

Diversity and P-solubilizing ability of mycorrhizosphere bacteria associated with *Pinus pinaster* in the Landes forest ecosystem

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Ectomycorrhizal fungi (ECM) and their associated mycorrhizosphere bacteria (MB) play a major role in phosphorous (P) nutrition of maritime pine, particularly in the Landes forest ecosystem considering the low bioavailability of P in its sandy-acidic soils. In order to characterize the MB associated to ECM, three collection campaigns of ECM root tips were performed from autumn 2005 to autumn 2006 throughout three forest stations. Five MB and nine ECM genera were identified overall through sequencing of 16S rDNA and mitochondrial large subunit rDNA fragment respectively. Dramatic seasonal changes were observed in the different MB-ECM associations especially in *Burkholderia-Lactarius* and *Bacillus-Russula* that were the most abundant ones. P-solubilizing ability of MB was shown to be taxon-dependent with a large majority of P-solubilizing isolates among *Burkholderia*, *Pseudomonas* and *Paenibacillus* contrary to *Bacillus*. Relationships between functional diversity of the MB-ECM associations and bioavailability of soil P remain to be investigated.