Geophagy in Terai Langur at Morni Hills, Haryana

Geophagy is a common behaviour observed in primates, with several proposed explanations for its adaptive value, including mineral supplementation, detoxification of secondary plant compounds, adjustment of gut pH, counteracting endoparasites, antidiarrheal and aiding digestion (Krishnamani & Mahaney 2000; Wakibara et al. 2001).

Terai Langur licking salts from a wall at Morni, Haryana. © Sachin Ranade.

The Morani Hills are part of Shivalik Hills located in Panchkula District, Haryana State. The area is on the border of Himachal Pradesh, dominated with broad leaved trees and Chir Pines *Pinus roxburghii*. On 6 October 2024, during a field survey along the Nandpur-Badisher road (approximately 30 km), three distinct troops of Terai Langur *Semnopithecus hector* (Pocock 1928) were observed. The individuals had forward looped tail, moustachial stripe on face and uniformly pale grey hands as described for the species by Menon 2014. The troops were on the road, and most of the individuals were seen licking the roadside walls. These concrete walls are constructed for safe water drainage and to avoid landslides. The ground water from the uphill passes from the drainage openings in the walls during the four–five months of monsoon, and the minerals in it get deposited around the drainage openings. The langurs were noted licking these areas and, in some cases picking up small pieces of concrete and eating. I came across three troops with distance of about half a kilometre in between them. The groups were comprised of 8, 17 and 6 individuals and noted between 0900 and 1000 h, licking the concrete walls. Except an adult male on the sentry duty and infants with mothers, every individual (n = 28) licked the salts turn by turn.

The salt licking provides essential nutrients, relieve stress and helps to cure disease in animals (Matsubayashi et al. 2006; Tawa-Doi 2023). A study on geophagy in Nepal Grey Langur *Semnopithecus schistaceus* supported the hypothesis of acquisition of sodium salts rejecting the hypothesis of buffering stomach pH and detoxification (Monaco et al. 2019). A study in China on Yunnan Snub-

nosed Monkeys *Rhinopithecus bieti* also support the hypothesis of gaining extra supplement of minerals through geophagy (Li et al. 2014). The Terai Langur consume almost 90% plant matter and 10% as insect and soil, in their diet (Singh et al. 2020). The geophagy, as in other species, must be helping them to gain essential minerals and detoxification.

It appears that these form the first record of geophagy in Terai Langur with photographic evidence. It is a 'Near Threatened' species as per the IUCN criteria and needs detailed studies on the habitat and resource utilization. Morani Hills supports the westernmost population of the species and its conservation would be a valued initiative for the Haryana State.

References

Krishnamani, R. & W.C. Mahaney (2000). Geophagy among primates: Adaptive significance and ecological consequences. *Animal behaviour* 59(5): 899–915.

Li, D., B. Ren, J. Hu, Q. Zhang, Y. Yang, C.C. Grueter, A. Krzton, X. He & M. Li (2014). Geophagy of Yunnan Snub-nosed monkeys *Rhinopithecus bieti* at Xiangguqing in the Baimaxueshan Nature Reserve, China. *North-Western Journal of Zoology* 10(2): 293–299.

Matsubayashi, H., P. Lagan, N. Majalap, J. Tangah, J.R.A. Sukor & K. Kitayama (2006). Importance of natural licks for the mammals in Bornean inland tropical rain forests. *Ecological Research* 22(5):742–748.

Menon, V. (2014). *Indian Mammals: A Field Guide*. Hachette Book Publishing India Pvt. Ltd., Gurgaon, India, 528 pp.

Monaco, E.T., C. Borries, J. Nikolei, M.K. Chalise, J.U. Ganzhorn K. Wesche & A. Koenig (2019). The function of geophagy in Nepal Gray langurs: Sodium acquisition rather than detoxification or prevention of acidosis. *American Journal of Physical Anthropology* 168(1): 170–179.

Singh, M., A. Kumar, H.N. Kumara & V. Ahuja (2020). *Semnopithecus hector*. The IUCN Red List of Threatened Species 2020: e.T39837A17942651. https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T39837A17942651.en. Accessed on 09 October 2024.

Tawa-Doi, Y. (2023). Salt-lick use by mammals in tropical rainforests of Peninsula Malaysia. Ph.D. Thesis, 118 pp.

Wakibara, J.V., M.A. Huffman, M. Wink, S. Reich, S. Aufreiter, R.G.V. Hancock, R. Sodhi, W.C. Mahaney & S. Russel (2001). The adaptive significance of geophagy for Japanese macaques *Macaca fuscata* at Arashiyama, Japan. *International Journal of Primatology* 22: 495–520.

Acknowledgments
I would like to thank the Bombay Natural History Society for constant support. I am thankful to Dr. Himani Nautiyal for her valuable corrections and suggestion in the manuscript.

Sachin Ranade
Vulture Conservation Breeding Center, Rani, Kamrup District, Assam 781131, India.
Email: s.ranade@bnhs.org

Citation: Ranade, S. (2024). Geophagy in Terai Langur at Morni Hills, Haryana. Mammal Tales #55, In: Zoo's Print 39(12): 50–51.