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Earthworm as bioindicator of soil pollution around Benghazi city, Libya

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Abstract

Pollution of terrestrial ecosystem is a serious environmental problem worldwide. Earthworm is considered as a domain soil organism. It has been recommended test species to evaluate soil contaminations in acute toxicity. Earthworm density and biomass are strongly influence by pollution. In this study, mortality, biomass, cocoon number of *Eisenia fetida* were examined during 14 daysof exposure to series percentage (100, 75, 50, 25%) for each soil of (Bouatni, Hawari, Lowifia, and Jarotha) locations around Benghazi city, under control conditions. The locations soil was mixed with artificial soil to get the desired percentages. Mortality was recorded in Bouatni soil 100%. However, no mortality observed elsewhere. No cocoon numbers were account in all locations at 100, 75% as well as in Lowifia soil 50%. However, Cocoon number was significantly reduced in Bouatni, Hawari and Jarothaat50, 25% compared to control. Interestingly, earthworms body weight were increased significantly, in all locations soil (25, 50, 75%) compared to control earthworm. Our results had shown decreased in cocoon number which can lead to decline in earthworm populations and consequence to reduce soil fertility. This study was first investigation of contamination soils around Benghazi city by using biota as well as put more emphasis on using earthworm as bioindicator.

Biography

Maher Haeba got master in Zoology, then, he has got scholarship for Ph.D. in Czech Republic, completed his PhD in 2008 year from Masaryk University, since that date he is a staff member in Zoology department as a lecturer of invertebrate's course. Recently, he has got assistant professor from Benghazi University, Faculty of Science. He is interested in soil toxicity by using earthworm and isopods as bioindicator. He has published more than 10 papers in reputed journals and has been in many international conference of toxicology and a member of SEATC Europe since 2004.