

OR253*Dynamics of collective worksite selection in weaver ants, *Oecophylla smaragdina****Thomas Bochynek, Simon Robson**

The nest construction in weaver ants involves the collective rolling of leaves and their subsequent fixation with larval silk. It represents a classical task in social insect societies, in which groups make decisions and perform tasks well beyond the scope of the sensory and physical capacity of the individuals. We investigated what group dynamics lead to the collective selection of worksites for nest construction by providing colonies with an artificial leaf in a laboratory setting. Pulling chain initiation commences when an individual who grasps the edge of the substrate with its mandibles is joined by nest mates, who either grasp the body of the first ant or the leaf perimeter next to them. Only through the combined effort can the leaf be bent into the desired shape. We find that initial site selection by individual workers is not random. When confronted with an artificial leaf individuals more likely to grasp a substrate at its tip rather than along a more broad edge. The activity of additional individuals is also not random, with their activity being grouped in both space and time. Additional individuals are more likely to join an existing biting individual or pulling group. The positive feedback associated with the leaf bending behaviour appears typical for many of the collective actions observed in social insects.