International Journal of Trend in Scientific Research and Development (IJTSRD)
International Open Access Journal
ISSN No: 2456 - 6470 | www.ijtsrd.com | Volume - 2 | Issue – 3

Ecotoxicology-Study aspects

Deepthimahanthi Divya
Lecturer in Zoology, St.Anns College for Women, Hyderabad, India

ABSTRACT

Environmental contamination is not new but the efforts to do something about it are originated from the widespread concern caused by atmospheric testing. Ecotoxicology is concerned with the toxic effects of chemical and physical agents on living organisms, especially on populations and communities within defined ecosystems; it includes the transfer pathways of those agents and their interactions with the environment.

Keywords: *Environment, Toxic chemicals, Agents Pollution*

INTRODUCTION

Ecotoxicology deals with the fate and effects of contaminants in the biosphere (Newman, 1998). Contrary to human toxicology, which is concerned with effects of chemicals on the individual organism, ecotoxicology is concerned with toxic effects on ecological entities, i.e. populations, communities or ecosystems. . Ecotoxicology is a multidisciplinary field, which integrates toxicology and ecology , the ultimate goal of this approach is to be able to reveal and to predict the effects of pollution within the context of all other environmental factors. Based on this knowledge the most efficient and effective action to prevent or remediate any detrimental effect can be identified.

Assessment & Ultimate effect of Environment pollutants:

Chemical and physical form of the pollutants released to the environment cause serious problem in the environment. Transformation of the pollutants by abiotic and biotic processes during transport from the point of release to the receptor; so the pollutant is transported geogreaphically and in to different biota, giving rise to compounds which have quite different environmental behavior patterns and toxic properties.

The effects of pollutants in different populations, Communities of receptors; thus one has to assess the response of individual organisms to the specified pollutant over appropriate time scale.

The results of these effects on the welfare of ecosystems and ultimately on the biosphere is the ultimate goal of this recent area- ecotoxicology.The history , Scope and needs of this ecotoxicology was studied and reviewed by Trahut (1975).

Uptake of Toxicants by various organisms:

Uptake is the absorption of the substance in to extracellular fluid for system metabolism shown by organisms, Methyl mercury is absorbed through the gills by the fresh water fish and this respiratory uptake is shown to be dependent on the metabolic rate.

For terrestrial plants, Strontium-90 uptake has been investigated experimentally and shown that foliar deposition is much more important than uptake by the roots as the mechanism for contamination of the forage plants.

Retention of pollutants:

The knowledge of retention of a pollutant by organism is useful in determining toxic effects. It can be obtained by estimation of substance remaining in the body or by measuring the total amount excreted per unit time.

Excretion values are very useful for monitoring of contaminated organisms. In case of monitoring of

workers contaminated by toxicants, samples of urine and faeces. Intake of a toxicant either through epidermis, respiratory organs or gut of terrestrial animals depends very much upon the precise form of the toxicant., both chemical species and the degree and type of physical aggregation.

Conclusion:

Concepts and methods are to be developed to predict the effects of pollutant on population communities existing in nature. Different studies reveal that uptake of both uptake of both toxic heavy metals and organohalogens is most often initiated by a phase of rapid and passive absorption of the cell wall.

References:

1) *Altenburger, Rolf (2011). "Chapter 1. Understanding combined effects for metal co-exposure in ecotoxicology". Metal ions in toxicology: effects, interactions, interdependencies. pp. 1–26.* doi:10.1039/9781849732116-00001.
2) Agency, United States Environmental Protection. "Office of Chemical Safety and Pollution Prevention." 5 October 2011. U.S Environmental Protection Agency. 9 December 2011.]
3) Ecology by P.D.Sharma & M.P.Arora.
4) Jamieson, A. J., Malkocs, T., Piertney, S. B., Fujii, T. & Zhang, Z. Nat. Ecol. Evol. 1, 0051 (2017).
5) Sandwell, D. T., Muller, R. D., Smith, W. H. F., Garcia, E. & Francis, R. Science 346, 65–67 (2014).