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Technical Article

Biodiversity of Root-Nodule Bacteria Associated With the Leguminous Plant *Biserrula pelecinus*

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Abstract

Biserrula pelecinus is a noteworthy forage legume known for its drought- and acid-resistant properties and nitrogen-fixing ability that forms an extremely specific symbiotic relationship with bacteria from genera *Mesorhizobium*. To investigate the biodiversity of root-nodule bacteria associated with *B. pelecinus*, a total of 88 bacterial strains were examined using rep-polymerase chain reaction amplification. The 16S rRNA gene sequencing was also used to determine the phylogenetic relationship with type strains of different genera of rhizobia. Our results show that although a considerable genetic variability among *Biserrula* isolates was found, most isolates were phylogenetically related to *Mesorhizobium ciceri*. Curiously, a new symbiotic partner was found to nodulate *Biserrula*, suggesting possible lateral gene transfer of nodulation and nitrogen fixation genes between *Mesorhizobium* and *Rhizobium*.