Propithecus coquereli Eulemur mongoz Lemur catta Varecia variegata variegata Varecia rubra

Four individuals of the following species wore the Daysimeter-D at the same time.

Subjects:

Coquerel’s Sifaka Mongoose lemur Ring-tailed lemur Variegated black-and-white ruffed lemur Red ruffed lemur

Results

Comparison of the two ruffed lemur species: black = activity; grey = circadian light stimulus (CS); dotted lines demark astronomical sunrise and sunset. Note: the activity before sunrise and after sunset; mid-day break in both activity and light intensity; different pattern of activity and light levels between ruffed lemur species; arrow-angles indicate Red ruffed lemur had more activity before light levels rose than did the Variegated black-and-white ruffed lemur.

Results continued

Comparison of outdoor (Left) and indoor (Right) housed male Ring-tailed lemur’s light exposure and activity patterns. Dotted lines demark astronomical sunrise and sunset. Note: dramatically different light level exposures.

Comments

• There is no single ‘lemur’ behavioral response or light exposure pattern.
• All five species are entrained to a diurnal niche, but there were distinct species variations in light exposure levels and activity patterns.
• This study is the first to measure individual behavior and proximal light exposure to better understand primate photic niche adaptation.
• Indoor and outdoor Ring-tailed lemurs had similar activity profiles despite dramatically different light level exposures.
• This technology will help improve lighting and thus management for captive primates.

Day/Night Activity Ratio for Five Species

Lower ratios indicate relatively more night-time activity

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