A virtual repository of Lower Siwalik Miocene fossils from Ramnagar (Udhampur District, Jammu & Kashmir), India.

BIREN A. PATEL^{1,2}, CHRISTOPHER C. GILBERT³⁻⁶, RAMESH K. SEHGAL^{7,8}, NINGTHOUJAM P. SINGH⁷, ANNA DI², DEEPAK CHOUDHARY⁹, WASIM A. WAZIR⁹, CHRISTOPHER J. CAMPISANO^{10,11}, RAJEEV PATNAIK⁹

¹Integrative Anatomical Sciences, University of Southern California, ²Human and Evolutionary Biology, University of Southern California, ³Anthropology, Hunter College of the City University of New York, ⁴PhD Program in Anthropology, Graduate Center of the City University of New York, ⁵NYCEP, New York Consortium in Evolutionary Primatology, ⁶Division of Paleontology, American Museum of Natural History, ⁷Biostratigraphy Group, Wadia Institute of Himalayan Geology, ⁸AcSIR, Academy of Scientific and Innovative Research, ⁹Geology, Panjab University, ¹⁰Institute of Human Origins, Arizona State University, ¹¹School of Human Evolution and Social Change, Arizona State University

Vertebrate fossils have been known from Lower Siwalik Miocene deposits surrounding the town of Ramnagar (Udhampur District, Jammu & Kashmir) in northwest India since Barnum Brown's American Museum of Natural History (AMNH) expedition in 1922. These fossils included dentognathic specimens of Sivapithecus and other Chinji Formation-aged mammals. Paleontological fieldwork has continued sporadically in the Ramnagar region ever since, and in that time, a large number of vertebrate fossils have been recovered by many different researchers and institutions, including the recently discovered primates Kapi and Ramadapis. Ramnagar fossils are currently housed in several institutions across India and the United States, thereby making it challenging to comprehensively study the entire collection. Consequently, a full understanding of important questions related to the taxonomy, paleobiology, paleoecology, and biochronology of the Ramnagar fauna cannot be readily obtained. Moreover, without answers to these questions, correlations and comparisons cannot be accurately made to other similar aged fossil localities in the Siwaliks (i.e., Potwar Plateau, Pakistan) and elsewhere in Eurasia. Therefore, the goal of this collaborative project is to establish and grow a 3D digital repository of all fossil specimens from the Ramnagar region for continued comprehensive study. We employ μCT, surface scanning, and photogrammetry to virtually bring together specimens from the AMNH, Panjab University, Wadia Institute of Himalayan Geology, and Yale Peabody Museum. Thus far, >100 specimens have been digitized and made openly accessible on the MorphoSource web platform. Here we highlight some of the best-preserved specimens, including recovered primates and micromammals, and discuss their scientific importance.

Funding generously provided by the U.S. National Science Foundation (BCS-1945618, BCS-1945736, BCS-1945743) and the Leakey Foundation.