




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.)

	2018. 06. 07
Affiliation/Position	Seto Marine Biological Laboratory/M1
Name	Jun Fukuchi

1. Country/location of visit
Japan/Yakushima
2. Research project
Yakushima Field Science Course (the Plant Group)
3. Date (departing from/returning to Japan)
2018. 05. 19 – 2018. 05. 25 (7 days)
4. Main host researcher and affiliation
Dr. Hiroshi Kudoh, Professor at Center for Ecological Research, Kyoto University and Dr. Wataru Shinohara, Associate Professor at Faculty of Education, Kagawa 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>Our research was conducted to investigate whether species composition of fern gametophytes differs by altitudes and if there are any new fern species in Yakushima Island. The distribution and morphology of gametophytes have not been well-studied because of the small size of gametophytes (ca. 5-10 mm). We collected fern gametophyte and sporophyte samples across four sites in Yakushima Island. Sporophytes were identified based on morphological characteristics. 53 sporophyte samples were collected corresponding to 35 species. The number of species was highest in Site 4 (18 species) and lowest in Site 3 (6 species). We found 12 species in two or more sites. <i>Hymenophyllum barbatum</i> was the only species collected from three sites (Site 2, 3 and 4). The family Dryopteridaceae accounts for the highest percentage (27 %) of collected sporophytes. In total, 185 gametophyte samples were collected. They were cleaned with water and then stored in 80 % ethanol tubes for DNA analysis. During our sampling, three epiphyllous liverwort species (<i>Cololejeunea spinosa</i>, <i>C. japonica</i>, and <i>Lejeuneaceae</i> sp.) were discovered on two fern species (<i>H. polyanthos</i> and <i>Arachniodes sporadosora</i>).</p>
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Figure 1. A fern sporophyte found in Site 4.</p> </div> </div>
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Figure 2. Morphology of fern gametophyte samples were examined under a light microscope.</p> </div> <div style="text-align: center;">  <p>Figure 3. A normal cordiform fern gametophyte found in Site 2.</p> </div> </div>
6. Others

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