

P031*Inter-individual variation of dance activity in honeybee foraging groups***Ebi George**, Divya R, Axel Brockmann F

Honeybee foragers communicate information about the profitability of a food source as well as its direction and distance to nest mates via dance behaviour. The food reward affects the probability and intensity of the dance behaviour which in turn regulates the recruitment to that food source. Previous experiments indicated a large variation in the dance responses of individuals to different sugar concentrations and suggested that most of the dances within a foraging group are done by a few foragers (Seeley, 1994). We recently started studying this inter-individual variation in dance behaviour with a focus on three questions: (1) Does an individual's dance activity remain stable over time? (2) Does the composition of the foraging group affect individual dance activity? (3) Are differences in dance responses correlated with differences in neuro-modulatory systems? In line with previous experiment, we found strong differences in dance activity between individuals in a foraging group (5-10 foragers). Some foragers danced for all sugar-water concentrations, whereas others did not dance at any concentration. In addition, differences between foragers mostly remained consistent over 3-4 days. We are currently performing manipulation experiments in which we remove foragers, which show the highest dance activity, from the foraging group. Preliminary results suggest that changes in the composition of the foraging group may have an effect on an individual's dance activity. Our results raise the question whether honeybee foragers visiting the same food source show a division of labor with respect to food collection and recruitment behaviour. Seeley, T. (1994). Honeybee foragers as sensory units of their colonies. *Behavioral Ecology and Sociobiology*, 51: 62.