

LOCOMOTOR KINEMATICS OF THE SEMI-WILD ASSAMESE MACAQUES IN NORTHERN THAILAND.

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Previous kinematic studies on primate locomotion have been suffered from a difficulty that subjects' motions in laboratory settings are not necessarily natural. Recent advances of kinematic apparatus, however, enable us to measure animal motions outside laboratory. The global goal of this project is to noninvasively study primate locomotion in wild environment using the advanced apparatus and techniques. In this preliminary study, as the first step, we tried to develop the methods for such measurements in a half-wild environment. The Assamese macaques (*Macaca assamensis*) at Wat Tham Pla, Thailand were chosen as the subjects because they are originally wild, but are living around the temple, being provisioned by tourists. We recorded their positional behaviors by using two video cameras, and estimated their kinematic parameters during locomotion. Results revealed that in the Assamese macaques; 1) duty factor, which is the measure of stability, was significantly larger; 2) gait choice is more flexible; 3) hind limb retraction and forelimb protraction are larger; and 5) hands are directed more outward; than in the Japanese macaques. We hypothesize that these features may be related to their unique locomotor behavior, cliff-climbing. Although there are still difficulties that have to be addressed (e.g., relatively low accuracy, difficulty in calibrations etc.), kinematic analysis in a half-wild environments constitutes one future direction in the field of primate locomotion studies, given its tremendous potential. Such studies do not produce immediate results, but are still worth doing, and it is necessary to accumulate data steadily. Supported by JSPS 20255006.

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