D-43 Morphology and taxonomy of some earthworm fauna in different agriculture regimes in Sri Lanka

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Earthworms form a very important and integratl part of the soil fauna. These belong to phylum Annelida, class Clitellata, order Oligocheata. About 4200 species of earthworms have been identified around the world. Very little information is available on the Sri Lankan earthworms. This study attempts to identify earthworms in different agriculture regimes in Sri Lanka. Samples were collected from 18 different agricultural regimes, by random sampling of soil and the earthworms were sorted by hand. Mature worms were selected and killed by a method developed during the study. About 400 were studied for identification based on their external and internal morphology. External features included the body shape, number of setae per segment, clitellum shape and position, shape of prostomium, position of genital opening and genital markings. Major internal morphological features considered included those of the digestive system, vascular system, reproductive system and excretory system. These earthworms showed significant morphological variations which were helpful in their identification. Identification keys were prepared based on these morphological features together with data from related publications. Thirteen genera belonging to 7 major families were identified in the different agricultural regimes. The families included Megascolecidae, Glossoscolecidae, Octochaetidae, Eudrilidae and Lumbricidae. The 2 genera of Lumbricid earthworms recorded from the montane zone, may be new records for Sri Lanka. The cocoons of different species of earthworms showed a significant morphological variation, which could be the identification of earthworms,

Financial assistance by University Grants Commission (Research grant RG/96/C44/S) is acknowledged.