P083

Fast spread of a fungal parasite in an invasive supercolony

Simon Tragust, Heike Feldhaar, **Jes Søe Pedersen**

Many ant species are highly successful invaders and can dominate vast areas by forming dense networks of connected nests in contrast to the smaller and spatially dispersed colonies of most social insects. However, it was recently proposed that such supercolonies are more vulnerable to infection by parasites and diseases as they would serve as large targets with high rates of transmission from nests to nest. Here we studied the invasive garden ant *Lasius neglectus*, a new pest species which is currently spreading throughout Europe where several populations are infected with the ectoparasitic fungus *Laboulbenia formicarum*. In one population (supercolony) we followed the prevalence and intensity of the infection over 10 years, revealing an epizootic spread of the ectoparasite with the mean annual prevalence increasing from 0.126 to 0.997. The body parts of the ants had markedly different infection intensities, and at low intensities antennae and thorax were free from signs of infection. There were no seasonal differences in infection intensity and no other *Lasius* species in the area was found to be infected. These results give the first direct support to the hypothesis that supercolonies of invasive ants potentially face an important threat from parasites and diseases, implying interesting perspectives for biological control of these species.