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*Larval inhibition of worker egg-laying in the ant *Aphaenogaster senilis**

Raphael Boulay, Xim Cerda, Irene Villalta

The workers of many ant species have functional ovaries and are able to lay unfertilized (haploid) eggs though they generally do not do so, at least when a reproductive queen is present in the colony. Theory states that workers may refrain from laying eggs if they have a mutual interest in rearing brothers (the queen's sons) rather than nephews (other workers' sons) with which they are less genetically related. In addition, workers may punish reproductive workers if worker reproduction has a cost for the entire colony. The queen of *Aphaenogaster senilis*, a monogynous and monandrous species inhibits worker reproduction. Here we show that this is also the case of larvae: in queenless condition, worker-derived eggs appear later when the workers are provided with first instar larvae than when they are not. A mesh experiment suggests a contact pheromone emitted by the larvae is partially responsible for this inhibition. In this species, the first instar larvae are exclusively fed with trophic eggs; The larvae may, therefore, signal themselves in order to maintain the production of trophic eggs by the workers and by so doing inhibit the production of parthenogenetic eggs. From an evolutionary perspective, it may not be in the workers' interest to switch to parthenogenetic egg-laying until larvae are present in the colony since, in queenless condition, one of them may develop into queen. This also raises the question whether workers also refrain from laying eggs in the presence of other worker's sons.