

**OR294**

*Diversification and dispersal of Australasian ants, from populations to species.*

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Oriental and Australasian islands represent one of the most complex biogeographic systems on Earth and are often called 'evolutionary laboratories', hinting at their potential to generate many diverse cases of population diversification and speciation. We thus compare diversification and dispersal patterns of different ant lineages in this region. We used ddRADSeq-generated SNPS, microsatellites and mitochondrial and nuclear sequences from over 100 populations of the weaver ant *Oecophylla smaragdina* and the trap jaw ant *Odontomachus simillimus* across their distribution range. For *Oecophylla*, biogeographic reconstructions suggest that the ants dispersed into Australasia from mainland Asia via Sulawesi. Most of the populations on SE Asian islands form unique clusters suggesting single colonization events. New Guinea and Australia show a multipart dispersal pattern with geographically distant populations from over 1000 km along the coast more closely related than inland populations within New Guinea. In *Odontomachus*, both mtDNA and nDNA markers suggest genetically homogeneous clusters correspond with geographical structuring (archipelagos), an exception being Fiji, which shows multiple colonization events from different source populations. In New Guinea, mtDNA suggests the occurrence of three different lineages, while microsatellites suggest one homogeneous cluster. To study diversification and dispersal patterns at the species level, we reconstructed the phylogeny of Melanesian members of *Prenolepis* genus-group. Distributional range and habitat association analyses in a phylogenetic context show that New Guinea is an important source for colonization of Melanesia and the South Pacific, and that levels of endemism are linked to island size. Although most South Pacific islands are inhabited by wide ranging Prenolepidini species, several species previously considered widespread actually constitute several cryptic species.