

## **OR178**

Ergatoid queens actively contribute to colony emigration in Mystrium oberthueri Diane Bouchet, Christian Peeters, Brian Fisher, Mathieu Molet

Nest emigrations are perilous for social insect colonies. Outside their nests, adults and brood are exposed to dangers. The behavioural mechanisms of emigration are thus likely to be under strong selective pressures. Most studies on emigration focused on monogynous species where survival of the queen is paramount, but emigration processes are largely unknown for species having several queens per colony. In colonies of Mystrium oberthueri, members of the morphological queen caste are as numerous as workers although only a few of them mate and reproduce (polygyny). All queens perform intranidal tasks such as brood care, whereas workers focus on hunting and nest defence. Accordingly, we expected queens to actively participate in emigration and to be less protected. Using four colonies, we studied the dynamics of 16 emigrations with special focus on individual behavioural profile. Non-reproductive queens were actively involved in recruitment and brood transport, although not as much as workers. Reproductive queens and young ants (including virgin queens and workers) preferentially walked directly to the new nest without carrying brood. Accordingly, the physiological status of individuals had more impact on their behavioural profile than their morphological caste. A chemical trail was probably used. This highly organized emigration process may underpin dependent colony foundation as they both involve the coordinated movement of nestmates.