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Rhizobiology of some selected crop wild relatives of *Vigna* in Sri Lanka

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In this study, four legume species collected from different locations in Sri Lanka were subjected for analysis of which hardly any information is available on their rhizobiology. They are *Vigna dalzelliana*, *Vigna trinervia*, *Vigna trilobata* and *Macroptelium* sp. The object of the study was, characterizing rhizobia, maintain a rhizobium collection, examination of infectivity & effectivity of the rhizobial isolates and development of effective inocula for crop varieties. During the work, isolation, purification, characterization and authentication of rhizobium isolates from the root nodules of host plants were done.

Characterization was performed using morphological characters such as colony characters, gram staining and spore staining, biochemical characters such as BRYMA test and checking for gas and acid production and infectivity and effectivity was checked using a reference plant, siratro (*Macroptelium artropurpureum*)

Rhizobium isolates could tentatively assign into 14 isolates according to the results of characterization. These include seven isolates from *V. dalzelliana*, one isolate from *V. trinervia*, two isolates from *V. trilobata* and four isolates from *Macroptelium* sp. All of them are gram negative non spore formers. Among them 11 isolates are fast growers and the other 3 are slow growers. All the slow growers are non gas producers where as all the fast growers except 2 are gas producers. Upon inoculation of isolates to siratro the VTL2 isolate showed highest infectivity and this could be used to inoculate crop species of *Vigna* with the aim of increasing the yield. Other isolates showed less or no infectivity.

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