



**Geography and Health: Fluctuations in Population and Spatial Distribution of
Synanthropic Flies, the Importance of Sanitation in the Municipality of Teodoro
Sampaio / SP**

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Introduction: Some species of synanthropic flies are regarded as highly important to health and medicine because they have the potential to be the mechanical vectors of etiological agents (viruses, bacteria, protozoan cysts and larvae of helminths), causing disease in both man and animals. These insects develop in various types of organic matter including manure, urban waste, animal carcasses, and an increase in their population is a sign that these waste products require proper treatment. Furthermore, the environmental quality of a particular place can be assessed from the presence and abundance of certain species, characterizing them as a biological indicator. Because of the importance of these animals in the environment, studies have already been carried out to record the frequency of dipterous flies in certain parts of the municipality of Presidente Prudente, for example, the city dump in neighbourhood of Morada do Sol and at the UNESP campus, and currently in the municipality of Teodoro Sampaio / SP, with the aim of establishing a relationship between the fluctuation and spatial distribution of flies and the environmental characteristics of different geographical systems, urban, agricultural and natural.

Methodology: The capture of insects is being carried out along an azimuth transecting different municipal environments: a conservation area (the State Park of Morro do Diabo), monocultural areas of sugarcane production and rural settlements of agricultural reform, and the urban perimeter. Following the previous research, twenty collection points were chosen, five from each environment. The flies are being collected using traps made from “PET-2L” bottles and using two different types of bait, roughly 50g of beef liver and 50g of fish. The collection of insects is being carried out on the same day at all monitoring sites on two consecutive days at the beginning, middle and end of each season, coming to a total of twelve collections during a twelve month period. The traps were placed in trees at a height of 1.0 to 1.70 m from the ground, for 48 hours, before being collected and taken to the Laboratory of Bio-geography and Health Geography at UNESP, Presidente Prudente (SP) for identification of the insects using a stereoscopic microscope with specific taxonomic keys. **Interim Results:** So far the insects have been captured and stored in a freezer in the laboratory for further classification but only the number of flies collected for this research in the autumn and winter of 2012 are available. A total of 1470 flies have been collected, 165 from the settlement, 170 from the sugarcane plantation, 586 from Morro do Diabo and 549 from Teodoro Sampaio / SP. The most highly represented family was *Fanniidae* (820), followed by *Calliphoridae* (254), *Sarcophagidae* (204) and *Muscidae* (192). Preliminary observations suggest a greater abundance of synanthropic flies in forest environments and the urban centre. The relationship between these facts and recent spatial changes in the region due to the expansion of sugarcane production remains to be discussed.

Key words: Synanthropic flies, vectors, environmental indicators.