

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.)

	2015. 10, 28
Affiliation/Position	Primate Research Institute / D1
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1. Country/location of visit
Yakushima Island, Kagoshima Prefecture, Japan
2. Research project
Relation between age/body size and fecal pellet size in Sika deers (<i>Cervus nippon yakushimae</i>) of Yakushima.
3. Date (departing from/returning to Japan)
2015. 10. 18 – 2015. 10. 24 (7 days)
4. Main host researcher and affiliation
Professors Hanya and Yumoto (Primate Research Institute, 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.
<p>As part of the PWS curriculum I joined the Yakushima Field Science Course which was held from October 18th to 24th 2015. The purpose of this course was to learn the basics of fieldwork and to conduct a short study. We were divided into two groups: the plant team and the deer team depending on our preference. In the middle of the afternoon on the 18th we arrived to the new PWS house which is very well equipped and comfortable. We went on a short walk and after diner both teams discussed about the schedule of the following days. I was in the deer team.</p> <p>On the next day, on the 19th, each team started their own fieldwork. Our study consisted on investigating the relation between the body size and the age of deer individuals and the size of their fecal pellets. In Yakushima, there is a lot of variation in the deer population with increases and decreases of the population. However, it is not well known why this variation happens. The estimation of the fecal pellet density is a useful tool to estimate the population but more details such as age and sex are needed to better understand why there is a variation in the population. The study of fecal pellet size may provide information on sex and age of the deer individuals. In order to study this topic we collected data during three days (19th – 20th – 21st), from around 07h45 to 15:00. We were divided into three groups in order to cover more area and potentially collect more samples. The method was to find deer and to follow them until they defecate. To find deer we used the strategy of finding monkeys first. In general, deer stay with the monkeys because the monkeys allow deer to eat from the trees with the food falling thanks to the macaques. Once the deer has defecated, one student video recorded the individual, and did not move waiting that the deer moved away. When the deer has moved another student went to the place where the deer was and posed with a meter. In this way we had two videos from the same view, and from the same distance: one with the deer and one with a student and the meter, which allowed us to measure approximately the size of the individual. We recorded the sex and the age of the individual from direct observations. We estimated the age depending on the size of the horns for the males and also the juveniles are supposed to have thin and long legs compared to their bodies. Then, we collected DNA sample by swabbing the surface of the fecal pellets softly and when this step was over we collected all the fecal pellets on the ground. After finishing the data collect in the field, we went back to the lab to analyze the videos in order to have the body size data of our individuals and in order to measure the pellet size by using a caliper and calculating the short and long axis of all the pellets.</p> <p>On the 22nd, we analyzed the data and prepared our PowerPoint presentation for the next day. Therefore, on the 23rd each team presented their work. Concerning our results, we collected 54 samples from 12 adult males, 34 adult females and 7 juveniles. Our result showed that there is no correlation between the body size and the pellet size (for both short and long axis). However, we found that the pellet size is affected by the age. Our study had some limitation such as sample size, body size estimation, potential contamination of the sample, etc.</p> <p>Overall, I found the course interesting. I could learn about how to collect fecal samples, how to conserve and analyze them. For me, this course was a really good opportunity to learn about this method. At the moment for my own doctoral study I have no plan to use DNA or hormonal analyses but in the future I might need, so it was very good to be able to</p>

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learn about these methods. One of the most interesting point of this week for me was to observe the inter-specific relationships between the deer and the monkeys. Apparently it is quite rare to observe but it is said to be cultural in Yakushima. With one colleague we observed several times the macaques riding on the deer, even taping the deer when being on their back probably to make them running, and also one deer playing with one monkey. I found this behavior particularly interesting and I think it would be great that somebody starts to study it.



Two female juveniles



An adult male



An adult female



A male Japanese macaque



A monkey riding a deer



A monkey riding a deer

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6. Others

I would like to express my sincere gratitude to Profs. Hanya and Yumoto, and to Kuriara-san for their guidance of the deer team during this field course, and to Prof. Matsuzawa and the PWS program for supporting this field course.