SCREENING OF ROOT NODULE ENDOPHYTES ISOLATED FROM NATIVE LEGUMES OF ARID REGIONS OF INDIA FOR THEIR MULTIPLE PGP TRAITS.

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Plants growing in inhospitable environment may have association with useful microbes that help them to withstand harsh conditions like poor and degraded soil, high temperature and high salinity. Isolation and screening of isolates from plants of such habitats showing plant growth promoting traits (PGP) would be useful to enrich the bank of agriculturally important microbes. In present investigation more than one hundred isolates were obtained from root nodules of ten native legumes growing in arid regions of Indian Thar desert. These plants are herbs, shrubs and medicinal lianas growing in various ecological niches of the Rajasthan (India). These root nodule bacterial isolates were screened for PGP traits like production of IAA, ammonia, siderophore and solubilisation of inorganic phosphate. More than 50 % of isolates from *Tephrosia purpurea* and *Tephrosia villosa* were found producing IAA as compared to 10% isolates from *Mimosa* species. Most of the isolates from all the species were found producing ammonia. Siderophore production was observed in isolates of *Mucuna pruriens* (60%), followed by isolates from species of *Indigofera* (45%), *Tephrosia purpurea* (40%), *Pueraria tuberose* (30%) and species of *Mimosa* (25%). Phosphate solubilisation trait was observed in isolates of *Mimosa* (75%) followed by *Pueraria* (69%), *Mucuna* (64%), *Indigofera* (50%) and *Tephrosia* (25%). Isolates from *Mimosa*, *Indigofera* and *Mucuna* were found producing proteases, cellulases, pectinases and chitinases.
Results will also be discussed in relation to interaction of nitrogen fixing rhizobia (*Sinorhizobium medicae* WSM 419) with PGP bacteria isolated from root nodules of native legume for their effect on nodulation and growth of *Medicago truncatula*.

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