

Earthworm diversity and population density in the Kaki Bukit agroecosystem, Perlis, Peninsular Malaysia

Abstract

Information on the earthworm community in Northern Peninsular Malaysia is limited. The present study examines the diversity, population density and biomass of the earthworm community in an agroecosystem in Kaki Bukit, Perlis. It also examines the physicochemical parameters that influence the earthworm community in the area. The study area is surrounded by limestone hills and important agriculture areas, and, therefore, serves as a unique agroecosystem that is worth exploring. The area was dominated by *Metaphire tschiliensis tschiliensis*, a relatively large-sized soil-dwelling earthworm that showed active surface casting activity. Earthworm density exhibited positive correlations with soil pH ($r=0.645$), clay content ($r=0.801$) and Ca concentration ($r=0.415$), and negative correlation with Fe. In addition, positive interaction was observed between earthworm biomass with soil moisture content ($r=0.425$), K ($r=0.374$) and Ca ($r=0.399$).

Keyword: Biomass; Density; Diversity; Limestone hill; *Metaphire tschiliensis tschiliensis*; *Pontoscolex corethrurus*.