# 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. 06, 24
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### 1. Country/location of visit

Japan Monkey Centre, Inuyama, Japan

### 2. Research project

Zoo/Museum course

### **3.** Date (departing from/returning to Japan)

2015. 06. 15 - 2015. 06. 17 (3 days)

### 4. Main host researcher and affiliation

Prof. Gen'ichi Idani (Wildlife Research Center), Dr. Yuta Shintaku (Japan Monkey Centre)

#### 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.

As part of the PWS curriculum I joined the Zoo/Museum course which was held from June 15<sup>th</sup> to 17<sup>th</sup> 2015. The purpose of this course was to introduce the roles of the zoo and museum in terms of education, conservation, and animal welfare.

On the first day, Professor Idani introduced the history of Japanese primatology and Japan Monkey Centre. Japanese researchers started to study animal sociology with domestic rabbits, sika deers in Nara Park, semi-wild horses in Cape Toi, and finally started to study Japanese macaques in Kojima Island. Japanese primatology started on December 3<sup>rd</sup> 1948 with Kinji Imanishi investigating the evolutionary origins of human society by studying the social behavior of the monkeys. There is now an impressive number of field sites in Japan to study Japanese macaques: Kojima Island, Yakushima Island, Shodoshima Island, Arashiyama, Minoh, Takasakiyama, Jigokudani, Kinkazan, and Shimokita. On October 1956, Japan Monkey Centre (JMC) was established and then became a museum and zoo for non-human primates. On April 2014, JMC became a 'Public Interest Incorporated Foundation' and is the only zoo in Japan registered as a museum.

The lecture of Prof. Idani was followed by a tour of the different exhibits. JMC hosts sixty-six different species of nonhuman primates and over 950 individuals. It represents the largest number of non-human primate species in the world. We could observe nice enclosures such as Wao land (for ring tailed lemurs) and Squirrel monkey land where the individuals can move freely without being in a cage. However, we could also observe enclosures which really need a change, being too small, with too many individuals, and no enrichment.

At the end of the day, Prof. Matsuzawa gave a lecture on how to improve animal welfare at JMC but also in Japan in general. In 2014, Prof. Matsuzawa became the general director of JMC and is currently collaborating with Yamagiwasensei (Museum director) and Idani-sensei (Zoo director) to improve JMC. One of his main actions was to give the opportunity to all JMC's staff (including people directly working with animals such as zookeepers and administrative people who are not working with animals) to go see wild animals. The goal is to have a better knowledge about the life of non-human primates in the wild by the staff in order to get new ideas for improving the captive conditions. The aim is to enhance animal welfare by making the captive conditions as close as possible to wild conditions. In my understanding, at the moment everybody who is working at JMC has been at least to Koshima Island. The others locations include also places abroad such as Tanzania and this month the veterinary Dr. Kimura went to Malaysian Borneo to observe wild orangutans, gibbons, langurs, and macaques. I think it is a great effort made by Prof. Matsuzawa since it is really important to understand how behave animals in the wild when you are working with captive animals. The big hope is to improve animal welfare trough the collaboration of the new generation, the Leading Graduate Program in Primatology and Wildlife Science, and the Primate Research Institute.

On the second day, in the morning we were divided into groups and placed in different areas of JMC in order to learn how the zookeepers take care of the animals. I was placed into the South American House with Makiko-san. We could observe how Nemoto-san, the zookeeper, takes care of the different species such as pygmy marmosets, bearded saki,

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and spider monkeys. We participated in different activities such as feeding the animals, cleaning the enclosure, and giving enrichment. In this area, the quality of the enclosure in terms of animal welfare varies a lot. You can find: (i) really small individual cages, out-of-exhibition, for individuals which cannot be part of a group (animals being too aggressive in my understanding), (ii) outdoor enclosures where the social animals are kept in groups but where the cages are too small and lack of enrichments, (iii) and finally nice indoor enclosures for pygmy marmosets which have a correct size and very nice enrichments. In these latest enclosures, the ground is covered by hay. The marmosets receive living crickets and thus have to forage for crickets in the hay which makes foraging more difficult and more time-consuming. Nemoto-san explained that before the ground was a concrete ground but he went to observe wild primates and decided to make a change in the enclosure by adding the hay on the ground and adding branches. Giving the opportunity to the zookeepers to go observe wild primates is good and had, here, a clear impact on the amelioration of the living conditions of marmosets.

In the early afternoon, we assisted to a veterinary autopsy on a ring-tailed lemur which died in the morning. Later in the afternoon, we participated to a workshop on environmental enrichment where we had to think about how to improve the welfare of the individuals at JMC. More particularly, we had to think about enrichments in a short and long term plans. The main problem of JMC for improving animal welfare is the lack of money, so we had to think about designing low cost devices or methods for enrichment. I worked with Makiko-san on the South American House that we visited in the morning and though about some ideas for improving the marmoset's individual cages which are out-of-exhibition and for spider monkey's outdoor enclosures. For the marmosets we suggested to put a transparent plastic box with small holes with crickets. The cage is only made by mesh, thus marmosets cannot forage on the ground. For the spider monkeys we suggested to insert food such as raisins in paper balls in a net which would be attached up to a branch and whose holes are small. The main idea about these enrichments is to increase their foraging time and their cognitive abilities.

On the last day, in the morning we assisted to two veterinary operations. We saw a macaque whose the left hand was deeply opened and needed to be stitched, and then a hamadryas female baboon which received a contraceptive implant in the upper back (the implant will last for around 3-4 years). Then, Shintaku-san gave us a tour of the museum collection which has over 4200 skeleton specimens from about 100 species. We also observed taxidermies and an important collection of brain specimens.

In the afternoon, Shintaku-san gave us a lecture on museum collection management. He explained that a museum is a collection of material with different roles such as being a tool for education, a resource for the research, and a material for exhibition. We ended the course by a workshop where we received a skeleton. The purpose of this workshop was to try to identify the age of the specimen based on the shape of vertebra and tooth.

In general, I found the course very interesting. I learned new things especially about the museum collection management which was not part of my academic background contrary to animal welfare course. It made me glad to see that improving the animal welfare is in the main interest of JMC's staff. JMC has now a very active website which is translated in five language: Japanese, English, Chinese, Portuguese, and French. It is present on Facebook, a powerful social media, and has also a system of donation. Thus, I really hope that all these new efforts, combined with collaboration with the Primate Research Institute and the Leading Graduate Program in Primatology and Wildlife Science will have a positive and strong impact in increasing the number of visitors and the animal welfare.



Visit of the squirrel monkey land



Veterinary autopsy of a ring-tailed lemur

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Pygmy marmoset eating cricket



Marmoset's breakfast



Contraceptive implant insertion

Skeleton specimen



Castle of baboons



Gibbons in the Big Loop

6. Others