



Royal matchmaking: ant workers promote outbreeding by their sexual sisters by transporting them to alien nests

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Courtship and mating are typically associated with costs and risks and females are therefore expected to mate only with one or a few males. Nevertheless, female multiple mating (polyandry) is a common phenomenon in animals. In Hymenoptera, polyandry might be beneficial because it increases the genetic diversity of the queen's offspring, thus improving division of labour and increasing pathogen resistance. Furthermore, multiple mating may counterbalance the negative effects of eventual sib-mating. Colonies of the ant *Cardiocondyla elegans* from Southern France obligatorily contain only a single fertile queen (monogyny) and several wingless males. Mating occurs within the nest between brothers and sisters, but to promote additional outbreeding workers may transfer their female sexual sisters into alien colonies. In summer workers have been observed carrying female sexuals over several meters and dumping them into the entrances of other nests. It appears that sexuals are not randomly exported but transferred only to a subset of the locally available colonies. In order to understand which parameters workers use to select particular colonies we evaluate the relatedness between workers and the female sexuals they carried, their relatedness to the source and receiver colony, and the population structure. We also compare the fitness of randomly selected queens that were forced to mate with only related males, with a few, or with many additional, unrelated males under natural conditions.