Behavioral Ecology in the Northern Scorpion (Poster)

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The Northern Scorpion (*Paruroctonus boreus*) is a predatory arachnid. Although occurring at relatively high densities in local areas, conspecifics have seldom been observed sharing cover items. We investigated territoriality of scorpions by analyzing pairs of scorpions introduced into a habitat with a single, small cover item. We used mono- and bisexual pairs, similar and differently sized pairs, and pairs from the same or different populations. Scorpions were collected from two populations in south-central Montana. Results indicate that scorpions do interact over cover items, though not to the extent that we had anticipated. When scorpions were housed singly, they spent 80% of their time under cover. When size-matched pairs were offered a single cover item, up to 60% of the time

at least one scorpion was not under cover. Further, when differently-sized scorpions were paired, a similar result obtained with the larger scorpion excluding the smaller most often. Interestingly, these results all differed by population and sex. Scorpions from the naturally more-dense population excluded others more frequently than scorpions from the less-dense population. Additionally, males excluded other males more frequently than mixed-sex pairings excluded one sex or the other, or than females excluded other females. Finally, late in the experimental season (early Spring), there were six instances of cannibalism. In each case, females killed and consumed males. Though cannibalism has been previously documented in this genus, it has not been observed to be "seasonal" and has been attributed to size differential and not simply sex. In one of our cases, a smaller female killed and consumed a larger male. This pilot project provides several interesting questions to pursue regarding behavioral ecology in this species.