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BIODIVERSITY AND ADAPTIVE STRATEGIES OF MYCORRHIZOSPHERE BACTERIA ASSOCIATED TO *TRISTANIOPSIS* SPECIES IN NEW CALEDONIAN ULTRAMAFIC ECOSYSTEMS

Muhammad Waseem[1], Marc Ducousso[1,2], Michel Lebrun[1,2], Odile Domergue[1], Duponnois Robin[1], Yves Prin[1], Antoine Galiana[1]

[1] Laboratoire des Symbioses Tropicales et Méditerranéennes, UMR 113 INRA-IRD-CIRAD-UMII-Sup Agro-M, Montpellier, FRANCE
[2] Institut Agronomique Néo-Calédonien, IRD, Nouméa, NOUVELLE-CALEDONIE

New Caledonian ultramafic ecosystems are considered as hotspots of biodiversity, partly because of the adaptative pressure exerted by drastic edaphic conditions. These soils are composed of up to 85 % of iron oxides, are deficient in NPK, unbalanced for the Ca/Mg ratio and particularly rich in heavy metals such as Ni (2%), Cr (2%), and Mn (1%). Both plant and soil microbes play a vital role in the adaptation to harsh soil conditions mainly heavy metal uptake and tolerance. We chose an endemic species of the genus *Tristaniopsis* (*Myrtaceae*) as model plant to study the role of ectomycorrhizal fungi and associated bacteria in plant adaptation to nickel. To investigate the effect of ultramafic soils on ectomycorrhiza and mycorrhizosphere bacterial diversities as well as on the genetic determinants of resistance/adaptation of associated mycorrhizosphere bacteria, 200 ectomycorrhizas were sampled from four different ultramafic sites (3 in Koniambo and 1 in Desmazures forest) *vs* two non-ultramafic ones from volcano-sedimentary soils (Arama). Molecular characterization of ectomycorrhiza (rRNA ITS) and associated mycorrhizosphere bacteria (16S rRNA) from these samples showed the presence of different dominant fungi, *i.e. Pisolithus albus*, *Russula* spp. and *Boletellus* spp., and bacteria, *i.e. Burkholderia* spp., *Bacillus* spp. and *Pseudomonas* spp., that can be found in both soil types. However, bacteria isolated from ultramafic soils could grow in the presence of Ni up to 20 mmol L^{-1} and contained *cnr*T and *nre*B genes, known to confer heavy metal tolerance, contrarily to bacteria isolated from non-ultramafic soils. Moreover, we found a strong positive correlation between heavy metal tolerance and P-solubilizing ability. Further investigation on functional diversity of ectomycorrhiza-mycorrhizosphere bacteria associations and their role in plant adaptation to ultramafic soils would help in the understanding of plant functioning on New Caledonian mine sites.