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Rhizobacterial Isolates from the Metal Hyperaccumulator *Noccaea caerulescens* Growing in a Ni Enriched Soil

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Aim: The study is dedicated to analysing the diversity of cultivable bacteria in the rhizosphere of the metal hyperaccumulating plant *Noccaea caerulescens* growing in ultramafic soil. The aim of the work is contributing to the valorisation of the endemic biodiversity in metal enriched environments and was carried out in the frame of the project Phy2SUDOE (SOE4/P5/E1021).

Methods: Bacterial strains were isolated from the rhizosphere of individuals of the metal hyperaccumulating *Noccaea caerulescens* (J.Presl & C.Presl) F.K. Mey. collected in an environment naturally enriched in Ni (ultramafic substrate). The isolates were identified by partial sequencing of the 16S rRNA gene and the Ni tolerance and several plant growth promotion properties (PGP) were evaluated.

Results: The collection of isolates was dominated by members of the *Actinobacteria*, namely of the families *Micrococcaceae*, *Microbacteriaceae*, *Streptomyetaceae* and *Nocardiaceae* and *Alphaproteobacteria* of the family *Phyllobacteriaceae*. The genera more represented among the cultivated rhizobacteria were *Paenarthrobacter*, *Streptomyces* and *Mesorhizobium*. The PGP properties evaluated included the analysis of P solubilisation, the production of siderophores and ACC deaminase.

Conclusions: The analysis of the diversity of cultivable bacteria in the rhizosphere of a metal hyperaccumulating plant allowed to identify isolates with potential application in the phytomanagement of metal enriched or contaminated substrates.