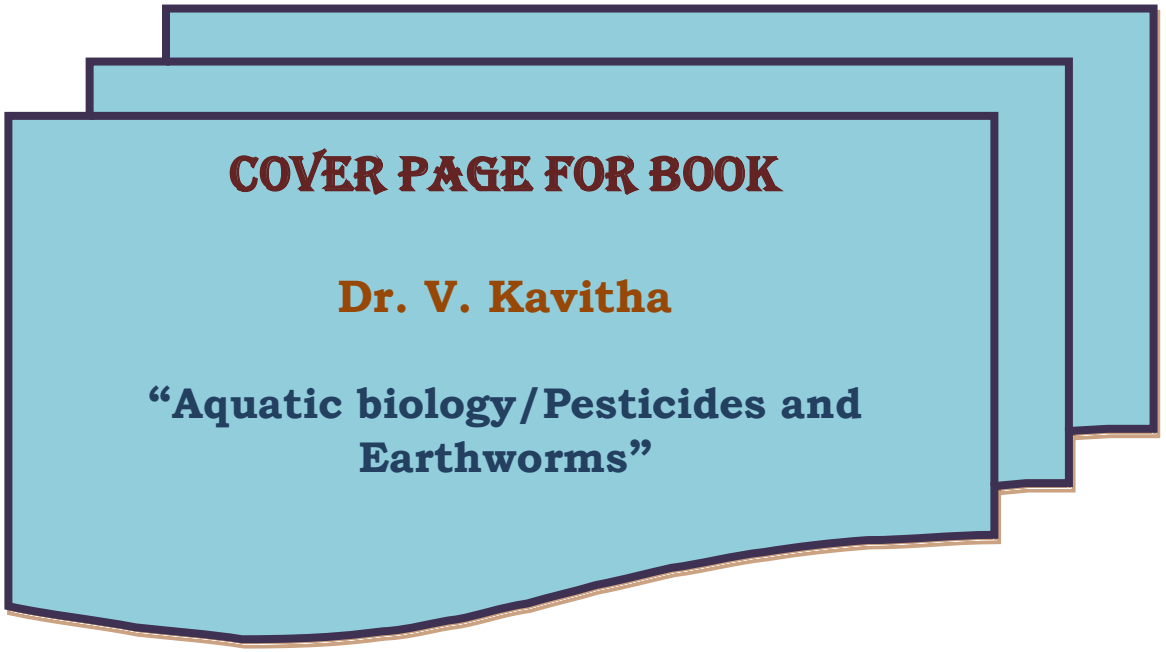
CRITERION III – RESEARCH, INNOVATIONS AND EXTENSION

3.4. RESEARCH PUBLICATION AND AWARDS

3.4.4 Number of Books and Chapters in Edited Volumes Published per Teacher



Name of the teacher	Title of the book published	Year of publication	ISBN number	Whether at the time of publication Affiliating Institution was same Yes/No	Name of the publisher
V.Kavitha	Aquatic biology/Pesticides and Earthworms	2022	978-81-958210	Yes	Discovery publishing house, New Delhi (India)

Aquatic Biology
Editors : Dr. V.B. Sakhare, Dr. P.R. Surve
ISBN : 978-81-958210-
Published by : Discovery Publishing House, New Delhi (India)
Page 125-135

CHAPTER 13

Pesticides and Earthworms

V. Kavitha and R. Anandhan

Earthworms are the major terrestrial macrofauna, constitute more than 80% of the soil invertebrate biomass (Senapati and Dash, 1981; Sorour and Larink, 2001). Reynolds (1994) reported worldwide occurrence of 3,627 terrestrial earthworm species. So far, 402 species (357 native and 45 exotic peregrine species) of earthworms belonging to 66 genera and 10 families are known from India (Julka, 2001). Earthworm is an important soil organism in development and maintenance of nutrient value of soil by converting biodegradable material and organic waste into nutrient rich vermicast (Jansirani *et al.* 2012). They are also known as ecological engineers (Jones *et al.* 1994). Distribution and abundance of earthworms are governed by several ecological parameters viz. soil status, nutrients, temperature, moisture, season, adequate dissolved oxygen, pH and the presence of fertilizers and pesticides (Kale and Krishnamoorthy, 1981; Lee, 1985; Bhaskaran, 1986; Morgan, 1993; Vishwanathan, 1997; Curry, 1998; Bhattacharjee, 2002).

IMPORTANCE OF EARTHWORMS

Earthworms can consume a wide range of unstable organic matter such as animal waste, industrial waste, sewage sludge, etc. The burrowing activity of earthworms enhances decomposition, formation of humus, development of soil structure, and cycling of nutrients. The product obtained by the modulation of organic waste in the earthworm gut is quite different from its parent waste material and is also known as black gold or vermicast (Lim and Wu 2015). Vermicompost increases the water holding capacity, porosity, and softness of soil thus requiring less tillage and irrigation. It is also rich in microbial diversity, nutrients, plant growth regulators (PGRs) and has properties of inhibiting pathogenic microbes (Mosa *et al.* 2015). Addition of earthworms and vermicompost to soil also maintains an optimum level of soil media in terms of metal concentration, soil porosity and aeration, pH, and electrical

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