

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

2015. 01. 29	
<b>Affiliation/Position</b>	Primate Research Center/ D2/L4 Student
<b>Name</b>	Sofi Bernstein

<b>1. Country/location of visit</b>
Valley of the Wild Monkeys, Mt. Huangshan, Anhui Province, China
<b>2. Research project</b>
Investigating the Vocal Repertoire of Tibetan Macaques
<b>3. Date (departing from/returning to Japan)</b>
2014.08.02-2015.01.28 (180 days)
<b>4. Main host researcher and affiliation</b>
Dr. Jin-Hua Li, Professor, School of Resources and Environment Engineering, Anhui University
<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>This visit to China facilitated my PhD research on the vocal repertoire of Tibetan macaques, the first study of its kind. During the first month, students from Central Washington University visited the site for two months to collect data on their respective projects. My previous supervisor from my Master’s program was there, and I helped in identifying the Yulingkeng 1 group (hereafter mentioned as the YA1 group), our study subjects. Under the advisement of my previous supervisor I aided students in the development of their projects, and answered any questions if needed. At the end of the first month, one of our adult female’s infants died. The mother carried the infant for several days, and we paid close attention to her behavior collecting video recordings. After the mother left the dead infant behind, I and Anhui University researchers collected the body and rendered the corpse to get tissue samples and reconstruct the skeleton. Unfortunately, all of the other infants (2) in the group died within a month of the first death. The Anhui researchers and I collected fecal and saliva samples from the mothers and were able to acquire one of the dead infants for subsequent tissue samples. The samples are at Anhui University, and my collaborators, Dr. Bing-hua Sun and Dr. Dongpo Xia will analyze the tissues, fecal, and saliva samples to try and uncover a possible cause of death. A similar pattern of infant mortality occurred in a previous year in a study conducted by Dr. Carol Berman. She surmised that the keeper’s restriction of the groups range and use of firecrackers was a probable cause. However, we question whether or not some infectious disease was behind the 100% infant mortality of the YA1 group. Anhui researchers and I will collaborate on a paper about this topic.</p> <p>In the first month the CWU researchers and I were asked if we would play extras in a film about former President Deng Xiaoping opening the doors to foreign tourists who wanted to visit the mountains of Anhui Province. It was a fun experience, and the film crew came to our field site to shoot some scenes with the monkeys.</p> <p>As for my own research, I was surprised to see that the Tibetan macaques were not quite as vocal as the Japanese macaques I had studied the year prior at Arashiyama. Since Tibetan macaques are incredibly social and cohesive I expected a vocal group. Luckily, six months was long enough for me to collect recordings from all of the members of YA1. My study will focus not only on the vocal repertoire, but I hope to investigate the ontogeny of the vocalizations in Tibetan macaques as well. Another large portion of my study will investigate copulation calls. The patterns I observed this year were quite different from my previous trip to the Valley of the Wild Monkeys in 2011. That year I investigated the occurrence of forced copulations, and noted that females primarily vocalized during copulations. However, this time around males were the more vocal sex, and I ponder if this has something to do with the different sex ratios of adults between my two separate study periods. On this trip there were 11 adult males and 12 adult females a stark contrast to the 4 males and 8 females from 2011. This will be investigated further for my PhD.</p> <p>In December a film crew from CCTV’s Nature channel arrived at the site and asked for my help in identifying the individuals of YA1. They were also curious about my study and filmed me collecting vocalizations. They asked if I would report to them a summary of my results concerning the vocal repertoire once I’ve analyzed my recordings. I am</p>

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excited about this collaboration and look forward to watching this documentary about Tibetan macaques across the four seasons. My collaborators at Anhui University visited the site again during my last month at the Valley of the Wild Monkeys. Since I was the most familiar with the group and could identify all of the adults and juveniles (48 individuals in total), I collaborated with them on collecting saliva samples for subsequent microbiome analysis. I will be a co-author on that paper, and look forward to the results. My collaborators, Dr. Binghua Sun and Dr. Dongpo Xia invited me to visit Anhui University in Hefei to visit their campus and lab. During my stay there they threw a banquet where I was able to meet their students. My collaborators surprised me with the banquet and asked if I would like to have a lifelong collaboration with Anhui University. I was very excited to hear this and know that I am welcome to return to the Valley of the Wild Monkeys anytime. I look forward to many years of collaboration and exciting research. We discussed establishing a collective data base that could be incorporated into long term study goals.

All in all my trip to China was an extremely eventful and fruitful one. The six months flew by and I hope to return again one day soon. I would like to thank PWS first and foremost for funding this trip and aiding so much in the preparation and development of this research. I would also like to thank Dr. Huffman, Dr. Hill, Dr. Masataka, Dr. Koda, Dr. Jinhua Li, Dr. Binghua Sun, Dr. Dongpo Xia, Dr. Sheeran, and Dr. Wagner with their invaluable comments and advice in the development of my research goals. I would also like to thank Mrs. Chen who prepared lunches for me in the village at the field site during my stay.

