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Title:	Molecular characterization of local cyanobacterial isolates using 16S rRNA, rpoB, and nifH biomarkers
Authors:	Kumari, Nidhi (/jspui/browse?type=author&value=Kumari%2C+Nidhi)
Keywords:	Molecular characterization of local cyanobacterial isolates 16S rRNA rpoB, and nifH biomarkers
Issue Date:	2022
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Citation:	Cyanobacterial Lifestyle and its Applications in Biotechnology,307-334.
Abstract:	Cyanobacteria, the first oxygenic photosynthetic prokaryotes, are designated as architects of the earth's atmosphere. These organisms are an important, agronomically significant, and integral component of water-logged paddy fields. These autotrophs contribute to soil fertility via their dual capacity to fix atmospheric nitrogen and carbon. Despite of rich biodiversity of India, data available on molecular assessment of cyanobacterial diversity of paddy fields are scarce. The present chapter intends to describe a general overview of the molecular biomarkers used to assess cyanobacterial diversity with a specific focus on molecular characterization of the local cyanobacterial isolates of Eastern Uttar Pradesh and Western Bihar, India using three biomarkers, that is, 16S rRNA, RNA polymerase, and nifH gene. In this way, a total of 69 new sequences of 16S rRNA, rpoB, and nifH gene (23 for each gene) of cyanobacterial isolates were successfully deposited in the GenBank database. Hence, we look forward to the state-of-the-art polyphasic approach as a unique, unambiguous, and comprehensive procedure for cyanobacterial characterization.
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