



Chemicals passed from fire ant males to females during mating have multiple functions that enhance colony foundation success

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Fire ant queens release a primer pheromone that inhibits the development of the female sexuals in her colony, e.g., wing loss, ovariole development and pheromone production. This prevents queen/offspring competition for colony resources. However, newly mated queens quickly overcome the queen's inhibitory chemistry, as is necessary for successful colony foundation. We investigated the chemistry of male produced compounds that are passed to the female sexual during mating. These compounds likely have multiple functions. We present data showing how male derived chemistry passed to the female during mating is essential in overcoming the mother queen's inhibitory primer pheromone, and plays a role in preventing multiple matings during the mating flight.