

A Chemist in Microbial World – An Opportunity and Challenges

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Inventories of natural products based on www.chemnetbase.com found to contain 164,000 entries and, as of 1996, approximately 30,000 bioactive natural products had been described from bacteria (33%), plants (27%), fungi (27%), and animal sources (13%). Microorganisms are the second choice after plants in the biota list of the prioritised of genetic resources for screening purposes in biotechnology industry. Bioprospecting on microbes genetic resources are made based on several grounds: (i) the record of discovery of bioactive compounds, enzymes, and a profusion of other exploitable properties; (ii) the extraordinarily high taxonomic and genetic diversity of microorganisms; (iii) the unrivalled ability of microorganisms to colonised the Earth's environments; and (iv) the relative facility with which microorganisms can be grown and preserved, and their genotype and phenotypes manipulated, in the laboratory. This paper will review our work on selected microorganisms in searching for bioactive and useful natural products, highlighting few examples on endophytic, terrestrial and marine microbes.

Keywords: Microorganisms, endophytes, Aspergillus, Bacillus, Penicillium, Pseudomonas, Streptomyces.
