

**OR203**

*The role of Rhytidoponera metallica in facilitating post-fire seed germination*

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Within fire-prone vegetation, ants may benefit myrmecochorous plants by protecting seeds within their nests during fire and by burying seeds at depths where seed dormancy can be broken by increased soil temperatures. In Australia, species of *Rhytidoponera* are predominant seed dispersers of myrmecochorous plants, yet little is known of the post-fire fates of seeds that they disperse. We investigated the role of *R. metallica* (Formicidae: Ectatomminae) in seed burial and post-fire seed germination of the three legume species; namely *Pultenaea daphnoides*, *Acacia pycnantha* and *A. myrtifolia*. Burial depth requirements for heat stimulated germination of the three plants species were determined by burying seeds within aluminium cans at a site prior to being burnt by a prescribed fire and at an adjacent site that remained unburnt. The fire increased germination levels for seeds buried at 1 and 2 cm below the soil surface. Prior to the fire, seeds were also fed to colonies of *Rhytidoponera metallica* and the proportions of buried *P. daphnoides* and *A. pycnantha* seeds that germinated from ant nests and non-nest locations were higher in the burnt than in the unburnt site. For *A. myrtifolia*, 8.1% of the seeds fed to *R. metallica* colonies located in the burnt site germinated, whereas 1.1% germinated from nests located in the unburnt site. These results show that *R. metallica* ants can facilitate post-fire seed germination, although this disperser also buries some seeds at depths at which temperatures required to break seed dormancy are unlikely to occur, and also discards seeds from their nests, so that discarded seeds would require reburial in order to be protected from fires.