

FUTURE PROSPECT

The present study was carried out for the first time both for this region as well as for the concerned leguminous plants for the determination and categorization of rhizospheric, endophytic and symbiotic bacteria isolated from the rhizosphere and roots nodules of the selected legume plants growing in the four valley districts of Manipur, India. Considering the importance of legume plants economically in the form of food crops, their effect on soil fertility as well as a source of alternative vegetable in few cases, the present study provide a glimpse of the potential of the legume, plants particularly their interactions with nitrogen fixing bacteria. Besides, the current study may prove worthwhile to recognise and determine the diversity of bacteria which perhaps potentially enhance the growth and development of the wild legume plant whose potentials are still not properly exploited. In the present study fresh strains of rhizospheric, endophytic and symbiotic bacteria are isolated and monitored for the presence of nitrogenase activity through Acetylene Reduction Assay and NifH gene amplification. Finally through 16S rDNA sequencing and phylogenetic analysis the species level of the isolated bacterial isolates are determined and recognised. The present study provided the chance for identification of fourteen nitrogen fixing bacteria associating with the selected five legume plants. Besides, unaccounted and unexploited wild legume plants are available in every possible environment even in harsh conditions. Consequently, covering a broader area of sampling site and increasing the number of wild legume plant sources for study promises the possibility of finding out even more numbers of organisms capable of Biological Nitrogen Fixation. Works as such being never done before from the state of Manipur gives the possible chances of finding out undocumented noble species whereby the ecological importance and the diversity of the nitrogen fixing microbes found associated with the wild legumes plants could be ascertained and described.