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Title

Isolation of Endophytes from *Phoenix Paludosa* (Hetal) of Sundarban Biosphere Reserve and To Explore Their Potentials for Bioactive Compounds

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Abstract

The Sundarban Biosphere Reserve extends in India and Bangladesh, is densely covered by mangrove forests, and is one of the largest biodiversity reserve. The present Sundarban National Park was declared as the core area of Sundarban Tiger Reserve in 1973 and a wildlife sanctuary in 1977 and it has been designated as a Ramsar site since 1992. The Mangrove forest is inhabitant by different floral population like *Sonneratia*, *Phoenix paludosa*, *Excoecaria agallocha* etc. Endophytes are a group of microorganism that grow within the tissues of higher plants and colonize them without causing any noticeable injury to the host. Both bacteria and fungi are considered as endophytes. Endophytes represent a potential hub of novel bioactive compounds such as antibiotics, anticancer and other biological control agents. *Phoenix paludosa* belongs to the family Arecaceae and is salt tolerant mangrove plant. The plants were collected from the Sundarban Biosphere Reserve near Pakhiralay, an Island. Altogether 15 strains of bacteria were isolated from the roots, leaves and stem of the plant. The bacterial population showed a high level of growth hormone production namely Auxin and Gibberellins to the levels ranging from 160 to 300µg/ml and 173µg/ml to 426 µg/ml respectively. The bacterial population even showed antimicrobial activity against human pathogenic strains such as *Escherichia coli*, *Vibrio cholerae*, *Klebsiella sp.*, *Pseudomonas aeruginosa*, *Acinetobacter baumannii* and *Burkholderia sepsis*. Thus the study suggests that these microbes have huge potential to synthesis of numerous novel compounds that can be exploited in pharmaceutical, agricultural and other industries.

Poster

