

**OR293**

*Rediscovery of New Caledonian bulldog ant. Insights into island disharmony*

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Because of their remoteness and isolation, islands are dreamed territories for biologists and ecologists where the unexpected is expected, including for ant community organization patterns. New Caledonia archipelago, in the south west pacific, make not an exception. It appears to have been colonized and occupied by a highly endemic and unusual ant fauna, and represent a true ant diversity hotspot in respect to Australian, Indo-Australian and Oriental regions. Following the rediscovery of a population of the rare bulldog ant *Myrmecia apicalis*, an endemic of New Caledonia and the only species of *Myrmecia* known outside of Australia, 70 years after the last sight, we shed light on a taxon which appears unusual for the genus. Its small colonies build cryptic nests in the forest soil and forage arboreally and diurnally. Also, this ant seems to survive in small remnants of coastal forest which appear as unique last refuge facing spread of invasives. Then *M. apicalis* appears as a 'missing link' in the context of biogeography of Australasia and island colonisation. At the light of this original species rediscovery, New Caledonian ant community appears unique and original as adaptative shifts have occur in the context of colonization by ants, resulting in the constitution of a real disharmonic fauna by comparison of others tropical ant communities. It illustrates the interplay of ecological opportunities and constraint which result in the lack of some widely co-evolved patterns observed elsewhere for forest ant communities. The recent spread of numerous exotic ants also appears as a new challenge for these communities and the survival of these communities and associated biogeographic patterns would not be guarantee. Then the conservation of such communities appears as a patrimonial priority according to high value for the understanding of diversification of social insects.