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FORAGING IN THE DARK: DO NOCTURNAL LEMURS PLAN THEIR ROUTES?

M. Joly-Radko, R. Ramanankirahina, E. Zimmermann

Institute of Zoology, University of Veterinary Medicine Hanover, Hanover, Germany.

Presenter's Email: marine.joly@tiho-hannover.de

Studying foraging planning in primates is quite challenging: most primates are social, live in cohesive groups and move together which make the interpretation of the individual decision process difficult. So far, information on the decision making of primate solitary foragers or pair foragers is missing. To fill this gap, in our study, we assessed the ranging behaviour of two nocturnal prosimian species in a dry deciduous forest of North-West Madagascar: the grey mouse lemur, a solitary forager, and the woolly lemur, living as cohesive pairs. We radiocollared and followed 7 *Microcebus murinus* (females) and 12 (6 males, 6 females) *Avahi occidentalis* during both dry and rainy seasons. We collected behavioural data *ad libitum* using focal animal sampling and recorded the path of each focal animal with a Global Positioning System device. We calculated the total nightly path length, the mean travel speed and determined the different movement phases of a travel. Moreover, we analyzed the paths using the Change-Point Test (CPT; Byrne et al., 2009) method to determine the point at which an animal´s travel path becomes directed at a location based on the statistical characteristics of its route. Our results showed that nocturnal lemurs directed their travel to important resources. We discuss the effect of the season on the travel path length and travel speed. This study gives first empirical evidence for the decision making as well as for navigational and planning abilities during foraging in nocturnal primates using observations of their travel under natural conditions.

Keywords: ranging behaviour, foraging, mouse lemurs, woolly lemurs