OMICS Group Conferences
Accelerating Scientific Discovery

International Conference on
Earth Science & Climate Change

August 21-22, 2012 Hilton Chicago/Northbrook, USA

Antimicrobial efficacy of Achyranthes aspera (Linn.), a terrestrial weed

Chetan Sharma and K.R. Aneja
Department of Microbiology, Kurukshetra University, India

India is a land of rich biodiversity and plants are the potential source of medicines since ancient times. Achyranthes aspera Linn. (Amaranthaceae) is commonly found as a terrestrial weed on waysides and waste places throughout India. In ayurvedic system of medicine, the parts of this plant are used to treat various types of chronic as well as infectious diseases. Crude organic (ethanol, methanol and acetone) and aqueous (hot and cold) extracts from A. aspera leaves and roots were tested against five bacterial (Staphylococcus aureus, Proteus mirabilis, Escherchia coli, Pseudomonas aeruginosa, Acinetobacter sp) and one fungal (Candida albicans) ear pathogen through agar well diffusion method. Organic leaves and root extracts of this plant were found active against three bacteria: S. aureus, P. mirabilis and E. coli with zone of inhibition ranging between 13.6 mm and 22.6 mm while aqueous leaves extracts (hot and cold) displayed activity against two pathogens (S. aureus and P. mirabilis) and aqueous root extract showed activity against one pathogen, S. aureus with zone of inhibition ranging between 18.3 mm and 13.6 mm. Of the bacterial pathogens tested, S.aureus was found most sensitive with maximum zone of inhibition of 22.6mm and 18.6mm followed by P.mirabilis (21.6mm and 17.3mm) and E. coli (16.3mm and15.6 mm). The zone of inhibition shown by the six organic extracts, both leaves and roots, against C.albicans was weak that ranged between 13.6 mm and 16.3 mm. The aqueous extracts totally lacked antiyeast activity. The MIC value for A. aspera leaves and roots extracts ranged between 12.5mg/ml and 50mg/ml. S.aureus and P.mirabilis were found more sensitive pathogens showing the lowest MIC of 12.5mg/ml and 25mg/ml in ethanolic extracts whereas E.coli was found least sensitive with MIC of 50mg/ml. MIC value for C.albicans in all the organic extracts was 50mg/ml. Ethanolic extracts of both leaves and roots of A. aspera were found best among all the tested solvents followed by acetonic, methanolic, hot aqueous and cold aqueous extract. Keeping in view the good antimicrobial activity of weeds against human pathogens, this weed should be protected for its exploitation as an antimicrobial agent in pharmaceutical industry for the welfare of human beings. However, more detailed studies such as in vivo testing of this weed to determine its toxicity and pharmacokinetics properties are needed to determine their therapeutic potential.

Biography

Dr. Chetan Sharma has done his PhD. in Microbiology with the Professor K.R. Aneja from Kurukshetra University, Haryana, India (2012). His primary field is medical, herbal and environmental microbiology with research emphasis on antimicrobial potential of plants and chemical compounds against the human pathogens. Presently, he is working as Assistant Professor in Department of Microbiology, Kurukshetra University, India. He has published more than 40 research papers in reputed journals and screened about 60 plants against the ear pathogens. He also serves as Regional Editor of five journals of Science alert, USA and as reviewer for Microbiology Research journal published by Bio info publications. He is also member of editorial board in International Journal of Pharmacy and Pharmaceutical Sciences, India

chetanmicro147@gmail.com

Earth expansion mechanism

Ibrahim M. Metwally
Prof. in Civil Eng. Department, Faculty of Eng., Zagazig University, Egypt

This paper introduces a new theory "Earth expansion Theory". The principles of "Earth Expansion Theory" are leading to new approaches and concepts to interpret whole earth dynamics and its geological and environmental changes. This theory is not an attempt to unify the two divergent dominant theories of continental drift, plate tectonic theory and earth expansion theory. The new theory is unique since it has a mathematical derivation, explains all the change to and around earth in terms of geological and environmental changes, and answers all unanswered questions in other theories. This paper presents the basic of the introduced theory and discusses the mechanism of earth expansion and how it took place, the forces that made the expansion, and how earth changed from its spherical shape with radius about 4287.6 km to an elliptic shape of major radius about 6378.1 km and minor radius of about 6356.8 km. It also discusses, in a more realistic explanation, the formation of oceans and seas, the preparation of river formation. The paper also addresses the role of iron in earth expansion, and drift, process within the continuum mechanics framework.

Biography

Prof. Ibrahim Metwally has completed his Ph. D at the age of 31 years from Colorado State University School of Civil Engineering. He is the director of the Geotechnical Program in the Civil Engineering Department, and a group leader of the Egyptian Code Committee. He is a professional Consultant Engineer. He has published more than 30 papers in reputed journals and serving as an editorial board member of reputed Egyptian Journal for Engineering Sciences & Technology.

Dr_Ibrahim@Gawab.com