

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.)

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1. Country/location of visit
Yakushima Island, Kagoshima Pref.
2. Research project
Yakushima Field Course
3. Date (departing from/returning to Japan)
2016. 5. 21 – 2014. 5. 27 (7 days)
4. Main host researcher and affiliation
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.
This is a schedule of Yakushima Field Course (Monkey team, which I belonged to). 5/21 Arrival at Yakushima Island 5/22 – 5/24 Field-work (Sampling fresh feces of Japanese macaques), Lab-work (Fermentation) 5/25 Lab-work, Data analysis, Making slides for presentation 5/26 Presentation, BBQ 5/27 Cleaning, Sightseeing (Shiratani-unsui-kyo), Leaving from Yakushima Island We aimed to clarify the difference in the gut microbe’s digestibility between Japanese monkeys in highland and in lowland. When gut microbes ferment, they produce some kinds of gas and some kinds of fatty acid. These acid make pH-value low. We did not only field-work but also lab-work. In field-work, we collected fresh feces of Japanese macaques. In lab-work, we used these feces as inoculum and made them ferment two types of substrate: cellulose or dry ground leaves of <i>Eurya japonica</i> . During fermentation, we measured the amount of gas production at every 6 hour (6, 12, 18, and 24 hours). After 24-hours fermentation, we checked pH-value of each sample. 【Results】 The pH changes are different between when using highland feces as inoculum and when using highland ones. The pH of highland samples decreased significantly more than those of lowland ones. This means that the highland gut microbes more effectively ferment each substrate than the lowland ones. Both when using leaves as substrate and when using cellulose, the amount of gas production is also different between highland samples and lowland ones. The cumulative gas production in highland ones are constantly higher than in lowland ones. This means that gut microbes of highland monkeys ferment more rapidly than lowland ones. From our results, we can say that the kinds of or the amount of gut microbes are different between highland and lowland monkeys. These results may relate with the fact that highland monkeys eat something more difficult to digest than lowland ones. This is my first trip to Yakushima Island. I observed many living things there, and learned a lot of things about them. Monkey team has 3 foreign students, 4 Japanese students (including me), 3 tutors. We discussed on various things, and finally produced a good result. This was very good experience for me.

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I will collect and analyze feces of *Cercopithecus* monkeys in my studies. I learned how to handle feces sample in this course. I'm looking forward to studying the way of DNA analysis of fecal samples in following Genome Science Course.



Japanese Macaques are Grooming



View from Western Highland



Sika deer (*Cervus nippon*)



Japanese cedar and me(Photo by Izumi NAKAMURA)

6. Others

This course was supported by PWS program. I appreciate it.