



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. 11, 02	
Affiliation/Position	Primate Research Institute/M1
Name	Gao Jie

1. Country/location of visit
Yakushima, Japan
2. Research project
Study on sporophytes and gametophytes of ferns
3. Date (departing from/returning to Japan)
2015. 10. 18 – 2015. 10. 24 (7 days)
4. Main host researcher and affiliation
Dr. Kudoh, Professor at Center for Ecological Research, 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>The trip to Yakushima was led by Prof. Yumoto, Prof. Hanya (deer group), Prof. Kudoh, and Prof. Shinohara (plant group). I was in the plant group. The major aim for the plant group was to collect sporophytes and gametophytes of ferns, and to investigate the variation of fern species among different seasons and locations in Yakushima with the help of DNA analysis that would be done in genome science course.</p> <p>From 19th, October to 21st, October, we collected samples in three river basins respectively, Miyanoura, Onna, and Hanaage, by random sampling. We went to three locations along Miyanoura river, 208 (53 m alt.), 213 (136 m alt.), and 215 (467 m alt.); two locations along Onna river, 083 (27 m alt.) and 217 (58 m alt.); one location along Hanaage river, 219 (193 m alt.).</p>

(Location 215)

(Location 083)

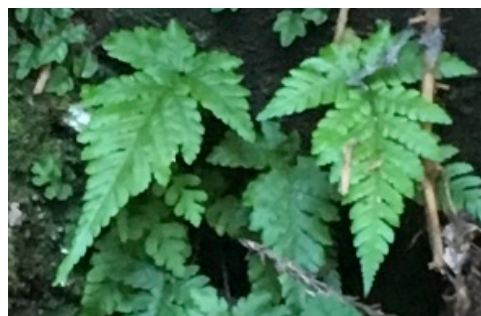
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(Learning how to collect sporophytes: to cut in the base part. Photo credit: Prof. Kudoh)



(Collecting sporophytes. Photo credit: Prof. Kudoh)



(Matured sporophyte)

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(Learning how to collect gametophytes. Photo credit: Prof. Kudoh) (Where gametophytes (in the middle) live)



(Gametophyte samples in the bag)



(A gametophyte in microscope)

After collecting samples, we did sporophyte identification by their morphology and gametophyte counting under the help of Prof. Shinohara. We reached a rough conclusion that the compositions of fern sporophyte species of the three river basins are different, though with some overlap, and Hanaage river has the most sporophyte species, which might be due to the most humid environment there.



(Sporophyte identification and gametophyte counting. Photo credit: Prof. Kudoh)



(Location 219)

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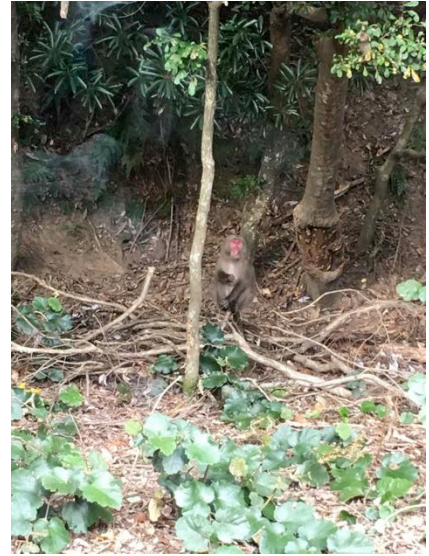
Apart from the study in ferns, we have also observed monkeys and deer.



(Monkeys grooming)



(Monkeys on the road)



(A monkey greeting us)



(A female deer)

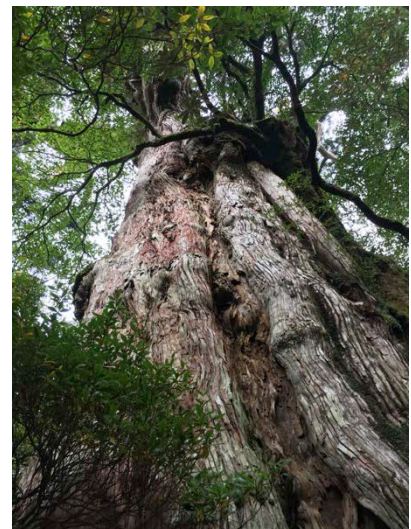


(A male deer)

After the presentation, we paid a visit to a very old tree, Kigensugi Cedar. It is thousands of years old.



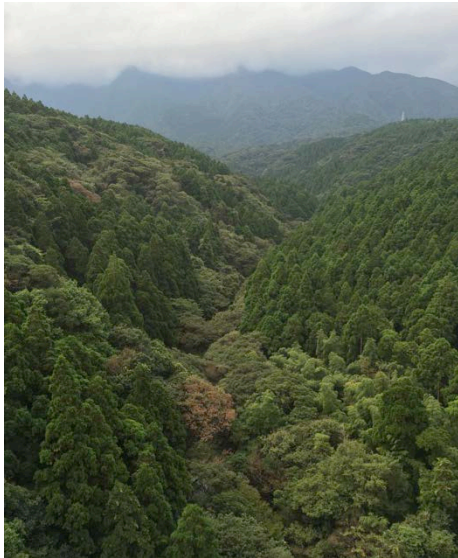
(Kigensugi Cedar)



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Through this course, I got to know some knowledge of ferns, and acquired the skills of collecting fern samples. There are lots of sporophytes in humid environments, and gametophytes usually grow on soil or the surface of rocks where it is dark and humid. Though my focus may be primates, the general knowledge about plants would also help a lot in future field work.

I have seen monkeys and deer for many times. These are very vivid experiences about the huge population of monkeys and deer in Yakushima. As world natural heritage, Yakushima has so beautiful and rich forest, as well as the famous Yaku monkeys and Sika deer. This course provided me a valuable opportunity to experience the unique environment.



(The forest)



(The sea)

Last but not least, almost all work was in cooperation. For the study, we helped each other in collecting samples and laboratory work. For everyday life, we helped with kitchen work and cleaning together to keep our base nice and neat. I gained more experience in cooperation that is essential in future work.



(Group photo. Photo credit: Prof. Shinohara)

6. Others

I would like to thank Prof. Yumoto, and Prof. Hanya for arranging various activities and leading us in the trips. Prof. Kudoh and Prof. Shinohara led the plant team to the many different locations, and taught us sampling and identification on site. Many thanks for their driving and teaching. Special thanks to Prof. Matsuzawa and Prof. Tomonaga, for their kind help in my preparation for this course.