

**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.)

2020. 07. 10	
<b>Affiliation/Position</b>	Graduate School of Science (Human Evolution Studies) / Graduate Student (D3)
<b>Name</b>	Mayuko NOMOTO

<b>1. Country/location of visit</b>
Moukalaba-Doudou National Park and Doussala village, Gabon
<b>2. Research project</b>
Studies on feeding ecology of forest elephants
<b>3. Date (departing from/returning to Japan)</b>
2019. 11. 16 – 2020. 04. 07 (144 days)
<b>4. Main host researcher and affiliation</b>
Institut de Recherches en Ecologie Tropicale (IRET, Research Institute for Tropical Ecology)
<b>5. Progress and results of your research/activity</b> (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 conducted fieldwork in Moukalaba area of southwestern Gabon to collect data for my doctoral study. I have been studying the ecology of the forest elephant (<i>Loxodonta cyclotis</i>), that inhabits in the central African rain forest, focusing on the age–sex differences in food and habitat choices. I continued my data collection at the field site, except for January in which I conducted DNA extraction experiments at IRET in Libreville, the capital city of Gabon.</p> <p>During this fieldwork, I continued dung counting census, dung contents analysis and fruit phenology census as I have done in the previous fieldwork trips. In addition to that, I started a questionnaire survey to the villagers about crop-raiding by elephants, and also started observations of dung decay process.</p> <p>The questionnaire survey was carried out on 10 persons who have their own farms in Doussala village, which borders the Moukalaba–Doudou National Park. Elephants usually visit farms at night to feed crops. People set up camps and sleep there in order to chase the elephants away. So, I asked the villagers to answer the following three questions every day.</p> <ol style="list-style-type: none"><li>1. Did you sleep in your camp yesterday?</li><li>2. If yes, did you hear any sounds of elephant?</li><li>3. If yes, what time did the sounds start?</li></ol> <p>Forty or more ethnic groups are recognized in Gabon and its official language is French. But in Doussala village, some villagers can speak only their mother tongue, the Punu language. So, I held a meeting to explain the objective and methods of this questionnaire survey with the help of the translation from French to Punu. This survey is still ongoing, with the help of local researchers, even after I have come back to Japan. It will be continued until October 2020, when the villagers will change the place of their farms and camps.</p> <p>For the observations of dung decay process, I numbered new dungs and took some photos, after collection of DNA and feeding contents samples. Then, every time I passed these dungs, I recorded their decaying appearance level (A to E) and took photos, until they disappeared completely. This decay-speed data will be used to estimate elephant density from the dung census. Although such data are available in some previous studies, the speed would change according to site and/or season. Therefore, collecting such a data in my own field site is essential to accurately estimate elephant density there.</p>

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On January, before conducting DNA experiments, I had a meeting with Dr. Matsuura (University of Shizuoka) and Dr. Terada (Tokyo Woman’s Christian University) at IRET in Libreville. We presented each other our research outcomes and discussed our collaboration in the future. After that I spent one week at IRET extracting DNA from the samples collected at the field. The extracted DNA will be transported to Japan and used for further analyses such as sex identification.



**Picture 1.** A fruit of *Treulia africana*, which elephants love



**Picture 2.** Seedlings of mango from elephant dung



**Picture 3.** A meeting with villagers



**Picture 4.** A decaying elephant dung



**Picture 5.** Signpost on the equator

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**6. Others**

I am deeply grateful to CENAREST (Centre national de la recherche scientifique), ANPN (Agence Nationale des Parcs Nationaux), IRET and IRSH (Institut de Recherches en Sciences Humaines) for the permission and enormous helps in conducting this research. I would like to express my gratitude to researchers and research assistants in Moukalaba-Doudou National Park and villagers in Doussala. This research was financially supported by Leading Graduate Program in Primatology and Wildlife Science, and JSPS (Japan Society for the Promotion of Science).