

Food selection in an herbivorous rodent: Balancing nutrition with thermoregulation

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The degu, *Octodon degus* (Rodentia, Octodontidae) is a diurnal herbivore inhabiting the semiarid and mediterranean environments of northern and central Chile. In the field, degus are constrained to specific foraging areas, mainly by their limited thermal tolerance and by environmental food quality. Consequently, we hypothesized that degus must balance their diet selection by maximizing nutrients/digestible energy intake, in the face of their time and digestive constraints and seasonal/spatial changes in food quality; and by minimizing thermoregulatory risk, in the face of their low evaporative water loss and seasonal/spatial changes in environmental temperatures among foraging areas. This hypothesis was tested in a series of diet selection experiments conducted in an experimental arena, as well as in nutritional trials, involving synthetic diets with different fiber content and thermal patches. As predicted, results of the arena food selection experiments, as well as the nutritional tri