Prey use by male and female cougars in an elk and mule deer community

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Male and female predators may select for different species, sexes, and ages of prey because of sexually dimorphic body size where larger males select for larger prey. I tested for sexually dimorphic prey use by cougars (*Puma concolor*) from 2003 – 2008 in central Washington State. I predicted that males would kill a greater proportion of larger prey (elk) (*Cervus elaphus*), while females and females with offspring would kill smaller prey (mule deer) (*Odocoileus hemionus*) more frequently. I investigated 436 potential cougar predation sites identified by Global Positioning System (GPS) clusters (≥ 2 locations within 50 m on the same or consecutive day) and successfully located prey remains at 345 sites from 18 cougars (9M, 9F) (1-261 days post predation). I found 127 prey remains at female GPS clusters, 111 at females with offspring clusters and 107 at male clusters. I detected 184 mule deer, 142 elk and 17 other remains from 4 other species. I used log-linear modeling to detect differences in prey use and age of prey killed among cougar reproductive classes. Females and females with offspring killed more mule deer than elk (62% vs. 38%), while males killed more elk than mule deer (55% vs. 45%) ($P < 0.01$). Males killed 4 times as many adult elk than females (24% vs. 6%) and females killed about twice as many adult mule deer than males (26% vs. 15%). There were no differences in cougar kill intervals among reproductive classes ($P > 0.05$). Mean kill interval for all cougars was 6.9 days/kill, (SD = 3.94 days, range = 0.6 – 19.8 days, n = 136 inter-kill intervals). Cougars stayed at elk kills 4.81 days and 3.10 days for mule deer. The duration spent on kills differed among cougar reproductive classes ($P < 0.01$) and seasons ($P < 0.01$), with females remaining on kills longer than males (4.72 days vs. 3.43 days). Males had greater effects on elk and females had greater effects on mule deer. Managers should take sexually dimorphic prey use into account when prescribing hunting of predators as a method for prey conservation.