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.)

| | 2021/07/28 |
|----------------------|-----------------------------|
| Affiliation/Position | Wildlife Research Centre/M1 |
| Name | Kana Arai |

1. Country/location of visit

Ashiu Study Natural Forest (芦生研究林)

2. Research project

Basic Skills for Field Work, Non-snow season/基礎フィールドワーク実習(無雪期)

3. Date (departing from/returning to Japan)

2021/07/19 - 2021/07/21 (3 days)

4. Main host researcher and affiliation

Professor Dr. Idani Gen'ichi at Wildlife Research Centre, 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.

For this field trip we went to Ashiu Study Natural Forest/Ashiu Forest Research Station which is located at Miyama, north of Kyoto City. It is the home for the largest expanse of primary forest and contains a huge array of diversity. Ashiu Forest Research Station in particular, provides an important field for education in forestry and ecosystem. In this particular educational field trip, we especially learnt how the inhabiting deer and Asiatic black bear is damaging the vegetation in Ashiu forest and how they are trying to prevent this further damage.

Day 1 (2021/07/19)

We arrived at Ashiu around 12:30 to 13:00 and had a quick lunch before the lecture started.

First Ishihara-san, who is an associated professor of Field Science Education and Research Center, gave us a lecture, introducing us about Ashiu Study Natural Forest. She talked to us about the diversity that is present within Ashiu, the projects they are undertaking and how they are trying to prevent further damage, mainly from deer and Asiatic black bear. After that she toured us around and explained how they would set up camera traps, how it works and what kind of animals would usually show up, such as a wild mouse (Fig. 1.). She showed us some clips of the animals that were seen from these camera traps in her lecture talk.



Fig. 1. Ishihara-san showing us camera traps that is set up in Ashiu forest.

After the tour from Ishihara-san, Shibata-san, who is a technical assistant of Field Science Education and Research Center, gave as a tour to stroll along the tracks. This track was used around 100 years ago where they used dollies to carry heavy things such as cut-up wood through the forest (Fig. 2.)

Shibata-san introduced and explained some of the functions that the plants have to battle for the four seasons in Japan. For example, he explained that chestnut trees are one of the most expensive trees in Japan because it is a very good quality tree and long lasting without having to degrade so quickly. He showed us a poisonous tree that people should not go near because it is air-borne. If people get too near it, you will have itchy skin for the next few days but it is not deadly unless you touch it too much (Fig. 4.). He also explained that some trees needed to be cut down to open up for sunlight exposure towards the forest to manipulate how the new trees will grow, and these trees were labelled with pink strings (Fig. 3.). There were plastics around some of the trees in the forest and he explained that this was to prevent from the Asiatic black bears from scratching the trees ($2\pi\sqrt{3}$) and it is more cost efficient compared to nets (1 net costs 1000 yen).



Fig. 2. Tracks for dollies



Fig. 3. Labelled trees with pink strings will be cut down



Fig. 4. Poisonous tree we encountered

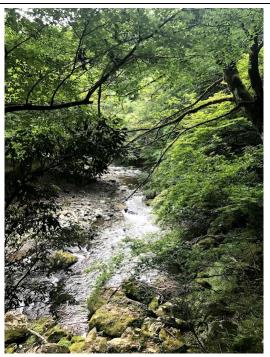


Fig. 5. View from the tour/stroll along the tracks

After the tour along the tracks, it ended with Shibata-san showing us around the museum. It contained information about the geography of Ashiu, the animals and plants inhabiting the Ashiu forest.

For dinner we were given deer meat to try and cook. It tasted a bit bloody but good enough when eaten with sauce.

Day 2 (2021/07/20)

The second day involved looking at the preventions that are being undertaken to prevent damage towards the vegetation in Ashiu forest from deer and Asiatic black bears. We went around the top of the mountain by bus and trekked a little bit. While trekking, we encountered a tree that was damaged by Asiatic black bear (Fig. 6.) Ishihara-san explained that the bears usually start damaging the tree using their sharp teeth and then by using their claws.



Fig. 6. Tree damaged by Asiatic black bear

We then reached the main area we wanted to arrive, which was to show how they were preventing the vegetation they want to preserve most from being damaged and eaten by the deer, and also how they were trying to increase vegetation diversity (Fig. 7). We had the experience to help fix the damaged nets by making the holes smaller (Fig. 8). Even with the nets it showed that the animals somehow out-smart it and make their way through the nets and damage the vegetation. However, not all the damage was being made from deer but also wild mice, but the main damage being caused directly towards the vegetations were from deer. We also had the experience to use drills to re-tighten the bolts that were holding the nets up.



Fig. 7. Nets to prevent deer from going into the vegetation they want to preserve

Fig. 8. Tightening the damaged holes to make it smaller

However, Ishihara-san explained that even with so much efforts in putting up nets, the diversity within this area is not becoming better, and that only two species of plants keep popping up.

After that we had a break near the cold river because it was very hot that day (Fig. 9). After that we went back to the bus to have lunch and we resumed a light trek that was led by Shibata-san. He showed us more deer prevention nets that was being set up across the forest of Ashiu, and explained some of the difficulties in setting up nets especially in steep areas (Fig. 10).



Fig. 9. A moment of rest

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He noted that in this area in particular (Fig. 10), they have been trying to preserve it for over many years.



Fig. 10. More deer prevention nets shown.

Overall, for the second day we saw the efforts being made towards the Ashiu forest, in terms of trying to preserve the trees, habitat, diversity and etc. As a result, we indeed saw a lot of animals inhabiting the Ashiu forest (Fig. 11).



Fig.11. Diversity seen in Ashiu Forest

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Day 3 (2021/07/21)

The final day started and ended with a lecture from Fujihara-san, who is a hunter who hunts deers and has his own restaurant and stay-in place. He talked about his life experiences, how he came to his job now and what hunting means to him. He showed a video of him introducing deer meat towards kids as an outreach program, as well as people coming to him to learn about outdoor activity skills, hunting, and how to cull and prepare deer meat. Overall, the last day ended with a very interesting talk from Fujihara-san and a Q&A session from the students.

Overall, I had a great and fun experience from this field trip (although it was very hot!) because I do not get to study much about plants and it was nice to be surrounded by such great greenery. The hands-on experience to fix the nets gave me a personal insight on how difficult and hard the center was working on to prevent more damage towards the Ashiu forest.

*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 all the people who guided as throughout the field trip in Ashiu Natural Forest.