

**OR179***Rescue of callows in *Cataglyphis cursor* ants***Elise Nowbahari**, Celine Amirault, Karen L. Hollis

Previously we have shown that *Cataglyphis cursor* ants are capable of highly sophisticated rescue behavior in which individuals are able to identify what has trapped a nestmate victim and to direct their behavior toward that specific obstacle. In addition, we have shown that rescue behavior is constrained by a division of labor: Whereas foragers are able both to give and receive the most help, inactives neither give nor receive any help whatsoever, and nurses give and receive intermediate levels of aid. This profile of rescue behavior across the three castes suggests that workers' age may be a critical variable. In this species, as in others in which a sensitive period for nestmate recognition exists, young ants (callows) that are less than four days postemergence - and thus younger than inactives in our previous study - are able to be adopted by heterospecifics, suggesting that they are not yet recognized as belonging to a specific colony. However, it is not known if callows carry the colonial odors and if they are able to solicit or receive help when trapped. In the present study, we artificially ensnared individual *C. cursor* callows and tested them with a group of five potential rescuers, either foragers or nurses. In addition, we performed biochemical analyses of released substances by trapped callows and adults using Solid Phase Micro Extraction (SPME). Our results show that callows are able to trigger rescue behavior in both foragers and nurses. Nonetheless, homospecific callows are rescued for a longer duration than either heterocolonial or heterospecific callows. Finally, biochemical analyses revealed the presence of volatile components in adults, but not in callows, suggesting that, although the call for help in callows may be different than the call for help in adults, it releases the same precisely-directed rescue behavior.