

Research Activity Report
Supported by “Leading Graduate Program in Primatology and Wildlife Science”

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Affiliation/Position	Primate Research Institute/international intern
Name	Himnai Nautiyal

1. Country/location of visit
Takasakiyama, Oita, Japan
2. Research project
Field trip to Takasakiyama Monkey Park and Beppu Hot Springs
3. Date (departing from/returning to Japan)
2016. 03. 23 – 2016. 03. 26 (2 days)
4. Main host researcher and affiliation
Prof. Michael Huffman (Supervisor/Professor PRI)
5. Progress and results of your research/activity

A Trip to Beppu Hells and Monkey heaven

This trip was one of the best experiences for me because I got an opportunity to visit a famous monkey park and also to see different hot springs found in that area. It was two days trip along with PWS/non PWS students and Prof Michael Huffman.

Day1: Journey and Beppu Hot Springs- We started our journey early in the morning from Inuyama and reached Beppu around 10:30. As it was an early morning journey everyone was hungry and we finished our early lunch and headed to visit “Jigoku Meguri”. This place itself has lots of history behind it. More than a thousand years has past, from ancient times the Jigoku Region of Kannawa and Kamegawa is described as the home to fuming gas expulsions, bubbling mud, and steaming hot water in the Bungo Topography. It was a place that people feared to approach and it was said to have been a cursed land. I was surprised to see these places still with their name “Jigoku”. We visited 8 different Jigoku described as following: 1) Umi-jigoku: famous for its blue color, and it was created 1,200 years ago after the volcanic explosions of Mt. Tsurumi. 2) Oniishibozu- Jigoku: has large and small bubbles of hot grey mud. 3) Yama-jigoku: fumes gush up from numerous mountain vents. 4) Kamado-jigoku: High temperature water and blisteringly hot gas are expelled here. 5) Oniyama-jigoku: Crocodile were first bred here in 1923 using the hot springs warmth. 6) Shiraike-jigoku: here colorless water spouts from the ground and naturally turns a bluish color due to a temperature and pressure drop when it joins the pond water, 7) Chinoike-jigoku: the clay is steaming hot to the point that the steam is red, 8) Tatsumaki-jigoku: the geyser here is particularly remarkable among the world’s geysers for its short interval between spouts. Tour to all these jigoku is nice way to get familiar with these natural activities without getting scared of them, and gaining a respect for their natural beauty. I was not surprised to know that these 8 places are “National Sites of Scenic Beauty and the first hot springs to receive this designation. (see section 6) We ended our first day with lots of interesting information.

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Day2 : Takasakiyama Monkey Park- Next day we started with looking at the worlds largest monkey troop. It was a wonderful experience for me watching lots of monkeys together. I spent plenty of time observing their behavior. In the morning when the staff was feeding the first troop (C troop) wheat, I noticed some monkeys were snatching wheat and soil together and caring them outside the feeding station to where some water was collected after hosing down the ground in the morning. The monkeys washed the wheat in that water. I saw 3 sub-adults and one adult female washing wheat and then feeding on it. Wheat washing was recorded by Kawai, (1965) at Koshima but so far not been reported in the Takasakiyama troop. I have observed two types of wheat washing 1) Direct washing: throwing all the wheat combined with mud at one time and feeding on the grains. 2) Selective washing: keeping wheat in one hand and putting a little bit at a time to wash and it in small amounts (See section 6). As this behavior is rare to see here, I and Prof. Mike Huffman started watching the monkeys in detail to get more information about this behavior. We were lucky to capture it on photos but were unlucky as we concentrating on watching the behavior and did not correctly press the start button of the cell phone video! After sometime, C troop moved off and other troop (A troop) took their place. We spent a couple of hours, watching for this again but did not see wheat washing behavior being practiced by this second troop. I feel the reason behind this was that there was no suitable condition for wheat washing to take place. The first necessary condition is wet soil where the grains are passed to the monkeys, otherwise there is no need of washing wheat if they are on dry ground. In the morning the staff hosed down the area with water, and the sand remained wet for a few hours creating the suitable condition for wheat washing. The second condition is assemblage of water outside the feeding ground to wash the grain in. Only in the morning does this occur, after staff hose down the area where tourists stand to watch the monkeys. Water collects at the edge of this area outside the feeding platform. Mike asked the park staff about this behavior and they said they have seen the monkey’s wheat washing for sometime. Another interesting behavior which I so much wanted to see was stone handling. I observed many different individuals playing with stones, it was really joyful to watch that game. I have seen this only once in the langur at my study site in the Himalayas. They were playing with stones and I so much wanted to see this behavior in Japanese macaques. This observation is very important for my future study on Himalayan langur. After that we visited the monkey museum and got to know lots about the history of monkey park. It was wonderful experience for me as I learned lots from this trip. I would like thank the PWS for this opportunity and Prof. Huffman for guidance and all the students for their great company.

