An ecological study on population, biomass and species composition of soil fauna in dry evergreen forest, Sakaerat, Nakhonratchasima.

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ABSTRACT

The study is primarily to investigate changing in population, biomass, species composition, distribution pattern and vertical distribution of soil fauna because of environmental factors. Dates were collected monthly from March 1975 to February 1976 in dry evergreen forest, Sakaerat, Nakhon Ratchasima. Sampling (size 1 x 1 m^2.) was used for macrofauna and 25 X 25 cm^2. for mesofauna and 7 X 7 X 7 cm^3. sample for vertical distribution from surface to 21 cm. Depth. Mesofauna was extracted by mean of Tullgren funnel. Weight of litter, water content of soil and litter, temperature and relative humidity at some level, rainfall, pH, organic matter in soil, nitrogen, phosphorus and potassium content of soil were collected from the field.

Result :

The maximum biomass of macrofauna was in October (6.5830 gm/$m.^2$) and the minimum in March (0.1923 gm/ m^2) resulted from effect of water content of soil and litter, soil temperature, weight of litter, organic content of soil, pH of soil, and predation.

Random distribution pattern of soil faunas were resulted from microenvironmental differences.

There were two peaks in number of mesofauna 2588.8 Individual/ m^2 in June and 4275.2 Individual/ m^2 in December. The minimum in number was in August and September (918.4 Individual/ m^2) mostly resulted from water content of soil and litter.

No vertical distribution of Acarina and Collembola occuring in this investigation may be resulted from an insufficience differences in soil temperature and relative humidity at any level.

Conclustion :

1. Water content of soil and litter are very important to soil faunas.

2. Soil faunas have some correlation to amount of nitrogen, phosphorus, potassium and organic matter in soil.

3. Distribution patterns of soil faunas are randomly.

4. No vertical distribution of mesofauna (Acarina and Collembola) occurred from surface soil to 21 cm. Depth.

5. There are relationships between predators (centipedes and spiders) and preys(Collembola).