Mammalian Behavioral Ecology in Southern California Habitat Fragments

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This study examined the impact of human and domestic dog presence on the distribution and movement of mammals in habitat fragments within a suburban matrix and possible human-wildlife conflict that could occur. Eight game cameras were installed in two canyon habitat fragments in the Palos Verdes Peninsula, one with human and domestic dog presence and one control without. Cameras were placed at natural constrictions along the two main travel corridors in the canyons, trails and creek beds. The camera installations were then monitored for 200 days from 5-3-17 to 11-18-17. Species richness for each canyon, movement location and time patterns, and the percentage of overall captures each species represented were analyzed. The control canyon had a higher species richness (9 vs. 6) and accounted for 93% of wildlife captures. Nocturnal activity was preferred for both canyons, but Procyon lotor and Canis latrans, in the control canyon showed a greater variability in time of activity than their conspecifics in the canyon with human presence. C. latrans captures showed no difference in frequency between canyons, while the other 8 mammal species captured on video showed a strong preference for the control canyon. Mesopredators P. lotor and Felis catus accounted for 68% of wildlife captures while C. latrans and V. vulpes accounted for only 1.8% of said captures. 82% of wildlife captures and 0.59% of domestic captures occurred at night. Therefore, human-wildlife conflict will likely be minimal in these fragments and human presence reduces mammal species diversity and movement in habitat fragments.

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