

EXPLORING FOR PERSEA IN MATAGALPA, NICARAGUA

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INTRODUCTION

Probably the most remarkable tropical cloud forest in Central America, is the one located in the "Cordillera Dariense" in Nicaragua, specifically in the Matagalpa region. Heavy rainfall and constant clouds covering the high mountain range provide a suitable habitat for many species of trees, giving rise to a community of plants of great interest. Among these trees, diverse *Perseas* and "Aguacatillos," related to the avocado, flourish in the environment. Probably no other area in the Western Hemisphere offers this diversity in species of the Lauraceae. Some regions like the one mentioned further in this article, the region of Santa Maria de Ostuma and El Arenal, have been preserved by private owners, and have the appearance of National Parks (Figure 1).



Figure 1. Cloud forest of Santa Maria de Ostuma in Matagalpa, Nicaragua.

During several expeditions by the authors of this article to the Cordillera Dariense, in the search for rootstocks resistant to avocado root rot, three different areas were explored in recent years: Santa Maria de Ostuma, El Arenal and La Esperanza.

In this article some of the most important findings are summarized.

1. A different collection of "Aguacate de Mico" found in Nicaragua.

During our explorations made since 1971, several kinds of "Aguacate de Mico" have been located in some of the Central American countries, however this Nicaraguan type, first located by Zentmyer in 1971, is different from the others. One difference is that this hard-shelled or thick-skinned fruit is edible, in contrast to other collections made in Middle America. Trees also have a different appearance from the ones located on the El Salvador volcanos. The leaves look like the Guatemalan criollos, but branching starts at higher level of the trunk. Trees are tall and look vigorous (Figure 2).



Figure 2. "Aguacate de Mico" in the cloud forest of Matagalpa.

2. Oldest trees of *Persea nubigena* found in Matagalpa.

The oldest and tallest trees of *P. nubigena* are located in this region in Middle America. This is a primitive type that may be a progenitor of the Guatemalan type of avocado. One of our important findings is the great variation that exists within this species, as seen in El Arenal near Santa Maria de Ostuma. The variation is in regard to fruit and leaf characteristics.

Native Nicaraguans in the region can also detect immediately these variations in *P.*

nubigena. The wood of these tall and old trees is much appreciated by natives, who also make canoes for use on the lakes in Nicaragua. We have collected fruit of different trees in this area through recent years.

3. The strange "Guaslipe" tree.

Three trees of what natives call "Guaslipe" have been located in Santa Maria de Ostuma. We have collected fruit (Figure 3) and also recently flowers, to be studied, in order to identify correctly the species and genus. When observing the texture and color of the fruit, it gives the impression of being a "primitive" form of *P. drymifolia*.



Figure 3. Fruit and leaves of "Guaslipe" located in Santa Maria de Ostuma, Matagalpa.

Ripe fruit of Guaslipe is black purple and shiny, with thin skin and bright green flesh. Fruit is somewhat flattened on one side, and the fruit peduncle is bent. Seeds are striated and very pointed. Leaves have 6 to 8 pairs of primary nerves, and a rounded or acute apex, with both types of leaves on the same tree. The trunk of the tree closely resembles a eucalyptus tree, with white and reddish color. At the present time, we are studying herbarium specimens in California, for further identification of this interesting "Guaslipe" tree. Dr. Louis Williams, botanist at the Chicago Natural History Museum, is studying this collection from the taxonomic standpoint.

4. The many "Aguacatillos" growing in Matagalpa.

What natives call "Aguacatillos" here in the Cordillera Dariense belong to the genera: *Phoebe*, *Ocotea* and *Nectandra*, all genera in the family Lauraceae, to which avocados belong. As stated before in this forest many species of these Lauraceae are found in the El Arenal and La Esperanza regions of Matagalpa. However, it is of interest that growing close to these we have the interesting species of true Perseas, as described above.