

Lactating Females Do Not Discriminate Between Their Own Young and Unrelated Pups in the Communally Breeding Rodent, *Octodon degus*

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Abstract

Females in numerous rodent species engage in communal nesting and breeding, in which they share one or more nests to rear their young. A potential cost of communal nesting and breeding is that mothers divert resources to unrelated offspring. One way mothers could avoid this cost is to recognize and favour their own young over unrelated offspring when allocating maternal effort. We assessed whether female degus (*Octodon degus*), a communally nesting and breeding caviomorph rodent, discriminate between their own and unrelated offspring during lactation. Female degus previously have been shown to distinguish between their own and unrelated pups when exposed to odours from both. We measured pup discrimination based on differences in the retrieval behaviour of females that were in early or intermediate lactation directed towards their own and unrelated offspring; offspring presented were of similar or different age. Before any event of pup retrieval, lactating females spent similar amounts of time and interacted to a similar extent with their own and unrelated pups. During pup retrieval, all lactating females transported both pups to the nest. Neither relatedness to pups, nor pup-age differences, influenced the order in which pups were retrieved to the nest. Dams waited similar amounts of time before retrieving the first pup when the first transported young was their own or unrelated. Likewise, females waited similar amounts of time before retrieving the second pup when the pup transported first was their own or unrelated. The time between first and second pup transport events was longer when dams were in early when compared with intermediate lactation, but only when pups were of similar age. All experimental subjects nursed unrelated pups after they were retrieved. Collectively, our results do not support the hypothesis that communally breeding female degus use their recognition ability to discriminate against unrelated offspring in favour of their own young.