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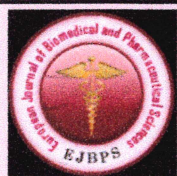
ACADEMIC YEAR 2018-2019

S. No	Title of Paper	Name of Authors	Name of Journals	Is it listed in UGC Care list
1.	Isolation, Production and Optimization of Antimicrobial Compound Produced from Selected Marine Sources	Mr. S. Kannan DR. K.K. Senthil Kumar Mr. G. M. Sivakumar	European Journal of Biomedical and Pharmaceutical sciences	Yes
2.	Evaluation of changes of lungs in asthmatic rats treated with aqueous and non-aqueous extract of clerodendrum serratum and theophylline	DR. K.K. Senthil Kumar Mr. G. M. Sivakumar Mr. S. Kannan	International Journal of Allied Medical Sciences and Clinical Research	Yes



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**ISOLATION, PRODUCTION AND OPTIMIZATION OF ANTIMICROBIAL
COMPOUND PRODUCED FROM SELECTED MARINE SOURCES**

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ABSTRACT

Currently, multiple antibiotic resistances in pathogenic bacteria is increasing, compromising the clinical treatment of growing number of infectious disease. There is an urgent need for new drugs effective against those antibiotic resistant pathogens and opportunistic pathogens. In the present work, samples like seawater, seashore sand and sediments from four different sampling sites, Vishakapatnam, Machilipatnam, Chennai and Kanyakumari. The marine bacterial species were isolated on Zobell Marine agar medium using spread plate technique. Among those isolates MB39 isolate showed maximum degree of inhibition against 6 strains of human pathogens like *Staphylococcus aureus*, *Bacillus subtilis*, *Escherichia coli*, *Klebsiella pneumonia*, *Salmonella typhi* and *Candida albicans* compared to other isolates. The isolate was obtained from Vishakapatnam Sea Sediment sample (SS1), belonged to *betaproteobacteria* and phylogenetically related to *Alcaligenes faecalis* sp. was identified by according to the Bergey's manual. For optimization the selected isolate MB39, grown by using Glucose as a carbon source showed good antimicrobial activity against the test pathogens. The degree of production was increased with increasing culture time with a maximum zone of inhibition obtained after 48 hours, after which decline in growth was observed at 72 hrs. Maximum zone of inhibition was observed at pH 9. For purification of the active compound solvent extraction was performed with five different organic solvents Chloroform, Methanol, Diethyl ether, Acetone and Ethyl acetate. Maximum activity was observed with ethyl acetate extract.

KEYWORDS: Marine bacteria, Sea sediment, Antimicrobial activity, MB39, Betaproteobacteria.

INTRODUCTION

The discovery of novel antibiotic and non-antibiotic compounds lead molecules of pharmaceutical interest through microbial secondary metabolite screening is becoming increasingly fruitful. There is wide acceptance that microorganisms are virtually unlimited sources of novel substances with many therapeutic applications. In the past decades, the increasing needs for drugs to control new illness or resistant strains of microorganisms stimulated to look for unconventional new sources of bioactive metabolites. The oceans found to be an attractive field and great efforts have been accomplished worldwide aiming the isolation of new novel products from marine microorganisms (Kelecom, 2002). Culturing the culture would represent a unique and promising source for the discovery of novel secondary metabolites. As marine microorganisms have evolved great genomic and metabolic diversity, efforts should be directed towards exploring marine microorganisms as a source of

novel secondary metabolites.

This study aims at exploring the antibiotics production potentials of some indigenous marine bacterial species isolated from the coast of southern India.

MATERIALS AND METHODS

Collection of samples

Four different locations such as Vishakapatnam, Machilipatnam, Chennai and Kanyakumari were selected so as to cover maximum variation in latitude and longitude along the southern coast of India. Sampling was carried out from July to December 2017. Among the sample types seashore sand, water and sediment (of not more than 15 meters depth) were collected aseptically and transferred into sterilized glass bottles and fresh polythene bags.

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Research article

Medical research

Evaluation of changes of lungs in asthmatic rats treated with aqueous and non aqueous extract of *clerodendrum serratum* and *theophylline*

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ABSTRACT

The aim of the present work is help the researchers for the development of an alternative methods rather than inhalers and oral anti asthmatic drugs for the treatment of asthma and COPD which will minimize the complication. Many plants obtained from the natural source play a significant role in the health care system. Literature survey on herbal drugs has shown significant anti asthmatic activity which has not shown any remarkable side effect. The pharmacological mechanism which the phyto constituents producing the anti asthmatic activity are not clearly understood till date. The several herbal formulation have derived from the Ayurveda, traditional system of Indian medicine and its additional system of medicine, yet to be scientifically validated that they have exhibited pharmacological action against Asthmatic. Only less number of scientific data of traditional medicines is available for the treatment of Asthmatic.

INTRODUCTION

Pharmacognosy has been basically evolved as an applied science pertaining to the study of all types of the drugs of natural origin. However, its subject matter is directed towards the modern allopathic medicine. During the course of development many civilizations has raised and perished but the systems of medicines developed by them in various parts of the world are still practised, and are also popular as the alternative system of medicines. These are alternative systems in the sense that modern allopathic system has been

globally acclaimed as the principal system of the medicine, and so all the other systems prevent and practised in various parts of the world are supposed to be alternative systems. The philosophy and the basic principles of these so called alternative systems might differ significantly from each other, but the fact cannot be denied that these systems have served the humanity for the treatment and management of disease and also for maintenance of good health [1-5].

About 80 % of the world population still rely and use the medicines of traditional systems. Asthma is a hyper reactive airway disease running

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