

The microflora of Eagle Island mangrove swamp, southern Nigeria

Authors:

Okpokwasili GC¹,
Ifenwanta CE¹ and
Nweke CO^{1,2}.

Institution:

1. Department of
Microbiology, University of
Port Harcourt, P.M.B.5323,
Port Harcourt, Nigeria.

2. Department of
Microbiology, Federal
University of Technology,
P.M.B. 1526, Owerri,
Nigeria.

Corresponding author:
Okpokwasili GC.

ABSTRACT:

The occurrence, abundance and distribution of bacteria (nitrifying, nitrogen-fixing and heterotrophic), yeasts, moulds, algae and actinomycetes in mangrove and freshwater swamps were studied. Microbial abundance and diversity were greater in freshwater than in mangrove swamps. Actinomycetes were the dominant organisms in sediments while algae occurred widely in water. A total of 57 microbial genera were isolated from the mangrove swamp, out of which the algae had greatest diversity comprising 20 genera. It was followed by the moulds, which had 16 genera, then bacteria (10 genera), yeast (6 genera) and actinomycetes (5 genera). The organisms were widely distributed in all parts of the swamp, though actinomycetes did not occur in the water samples and yeasts occurred sparsely in freshwater. The study implicates the genera *Aeromonas*, *Proteus*, *Serratia* and *Citrobacter* (bacteria); *Thermoactinomyces* and *Streptomyces* (actinomycetes); *Aspergillus*, *Trichoderma*, *Penicillium*, *Mucor*, *Fusarium*, *Geotrichum*, *Verticillium* and *Botrytis* (moulds); *Rhodospiridium*, *Trigonopsis* and *Pichia* (yeasts); *Gomphonema*, *Fischerella*, *Asterionella*, *Borgea*, *Nostoc*, *Chlamydomonas*, *Laminaria*, *Spirulina*, *Chlorobotrys* and *Vaucheria* (algae) as autochthonous members of the mangrove swamps of the Niger delta. Mangrove swamps therefore harbour a wide range of microorganisms some of which are indigenous to this slightly acidic habitat and occur in varying proportions.

Keywords:

Mangrove swamp, microbial ecology, rhizosphere.