

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
Japan, Yakushima
2. Research project
Advanced training and Advanced laboratory skills in field biology in 2018
3. Date (departing from/returning to Japan)
2018.05.19 – 2018.05.25 (7days)
4. Main host researcher and affiliation
Goro Hanya (Primate Research Institute, Kyoto Univ.), Wataru Shinohara (Kagawa Univ.), Hiroshi Kudoh (Center for Ecological Research, Kyoto Univ.)
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>In this lecture, we researched fern and bryophytes which distribute in Yakushima. There is a lot of precipitation, and this is suitable for fern. Yakushima has various kinds of places where its altitude are different, so temperature is also different between these places. So, we can expect that species composition of fern differs by altitudes within Yakushima. Moreover, fern has two types of stage: sporophytes and gametophytes, and the variation of distribution sometimes differs by these stages. From these background, we decided our main theme: “The difference of species composition of fern sporophytes by altitudes within Yakushima.” In addition to this, we researched bryophytes species living on the leaves as subtheme. It is said that they live on living leaves within the evergreen forests, and it is difficult to find these species in the main land of Japan because of their unstable habitats. We tried to research about species which exists in Yakushima, preference for living environment, and host selectivity of them.</p> <p>○Day 1 (5/19) • In the morning... We moved to Yakushima. • In the afternoon... We received a lecture about fern and bryophytes from Prof. Shinohara and Prof. Kudoh.</p> <p>○Day 2 (5/20) • In the day time... We looked for fern gametophytes at Onoaida Trail (161 m altitude and 350 m altitude). • In the evening... We separated sporophytes which were collected by Prof. Shinohara to dry using newspaper (dryer). We also separated gametophytes from non-gametophytes and cleaned samples, and then split in two (DNA analysis and voucher specimen (stored in 80% alcohol tubes)).</p> <p>○Day 3 (5/21) • In the day time... We looked for fern gametophytes at Yodogo Trail (1300 m altitude). • In the evening... We did the same procedure as last day. In addition to this, We observed bryophytes species found on fern leaves which were collected by Prof. Kudoh by stereomicroscope, and then we made DNA samples (stored in 80% alcohol tubes). Also, we identified sporophytes.</p>

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○Day 4 (5/22)

- In the day time...

We looked for fern gametophytes at Menko (185 m altitude).

- In the evening...

We did the same procedure as last day. In addition to identification of sporophytes, we identified bryophytes morphologically by stereomicroscope as far as possible.

○Day 5 (5/23)

We organized our data and made a power point for presentation. It was about “The difference of species composition of fern sporophytes by altitudes within Yakushima” and “Species, living environment, and host selectivity of bryophytes species living on the leaves.”

○Day 6 (5/24)

- In the day time...

We prepared and practiced for presentation.

- In the afternoon...

Both Monkey team and Plant team gave a presentation. Some audience asked questions, and presenters answered.

○Day 7 (5/25)

- In the day time...

We went sightseeing to Shirakawa Unsuijyo.

- In the afternoon...

We came back to Kyoto.

I'm going to add the result of laboratory experiment and give a poster presentation at international symposium.



PWS house Yakushima



Day2 Collection at Onoaida



Collection of gametophytes



Collected sporophytes

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Split gametophytes in two parts



Bryophytes species found on fern leaves (by stereomicroscope)

Plant team went to a hot spring almost every day, and we also went sightseeing after research!



Kigen cedar



Hot spring after research



Japanese macaques

6. Others

Through this lecture, I could experience a field research in beautiful nature of Yakushima where I've hardly visited, and I could communicate and discuss with foreign researchers in English. I believe that these experiences will help my life as a researcher. Also, I learned a lot about fern and bryophytes which are totally different from my study species. As a result, I was interested in other fields. I really appreciate professors, staffs, and participants of this lecture.