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.)

	2022, December 7
Affiliation/Position	Wildlife Research Center/M1
Name	Christen Lin

1. Country/location of visit

Kyoto City Zoo

2. Research project

Animal Welfare Course

3. Date (departing from/returning to Japan)

12/4 – 12/6

4. Main host researcher and affiliation

Dr. Hirata, WRC; Dr. Yamanashi, Kyoto City Zoo

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.

During the animal welfare course, I was assigned to work with the porcupine (Frank) and the flamingos. For Frank, we were mainly focused on helping to correct his stereotypic behavior at night, which a previous student's research project found to be approximately 30% of his nighttime activities. We wanted to provide more mental stimulation and activities for Frank to do, so we brainstormed ideas that Frank might enjoy. We found that Crested porcupines, which is the species of Frank, like to collect bones and bring them back to their den to chew on for calcium. Unfortunately, however, there were no bones available for use at the zoo. Additionally, the keeper for Frank informed us that previously when Frank was given a bone, he did not seem too interested in chewing it and would rather eat his favorite treats instead. Thus, we decided to focus on other feeding activities that we could provide to Frank. We also found through our research that Crested porcupines are nocturnal animals that tend to forage for very long distances in the night, and we thought that Frank was probably not getting enough rest during the morning and afternoon due to the noise from the Zoo visitors. Also, Frank's feeding schedule was too early compared to the natural nocturnal feeding time of his species, and we thought that this schedule reversal might also be contributing to his stereotypic behaviors. We wanted to provide a more challenging and active foraging experience for Frank, and so we cut pieces of bamboo stalk into varying lengths, and carved out holes in some of them to place food into. We hid several of these pieces throughout Frank's enclosure, and even buried some beneath the soil in his home. We also placed several "dummy" bamboo pieces, which did not contain any food. After placing these foods into his enclosure, we let Frank explore and forage. Some pieces of food/bamboo were more difficult to find, with some even being placed underneath many heavy branches (see image below), but overall Frank seemed very active and appeared to enjoy foraging for so many scattered pieces of food. Especially in comparison to our observation data during the time before we provided this foraging activity, Frank was definitely much more active when he was provided with this enrichment activity. We believe that coming up with more ways to prolong the foraging time for Frank such as this one will be good for him, and might reduce stereotypic activity at night.

We also helped dig out the soil in the flamingo enclosure. We learned that every month or so, the hard topsoil within the enclosure needs to be replaced with the softer soil from underneath, otherwise the flamingos may damage their feet by stepping on rough soil over time. We also learned that the mirrors located in the flamingo enclosure not only help them believe that their group is larger, but also helps promote mating during the mating season (see image below).

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

Overall, the Animal Welfare Course was a very enjoyable experience and we learned a lot about the challenges and process of animal welfare and enrichment. I will definitely be able to use many of the concepts we learned in this course for my experiments with and observation of chimpanzees in the future.

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Others

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