6. Others

I would like to share a few wonderful moment spent during this trip in the form of photographs under this section.

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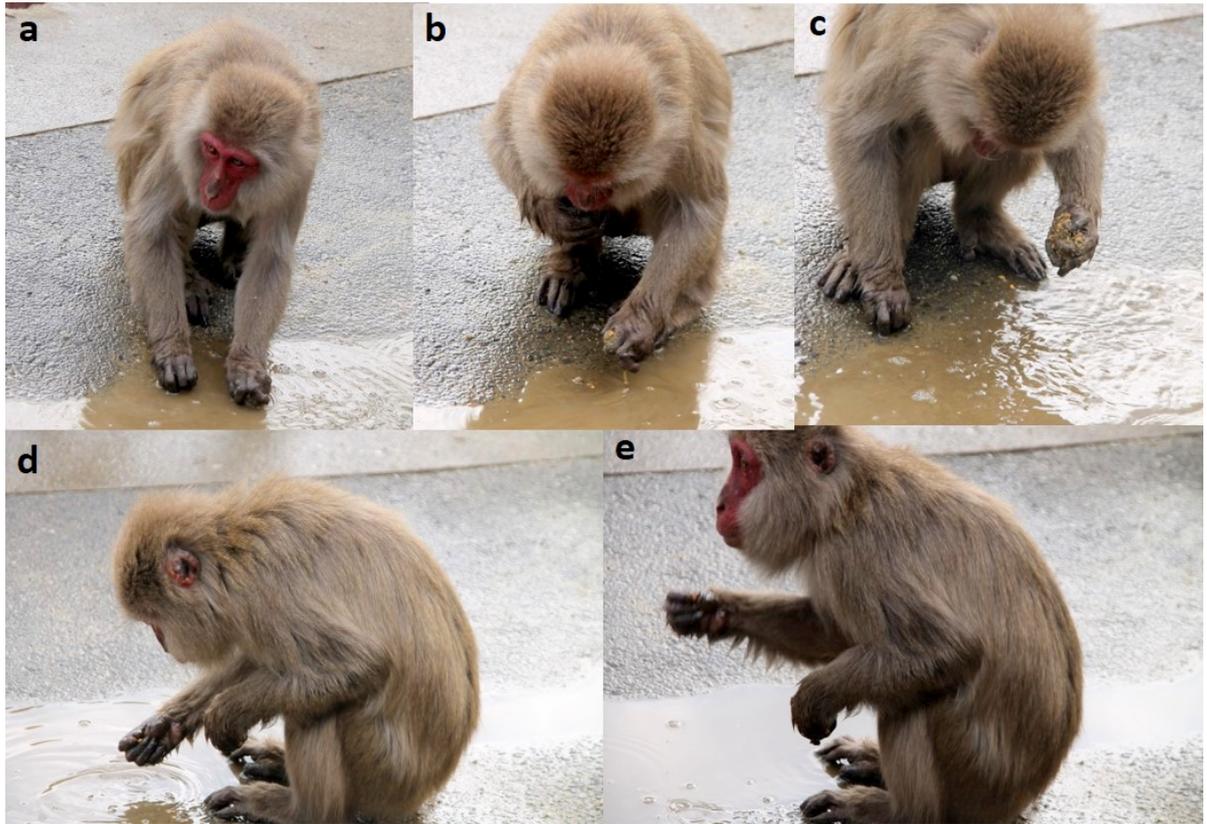
Day 1: Photographs from Beppu Hot Springs



