Assessing risk associated with exotic ants in New Zealand

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Eligible for student prize

Globally, invasive species are widely recognised as causing negative impacts on social, economic and environmental sectors. Expansion of international trade and movement of people worldwide has increased the likelihood of species moving out of their native areas and into novel environments. The ability to identify species that pose significant risk is therefore critical, so that managers can determine which species should be targeted based on resources available. Ants play a dominant role in many different ecosystems through their interactions with the local environment. Invasive ants often disrupt such interactions with negative consequences for native biodiversity, which in some cases can lead to ecosystem-wide effects. Whilst there are more than 12,000 described species of ants worldwide, New Zealand is unusually depauperate, having only 11 native species. There are, however, 29 introduced species established in New Zealand, for the most part with unknown consequences. Although ants are known to be capable of invading many different native New Zealand ecosystems, their impacts are poorly understood. The ant communities of native ecosystems (6 open and 6 closed canopy sites) around the wider Auckland area were characterised 10 years ago by baiting and hand-collecting along a transect from disturbed into intact habitat. The sampling was repeated in 2015 and data will be presented on how ant distribution has changed over a temporal scale. Future research will focus on assessing the impacts of exotic ants on native biodiversity, retrospectively testing the predicted impacts of several exotic ant species based on existing risk assessments. This information will ultimately be used to improve risk assessment frameworks for assessing the potential impacts of exotic invertebrates in native New Zealand ecosystems.