SIBERUT
CONSERVATION PROGRAMME

Project description

Acoustic niches in sympatric primate species of Siberut Island

The loud calls nonhuman primates use in long-distance communication have supposedly been selected for efficient information transfer in their habitat. The differential effects of scattering and reverberation and the masking effects of background noise predict that loud calls produced in rainforest habitats should be low-pitched and whistle-like with low-frequency modulation. Callers may also use particular calling posts or times of day with reduced background noise to increase the efficacy of sound transmission. We studied the loud calls of the four sympatric primate species on Siberut Island. Only Kloss gibbons (*Hylobates klossii*) fulfilled the predictions regarding both the structure and use of calls. Though the other three species – Mentawai macaques (*Macaca siberu*), Pig-tailed langurs (*Simias concolor*), and Mentawai leaf monkeys (*Presbytis potenziani*) – also concentrated their main energies in the spectral window with the lowest background noise, their calls were not adapted to long-range transmission. All four species produced loud calls exclusively no lower than 18 m above ground, but food abundance and shelter in the canopy may also be factors. Though all four species produced the majority of loud calls in the morning, it was not the only time of day with reduced background noise. We suggest that phylogenetic inheritance may better explain the structure of calls than adaptation to the habitat. In sum, the observed usage of spectral and temporal niches is not solely an adaptation to the sound profile of the habitat, though it clearly improves their transmission.