Volume 1, Pages 1-58

Proceedings of Online International Conference on recent Advancements in Life Sciences
2022

ISBN: 978-81-956748-1-7

Edited by: Dr. Prabhakumari C, Ms. Mayarani C. B, Ms. Haseena M, Dr. Rekha Sivadasan & Dr. Subi Mathew

Published by: Dept. of Research & Publications, A2Z EduLearningHub LLP

Articles: 1- 52

Conference: Online International Conference on Recent Advancements in Life Sciences

Dates: May 23 – 25, 2022

Conference Chair(s):
Dr. Binu Tharakan, Morehouse School of Medicine, USA
Dr. Manoj K. Mishra, Alabama State University, USA

ISBN: 978-81-956748-

An eco-toxicological investigation on the effect of insecticide- Deltamethrin- on the longevity and fecundity of the terrestrial isopod *Philoscia muscorum*.

Manjary S[1], Dr. M. G. Sanalkumar[2]
[1]Assistant Professor, VTMNSS College, Dhanuvachapuram, Thiruvananthapuram, Kerala, 695503
[2]Professor and Head of the Department, Postgraduate and Research Department of Zoology, NSS College, Pandalam, Kerala, 689501
Email ID: manjarysopanam@gmail.com

Abstract

Soil is an intricate and dynamic ecosystem supporting diverse fauna which constitute an integral component of ecosystem processes. Arthropod population in soil dynamically involve in global nutrient cycling. This sensitive ecosystem and its components are affected by various chemical stressors added to it. Agrochemicals pose a serious threat to the faunal component of soil system. In this study, impact of an insecticide, Deltamethrin, on the longevity and fecundity of a terrestrial isopod, *Philoscia muscorum* was analyzed. Using standard procedures, bioassay studies were done in laboratory to find out the impact of the agrochemical. Mortality rate was gradually increased with increasing concentrations of pesticide and time durations. LC 50 and LC 100 values were 7.7 and 13.59 respectively, at 96 hours. Safe concentration and sublethal concentration were found to be 1.868 ppm and 1.926 ppm respectively. Four replicates were used for conducting fecundity studies. When normal group was compared with the experimental group treated with deltamethrin, significant difference in fecundity was obtained ($P= 0.04$, $P<0.05$). Application of deltamethrin adversely affected the longevity as well as fecundity of *Philoscia muscorum*. Ecologically friendly agro practices are to be promoted for sustainability of soil ecosystem.

Key words: *Philoscia muscorum, Ecotoxicology, Deltamethrin, LC100*

ISBN: 978-81-956748-