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| Title: | Effect of female group size on harem male roosting behavior of the Indian short-nosed fruit bat Cynopterus sphinx |
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| Abstract: | Mate guarding has been known to incur costs and cause constraints for harem males in many polygynous species. However, the effect of female group size on the harem male's time budget in bats has received very limited attention. The Indian short-nosed fruit bat, Cynopterus sphinx, exhibits resource defense polygyny, in which tent roosting males construct tents and defend multiple female bats. We studied the effect of female group size on three aspects of harem male behavior: social grooming by reciprocal licking, tent maintenance, and tent guarding in the mast tree Polyalthia longifolia. In the process of reciprocal licking, all the bats in the harem were drenched in saliva before emergence, and this activity was positively and significantly correlated with female group size. Once females departed for foraging, harem males remained in their respective tents at night-time between intermittent foraging bouts and engaged in tent maintenance and tent guarding. Time invested by harem male bats in tent maintenance and tent guarding were positively and significantly correlated with female group size. Harem males extended their presence in tent by utilizing tents as feeding roosts. Female group size also influenced the emergence time of harem male bats, where males with largest group emerged later than did the smallest group. Likewise, harem male with the smallest group had more time available for foraging than the male with the largest group. Findings of this study suggest that having a larger harem may indeed be costly for the males by reducing their foraging time. |
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