Poster Session 2 – Conservation and Ecosystem Services

99 Intraspecific pilferage and pilferage avoidance in *Sciurotamias davidianus*

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Pilferage by conspecifics is one of the causes of food loss in food-hoarding animals. The reciprocal pilferage hypothesis states that animals keep high intensity of scatter hoarding under the conditions of high pilferage because they can compensate for food loss through pilfering from others, but it is not well tested by experimental evidence. *Sciurotamias davidianus* is a good model to test the reciprocal pilferage hypothesis because individuals live in solitary with overlapped home ranges and primarily hoard plant seeds in scatter. Here, we tracked seed-hoarding and pilferage (nuts of *Juglans regia*) between paired squirrels using far-infrared camera traps in a semi-natural enclosure (50 m × 40 m). We tested whether food loss therough pilferage by other individuals could be compensated by pilfering from others (reciprocal pilferage hypothesis), harvesting from seed sources, or both of the two ways. We found that 1) caches animals pilfered from others were not different from those pilfered by other individuals, supporting the reciprocal pilferage hypothesis; 2) seeds animals harvested from the seed sources were more than those pilfered by others, suggesting that *Sciurotamias davidianus* tended to compete for food sources rather than to steal from others' stores, under the conditions of high pilferage; 3) total caches harvested from seed sources and pilfered from others was much more than food loss pilfered by other individuals, suggesting that food loss by pilferage can be compensated by competing for food sources and pilfering from others in *Sciurotamias davidianus*. We propose the pilferage-source compensation hypothesis and that scatter-hoarding animals compensate for food loss through pilfering others' food, and competing for food sources under the conditions of high pilferage.

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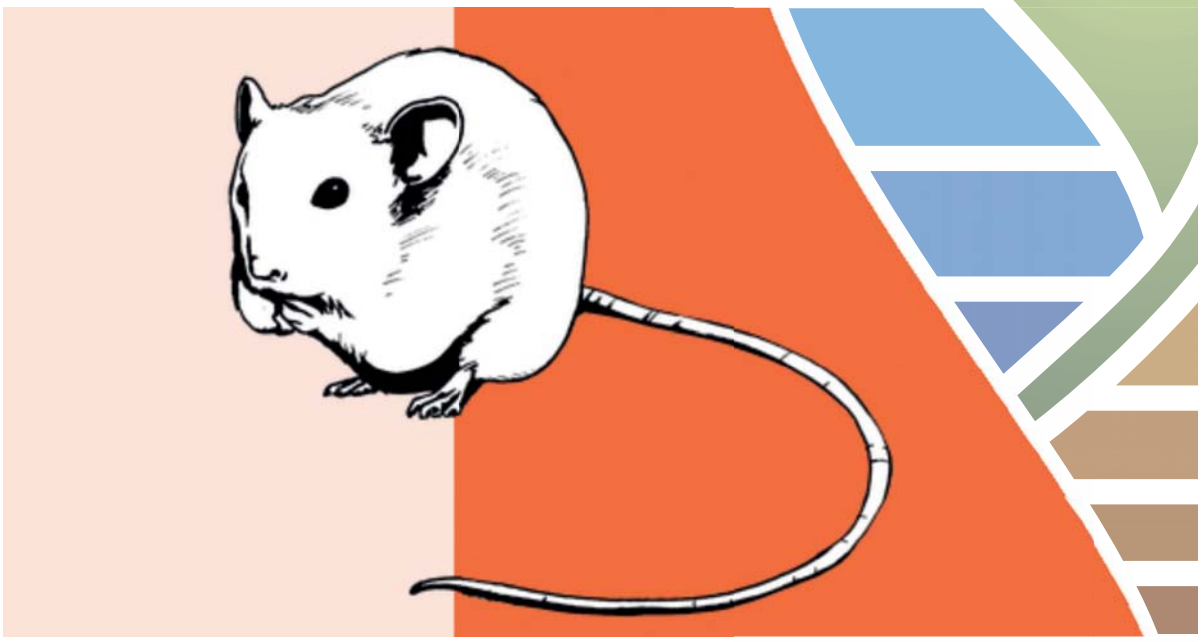

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