rain. Two individuals gave me a deep impression; one seemed to be an alpha male, while another was an older female with a baby face.



Fig1. Huddling group of macaques.



Fig2. Groups of macaques we met on the road.

Day 3 (1/30)

The first two days of sighting observations raise the interest in searching for whales. On the third day, Dr. Mitani gave an introduction on the data collection procedures of marine mammals. Subjective environmental variables (e.g., weather, sea condition, glare) were pre-checked and recorded before the sighting survey of humpback whales. We saw five individuals at the first spot and observed two blows at the second spot despite the intense glare. We feasted our eyes on humpback whales at the third spot, there we also observed pec slap behavior when humpback whales slowly slapped the water's surface with their pectoral fins. The great show of humpback whales ended around sunset hours.



Fig3. Pec slap behavior of a humpback whale (photo by Dr. Yoko Mitani).



Fig4. The fluke of a humpback whale (photo by Dr. Yoko Mitani).



Fig4. Breach behavior of a humpback whale (photo by Dr. Yoko Mitani).

Day 4 (1/31)

As time went by, we got used to searching for the cues of humpback whales from the land. A puff of white vapor (i.e., blow) was always a significant cue to find whales. Other behaviors, such as dive, fluke up, and breach, were also observed. We stopped the observation of two whales when they swam out of sight. After that, we were back to searching for macaques. In the afternoon, we met some macaques by the road. Some of them conducted grooming behaviors, while other were eating the camphor trees' leaves (クスノキ) or the cores of bead trees (センダン). The weather was very nice, and we were able to conduct extensive observation of macaques. It was a fruitful day for us, and we observed and tried to record some unique characteristics of some individuals in this group. After dinner, we

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shared the results of individual identification and made stick figures to help us identify the same individual in the future.



Fig5. One individual is eating the core of beard trees (センダン).



Fig6. Photo of the core of the fruit of beard tree (センダン).

Day 5-6 (2/1~2/2)

With the information collected in previous days, we were able to distinguish different groups of macaques. From the fifth day, we looked forward to increasing the number of individual identification and tried to determine the territory range of each group. It was raining on and off on the fifth day, and we didn't meet any group in the morning. After lunchtime, we headed to the whale-watching spot and conducted a sighting survey. Searching for whales in

intermittent rain was much more difficult, but Dr. Yoko Mitani sighted the first blow! After the sighting survey, we went back to search for macaques again but didn't find any targeted groups.

On the sixth day, we finally met some macaques, and after initial comparison, it turned out that they belonged to one of the targeted groups. There were many juvenile and female individuals in that group. After the training in the past five days, I was able to distinguish the differences between individuals. One individual named “Fredrik” had two distinctive features: the scar on his lower lip and the white spot on the top of his left hand (Fig7). Another identifiable example is a younger juvenile male because of the scar on his left arm (Fig 8). In the afternoon, we were divided into two sub-groups to search for another targeted groups. We went uphill but found nothing; luckily, another team found them downhill. The alpha male we met before enabled us to determine they were the second group we were looking for. Overall, we achieved to identify 13 individuals for the A-Group (group we met in the afternoon) and about 17 individuals for the B-Group (group we met in the morning). Compared with the adults, it was much more difficult to identify juvenile individuals. Because the juveniles are still in their development, some features of their appearance may be temporal. I gained practical experience in identifying macaques throughout the course, which was also enjoyable.

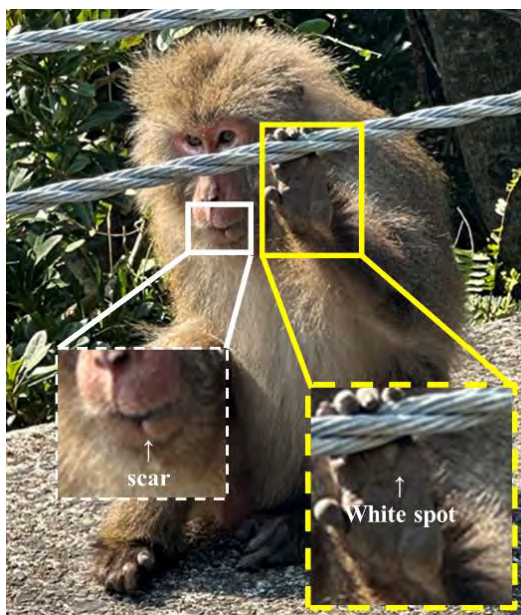


Fig7. Photo of Fredrik.

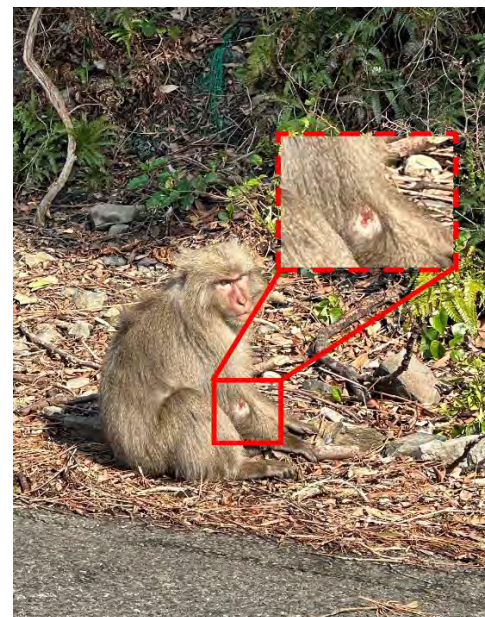


Fig8. Photo of individual with scar on its arm.

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Summary

- Sighting survey of humpback whales

A total of 6 sightings were confirmed during 9 hours and 30 minutes of observation. Behaviors including blow, dive, fluke-up, pec slap, tail slap, and breach were observed. It took about 15 to 20 minutes to sight the next blow after the fluke-up behavior. However, it was difficult to say if the blow was from the same individual owing to the long distance.

- Individual identification of Yakushima macaques

We conducted behavior observation and individual identification of two groups of macaques in the Yakushima World Heritage area. Territory ranges of these two groups may overlap nearby the Segiri River Bridge (瀬切川橋). We achieved to identify 30 individuals in total.



Fig9. Observation places of two macaques' groups on 2nd Feb.

*Please have your mentor check your report before submitting it to [report@pws.wrc.kyoto-u.ac.jp].

6. Others

I would like to thank PWS for funding this course. Also, I would like to thank Dr.Sugiura, Dr. Mitani, and Mr. Suzumura for all they help (e.g., drive, course design) throughout the trip.