



Evaluation of meso fauna soil as bio-indicator of environmental quality in forests remnants in the city of São Paulo - Preliminary Results

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Soil quality is particularly through composition and structure, as well as by, measured by physical and chemical indicators, as well as by living organisms contained therein, which play the most varied ecological functions. The abundance and diversity of soil macrofauna in ecosystems can be affected by many factors, precisely because these organisms are sensitive to environmental changes, whether induced or natural. Thus, soil populations can be measured as bioindicators, since changes in the community may indicate possible changes in soil functioning.

This research aims to survey the biodiversity of meso soil fauna environments with remaining Atlantic Forest (Fontes do Ipiranga park, Cantareira park and Jaraguá park) in order to detect specific features and significant changes in ecological function performed by these soil communities. The project aims to develop an overview of multivariate understanding about soil, especially the relation of variation of pedofauna with the occurring physical and chemical modifications in order to be able to prove the adaptation of soil fauna with variations in temperature, humidity, sunshine, influence of vegetation, soil genesis and topographic gradient.

According to Lavelle & Spain (2001), the temperature and humidity are the main factors that activate the metabolic regulation in subjects of soil fauna, which ultimately determine their spatial distribution, periods of increased activity, peculiarities and significant changes, the function of these communities in the substrate.

Two combining sampling will be performed, one in the rainy season, in January, and another in the dry season, in July, with the purpose of measuring the diversity of populations according to seasonality. Invertebrates associated soil interface - burlap (Moreira et al, 2010) will be caught by pitfall traps, which will be distributed in three installments by park, containing a sampling gride with nine equidistant points 30 meters of each other. Through Provid method, idealized by Antonioli, ZI et al., (2006) capture is the use of Pet Bottle 2l as a trap where her windows with dimensions of 6 cm are made powder 4 cm in height of 20 cm which will be buried in the ground. The solution 200ml placed inside the bottle is a mixture of water and a neutral detergent to 2.5%.

Identification of macro invertebrate fauna will be made as soon as possible to avoid loss of physiological characteristics or death of the animal, which complicates the identification. During the extraction place the soil or animals collected in a tray, and carefully, with the aid of forceps, pulls out all visible animals, which are passed on to a container containing 70% alcohol, properly identified. With the aid of microscope and are grouped taxonomically in the kingdom, phylum, class and order (Papavero, 1994).

To quantify biodiversity, ie, to understand the number of individuals relating the amount and manner in which they are distributed in the environment, the tests of abundance and heterogeneity (Martin & Santos, 1999), Simpson dominance (Odum, 1983), Tukey test 5% and multivariate analysis.

Soil surveys (Embrapa, 1997) will be conducted so that the plots overlap to the same kinds of soil stains. Soil samples will be collected near the sampling sites for analysis of some physical parameters (Embrapa, 1997), such as texture, structure, porosity, aggregation, field capacity and compaction; chemical (Embrapa, 1997) as pH, fractional organic matter, phosphorus, potassium, calcium and magnesium and other mineral nutrients such as nitrogen, sulfur, boron, manganese, zinc, copper, cobalt, chlorine because these nutrients are some activators enzymes that perform specific functions in the environment such as: regulation of water balance, fixing and cycling of nutrients in soil, plant growth and development, but also interfere with the functioning of organisms of soil fauna. This analysis is very important in research because the shortage or excess of any of these nutrients cited, may cause changes in soil functioning (Embrapa, 1997).

Ecological Indicators ; forests remnants ; soil invertebrates