**a) Chinoike-jigoku, b) Shiraike-jigoku, c) Tatsumaki-jigoku d) Oniishibozu-jigoku, e) Yama-jigoku
f) Oniyama-jigoku.**

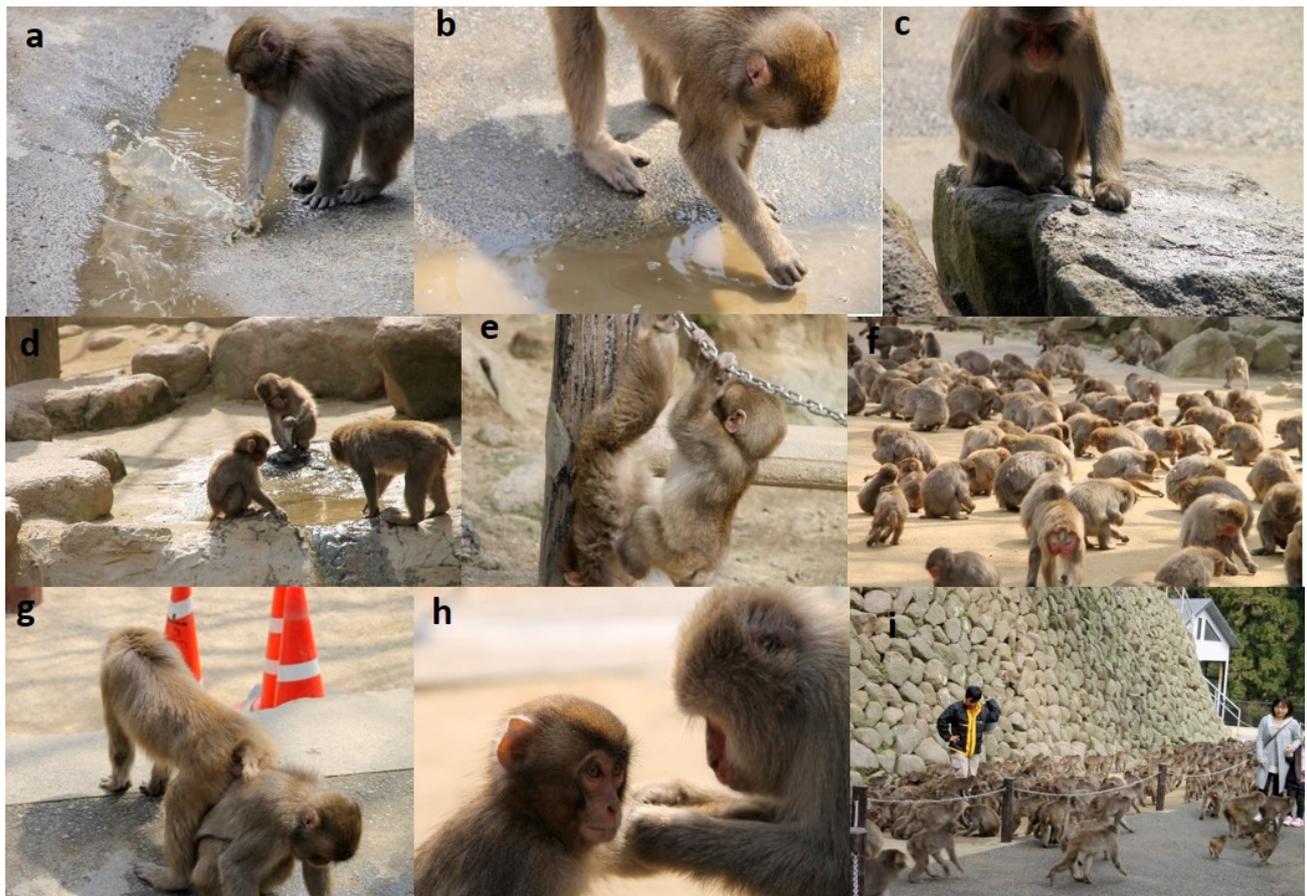
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Day 2 Takasakiyama Monkey Park



Wheat washing behavior pattern: Adult female has wheat in left hand **a)** washing wheat and looking out for other individuals, **b)** taking left hand which has wheat out from the water, **c) & d)** keeping wheat in left hand and picking washed wheat from water with right hand **e)** feeding on wheat with the right hand while a bunch of wheat and sand in the left hand.

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Different kind of behavior observed in monkey park: a) & b) sub-adult searching for leftovers after wheat washing by other individuals, **c)** adult female performing stone play, **d)** two infants playing in the water while one sub-adult is trying to stop the flowing water from coming out of the pipe, **e)** infant play, **f)** troop feeding on wheat in the feeding ground, **g)** adult female sexually displaying to a sub-adult male, while he is searching for wheat inside the water, **h)** mother infant bonding, **i)** one of the park staff followed by the whole troop while he is feeding them.