**6. Others**



1. Bai Tou, an adult male of YA1, vocalizes as tourists arrive.

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2. Tourists arrive at the viewing platforms.

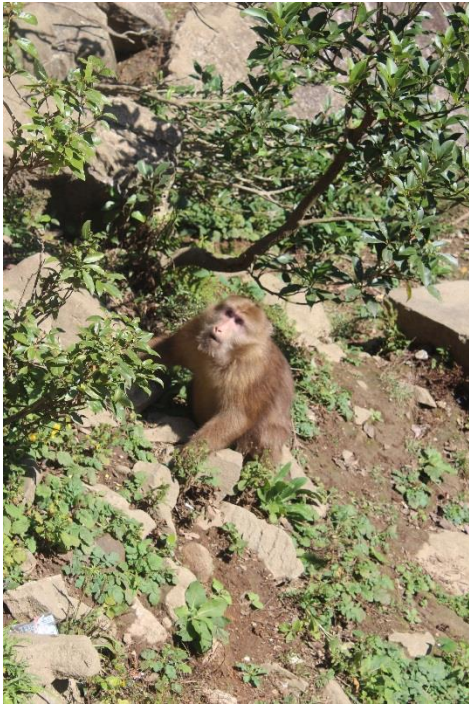


3. One of the viewing platforms at the Valley of the Wild Monkeys.



4. Showing the close proximity in which tourists are able to approach the monkeys.

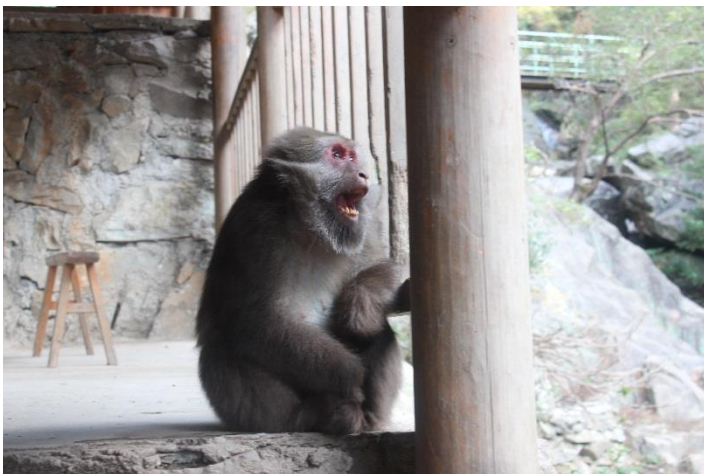
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5. Ye Xia Xie, a four year old female, threatens tourists with a facial threat and a ground slap.



6. Collecting video recordings on the platforms.



7. Tou Hong, an adult female of YA1, vocalizes as the guards provision the group.

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8. Tou Rui, an adult female of YA1, holds her dead infant.



9. Dao, a PhD student of Anhui University, collects saliva samples.

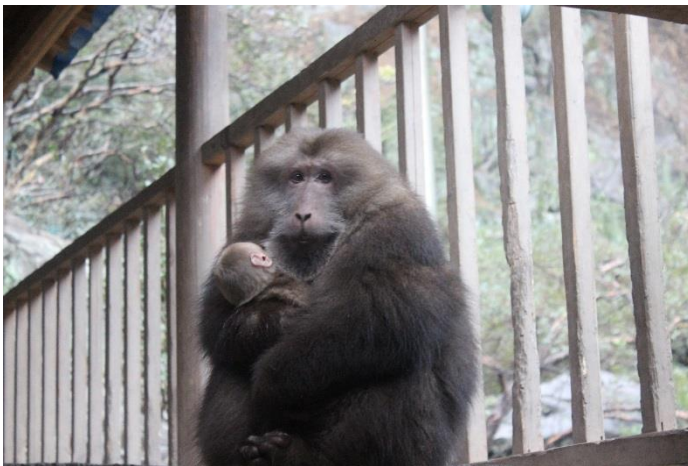


10. Tou Hong, an adult female of YA1, grooms and sits with all of her offspring.

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11. The YA1 group awaits provisioning.



12. An adult male of the second group, Yulingkeng 2, carries an infant.



13. I provision the group.

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14. Tou Rong Xi, a female yearling of the YA1 group, plays in the snow on the roofs of the platforms.



15. Alpha male Ye Rong Bing copulates with adult female Tou Hong on the platforms.

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16. Lunch in the village at the Valley of the Wild Monkeys in Mrs. Chen's house.



17. WangXi, a PhD student of Anhui University, and I stand at the South entrance to the University.



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18&19. Anhui University Professors, students, and I sit for a photo at our last banquet together in Hefei city where the University is located. (Below) Food from a banquet.



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20. The students from Central Washington University, Dr. Lori Sheeran, Dao from Anhui University, and I all pose for a picture on the platforms.



21. The Central Washington students and I walk through the gates of Mt. Huangshan, playing tourists as extras in a film.



22. Alpha male Zou Ba sits in the provisioning area.

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23. Ye Chun Yu, a five year old female, sits and waits to be provisioned.



24. Bai Lian, a male of the second group, steals an apple from a tourist.