

Female degus (*Octodon degus*) monitor their environment while foraging socially

Verónica Quirici, Rodrigo A. Castro, Javiera Oyarzún, Luis A. Ebensperger

Abstract

Vigilance or scanning involves interruptions in foraging behavior when individuals lift their heads and conduct visual monitoring of the environment. Theoretical considerations assume that foraging with the “head down”, and scanning (“head up”) are mutually exclusive activities, such that foraging precludes vigilance. We tested this generalization in a socially foraging, small mammal model, the diurnal Chilean degu (*Octodon degus*). We studied spontaneous bouts of scanning of captive degus when foraging in pairs of female sibs and non-sibs. We examined the extent to which foraging (head down postures) and scanning (head up postures) were mutually exclusive in subjects exposed to none, partial, and complete lateral visual obstruction of their partners. In addition, we monitored the orientation of their bodies to examine the target of attention while foraging and scanning. Lastly, we examined the temporal occurrence of scanning events to assess the extent of scanning coordination, and whether this coordination is kin-biased. Visual obstruction had a significant influence on degu vigilance. Focal degus increased their quadrupedal and semi-erect scanning when foraging under a partially obstructed view of their partners. Degus oriented their bodies toward partners when foraging and scanning. Despite this, degus did not coordinate scanning bouts; instead, they scanned independently from one another. Relatedness among cage mates did not influence any aspect of degu behavior. Contrary to theoretical expectations, these results indicate that foraging and vigilance are not mutually exclusive, and that kinship per se does not influence scanning behavior and coordination.

Key words: Social foraging, Scanning, Visual obstruction, Vigilance coordination, Degus