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Microbial Diversity of El-Baida Marsh: Setif, Algeria

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Abstract : Fungi are becoming more and more important in our life. Therefore, as a start for the symposium on filamentous fungi in biotechnology a short survey of the role of fungi in biotechnology. Salin soils occupy about 7% of land area; they are characterized by unsuitable physical conditions for the growth of living organisms. However, researches showed that some microorganisms especially fungi are able to grow and adapt to such extreme conditions; it is due to their ability to develop different physiological mechanisms in their adaptation. This is the first study on the physiological and biological characteristics of El-Beida marsh. Nine soil samples were taken at different points in two steps, the first was in winter (low temperature), and the second was in summer (high temperature). The physicochemical analyses of the soil were conducted, then the isolation process was applied using two methods, direct method and dilution method (10-1, 10-2, 10-3, 10-4). Different species of fungi were identified belong to 21 genera in addition to 3 yeast species, Aspergillus showed the highest proportion by 43%, then Penicillium by 20% then Alternaria by 7%, in addition to various genera in different proportions. As for the sampling periods, it was observed that the spread of fungi in winter was higher than in summer with the proportion 75.47% and 24.53% respectively. Some halotolerant fungi have a biotechnological importance especially if the salinity of the medium is necessary for the fermentation, and if the halotolerance genes of the fungus will define, this will open the research to study and improve this property for the industrial important micro-organisms.

Keywords : salinity, identification, aspergillus oryzae, halotolerance, fungi
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