

MAYANS FAMILY ORCHARD IN THE MAYAN CULTURE. A WAY FOR SOIL BIODIVERSITY CONSERVATION

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Mayan culture is considered one of the most important cultures of the Central American Region. They occupied part of the south of Mexico and Central America. In Mexico the main occupied areas are:

Yucatan Peninsula, Chiapas and part of Tabasco, while in Central America they live in Guatemala, Honduras and Belize.

The main ceremonial sites were in Mexico:

Chichen-Itzá in Yucatan; Calakmul in Campeche and Coba, Dzibanche and Kinichna in Quintana Roo

This sites have the most florecient period of their culture in the Clasic period which means 600 A. D. to 800 A. D.

Since the most ancient time the Mayan people have had a great respect for the environment and the conservation of their natural resources.

The cut, cleared ground and fire for preparing the soil to agriculture has been practiced along centuries.

The descendents of Mayan's still do it the same way for growing the vegetables they need for feeding.

In a family orchard they seed corn mixed with beans, cabbage, tomatoes, peppers and lettuce. In different seasons they harvest some of these products and they can get almost the round year the necessary vegetables for their feeding. They also rise goats and cows and use the manure as fertilizing the soil. Doing this whole process they close the natural cycle of the use of the natural resources at the tropics.

Of course the extension of the areas they used for agriculture at that time comes not even close to the extraordinary amount of land that is use today.

In this study we present preliminary results of a comparative evaluation of soil biodiversity with four different types of soil management, such as:

- 1) Mayan Family Orchards
- 2) Sugar Cane Plantation
- 3) Tropical Forest (Mahogany and Cedar trees)

4) Cuted and cleared land.

All sites are ubicated in Quintana Roo state at the Yucatan Peninsula, México.

A total of 42 species of soil mites was recovered from Mayan family orchards representing 16 families and 27 genus, while in a undisturbed surrounding tropical forest where founded 144 species representing 35 families and 44 genus. Definitely the highest species richness was found in a tropical forest. The most poor species richness was found at the cuted and cleared land and at the sugar cane plantation, where we recovered three families, two genus and seven species of soil mites.

	Orchard family	Mayan's	Tropical Forest	Sugar plantation	Cuted and cleared ground
Oribatida	30 spp		72 spp	5 spp	2 sp
Uropodina (mesostigmata)	8 spp		64 spp	1 sp	0 sp
Prostigmata	4 spp		8 spp	1 sp	0 sp
Total	42 spp		144 spp	7 spp	2 spp

Tropical forest, even more so than their temperate counterparts, provide a great number of habitats that conceivably could be exploited by Uropodina and Oribatida (litter, bark, rotting wood, bromeliads, mushrooms, vertebrate and invertebrate nests, etc). The fact that even this restricted orchard Mayan family yielded more than 30 spp. suggest that this way of growing vegetables mixed with fruit trees helps keeping a high number of species in the soil and litter and they help to recycle the organic matter.

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