

## ALPINE HABITAT SELECTION IN SYMPATRIC MOUNTAIN GOATS AND MOUNTAIN SHEEP

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Abstract: Observations enhanced with use of a prescribed route and radiotelemetry, were used to estimate fall, winter and spring (Sept-May) habitat selection of sympatric mountain goats (Oreamnos americanus) and mountain sheep (Ovis canadensis) in alpine areas near Mount Evans of central Colorado. Based on instances of use and not frequency or intensity of use, mountain goats and mountain sheep selected 15 and 17 of 25 identified habitat types, respectively, during September through May 1981-85. Six habitat types were not used by either species. Mountain goats tended to occupy more habitats within months than mountain sheep. Based upon tests of pooled observations, mountain goats used alpine habitats disproportionately to their availability. Dissimilarly, mountain sheep used alpine habitats proportionately to their availability. Although mountain goats and mountain sheep did not use the same habitats in toto, at least 2 habitats were used frequently by each of the species and not always at different times. Sixty-nine instances of direct interaction were noted between the 2 species. Of these, 41% involved interference competition where mountain sheep were deterred from use of some resource. Observations of seasonal differences in interference competition were consistent with competition theory. Whether habitat selectivity in this case has been influenced by interspecific competition is uncertain.

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### QUESTIONS AND ANSWERS

Daryll Hebert, BC: Dale, you mentioned 69 agonistic interactions that you recorded between sheep and goats, is that correct?

Dale Reed: Yes

Hebert: Did you have any measurements as a result of the agonistic interactions that there was any detrimental effect on the sheep? Were they actually displaced out of an entire habitat or did they remain within that habitat but select a different feeding site for example?

Reed: I would say almost exclusively they remained in that habitat, but they were displaced from a given feeding area, a given resource such as a salt lick, a bedding area and so on. The extreme we had was where one adult goat literally chased a group of about twelve sheep for one hundred meters. That's extreme, but that was still in the same general habitat as identified.

Hebert: If you're hypothesizing some interference, how do you think it would manifest itself in sheep, poorer nutrition, larger energy expenditure?

Reed: Larger energy expenditures to some degree, less preferable resources to some degree. We were monitoring populations aspects as well as feeding habits, but I think our measurements were too crude to detect a response.