

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.)

	2017. 6, 6
Affiliation/Position	Primate Research Institute/M1
Name	Hiroya Takiyama

1. Country/location of visit
Japan/Kyoto
2. Research project
Genome Science course: species identification of fern gametophyte using molecular approach
3. Date (departing from/returning to Japan)
2017. 5. 22 – 2017. 5. 30 (9 days)
4. Main host researcher and affiliation
Dr. Fuse, Professor at 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>I joined the genome science course, held at the Yoshida Campus of Kyoto University. During this course, we analyzed the DNA of fern gametophytes that we had collected previously on Yakushima Island. The purpose of this course was to learn how to use information from DNA analysis in ecological studies.</p> <p>Schedule 22nd We used a technique called Polymerase Chain Reaction (PCR) 23rd We used the DNA Sequencer 24th-29th We prepared for our poster presentation 30th We joined an international symposium (CET-BIO) to present our poster</p> <p>During the Yakushima field course, we collected fern gametophytes and sporophytes. We identified the species of sporophytes using morphological features. However, we were not able to identify the gametophytes because gametophytes are too small and too similar to each other. We had to analyze the fern gametophyte DNA in order to identify the species.</p> <p>On this genome course, we had to analyze a large number of samples. It was the first time that I had carried out DNA analysis. With the help of the information given in the lectures and the other participants, we were able to get the sequence information successfully. It was a pity that we were not able to identify the samples to species level but to genus level only.</p> <p>I think that this course is very meaningful and useful. Through participating, we were able to understand the whole process of a botanical study, from start to finish. On the genome course, we used samples that we had collected and conducted all the steps of the analyses ourselves. This was very important to allow us to understand genome science well.</p> <p>We found that few ferns grow at both altitude levels. We also found that two of our gametophyte samples were not known to grow in Japan. This was very interesting result.</p> <p>Recalling our presentation that we gave on the Yakushima field course, we regretted not having enough time to prepare. Therefore, this time we worked hard right from 22nd so we had more time to prepare for poster presentation. In my opinion, we made it.</p> <p>We presented our poster on 30th May at CET-BIO International Symposium. We got the opportunity to explain our research topic not only to our fellow classmates from the field course, but also to the participants of symposium. It was my first time to present in the group, but I think I was able to present proactively.</p>

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We are currently working on a scientific report based on the results of the Yakushima field cause and Genome science course.



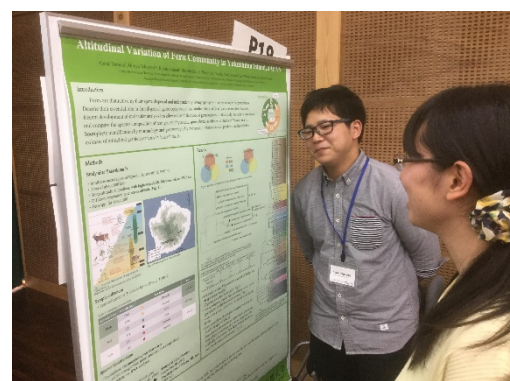
The DNA sequencer we used



Designing our poster



CET-BIO Symposium



We presented our poster at CET-BIO

6. Others

This program was supported by PWS. My sincere thanks go to Ms. Sakai and Ms. Akiyama, staff of the PWS office. I would like to express my deep debt of gratitude to: Prof. Shizuka Fuse and the staff of the laboratory of Plant Physiology, who advised me on DNA analysis; and Prof. Wataru Shinohara and Prof. Hiroshi Kudoh for sharing their precious knowledge. I would also like to acknowledge my wonderful teammates without whom this research would not have succeeded.