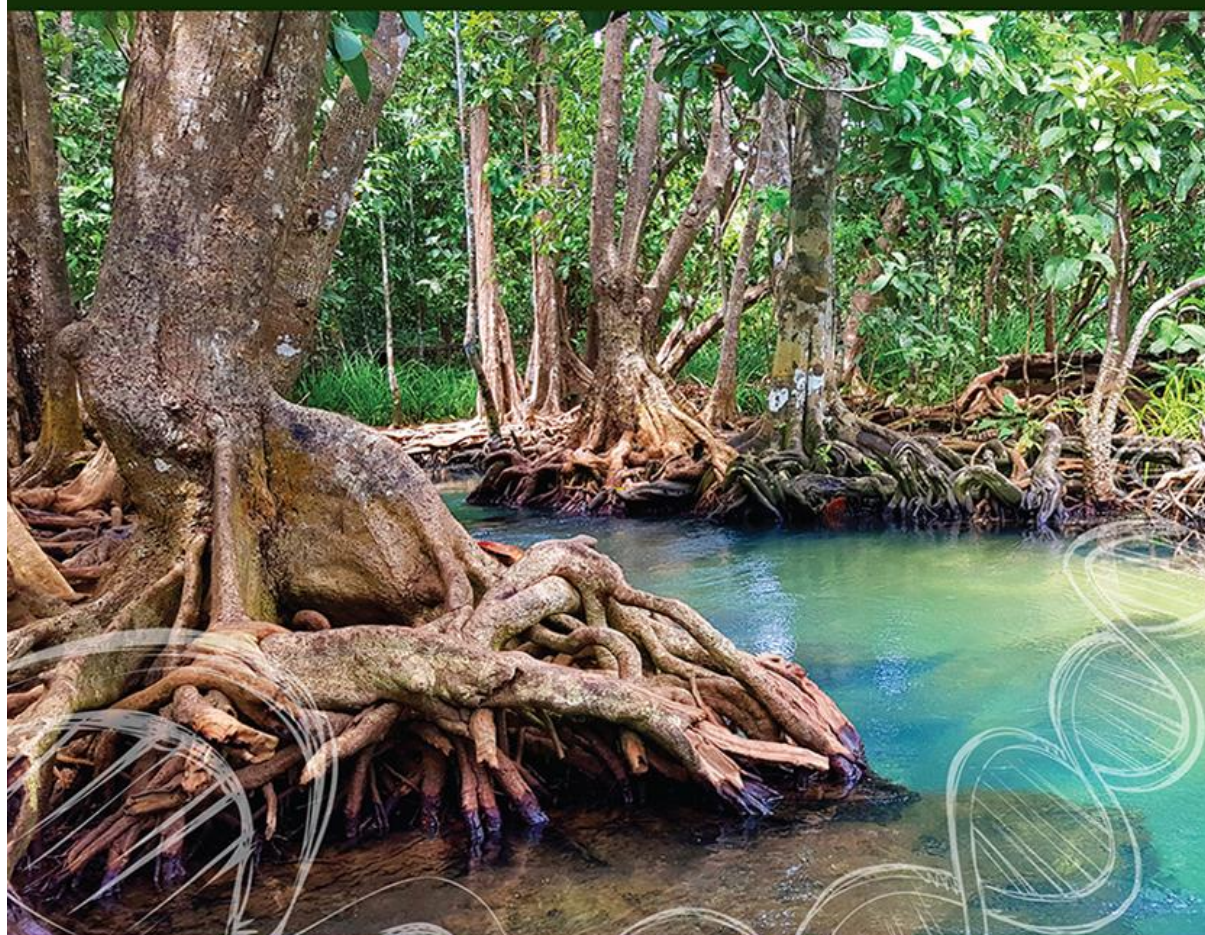


# Biotechnological Utilization *of* Mangrove Resources



Edited by  
**Jayanta Kumar Patra**  
**Rashmi Ranjan Mishra**  
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## Chapter 12

# Bactericidal activity of endophytic bacteria isolated from *Acanthus ilicifolius*: a mangrove plant of Divar Island, Goa, against human pathogenic bacteria

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### 12.1 Introduction

Goa has a coastal stretch of 100 km, along which the major rivers Zuari and Mandovi are important for the economy of the state. Together, the two rivers cover around 2553 km<sup>2</sup> of the total geographical area of Goa. These estuaries are located along longitude 73°45'–73°59'E and latitude 15°25'–15°31'N. The Mandovi river is around 3 km wide, and it narrows down to around 0.2 km (Qasim and Gupta, 2003).

The rivers Mandovi and Zuari form an estuary, which is a body of freshwater along with good communication to the ocean, in which the water is diluted by freshwater (Levinson, 2010). The estuarial environment is very rich because it produces large populations of different species. A region of intermediate salinity is produced by the meeting of freshwater from the rivers with seawater. Tides change the salinity. Residing in estuaries are mangrove swamps, which are wetlands found in tropical regions. Mangrove areas are characterized by halophytic trees, shrubs, and other plants growing saline tidal waters. The water from coastal areas are enriched, yielding value products of forest that are of commercial use. The coastal stretch is protected, and it also supports fish breeding. However, they exist under conditions where salinity is high with continues tides and high temperatures. Also,