

HUNTING FOR PERSEA STEYERMARKII IN THE MOUNTAINS OF GUATEMALA

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Introduction

It is of interest that previous botanists, with the exception of the late, eminent Dr. Standley, have not collected or shown interest in the important and beautiful tree, *Persea steyermarkii* (1). The name is dedicated to another eminent botanist, Dr. Steyermark, who together with Dr. Standley wrote *The Flora of Guatemala*, a classic series of volumes.

When we first detected trees of *P. steyermarkii* in the remote cloud forest of "La Lucha" in western Guatemala, we took samples of fruit, inflorescence, leaves, and branches to our friend in Antigua, the late Dr. Wilson Popenoe. He marveled at seeing for the first time this important species of *Persea*: *P. steyermarkii*. He touched the leaves, then the fruit, and the branches, and exclaimed to both of us watching him in silence, "You made it. It is *P. steyermarkii* that I see for the first time as a living specimen."

Why do we state that this is an important species? We consider it with *P. nubigena* as one of the ancestors of the "Guatemalan Criollo;" that is, of the Guatemalan race (3). Both of these species, *P. steyermarkii* and *P. nubigena*, have fruit resembling a primitive Guatemalan type. The fruit of the two species, however, is quite distinctive, and the trees have quite a different aspect, different foliage color and leaf venation. *P. steyermarkii* has only been described from Guatemala and El Salvador. *P. nubigena* occurs from Mexico down to Nicaragua and possibly into Costa Rica.

Ecology

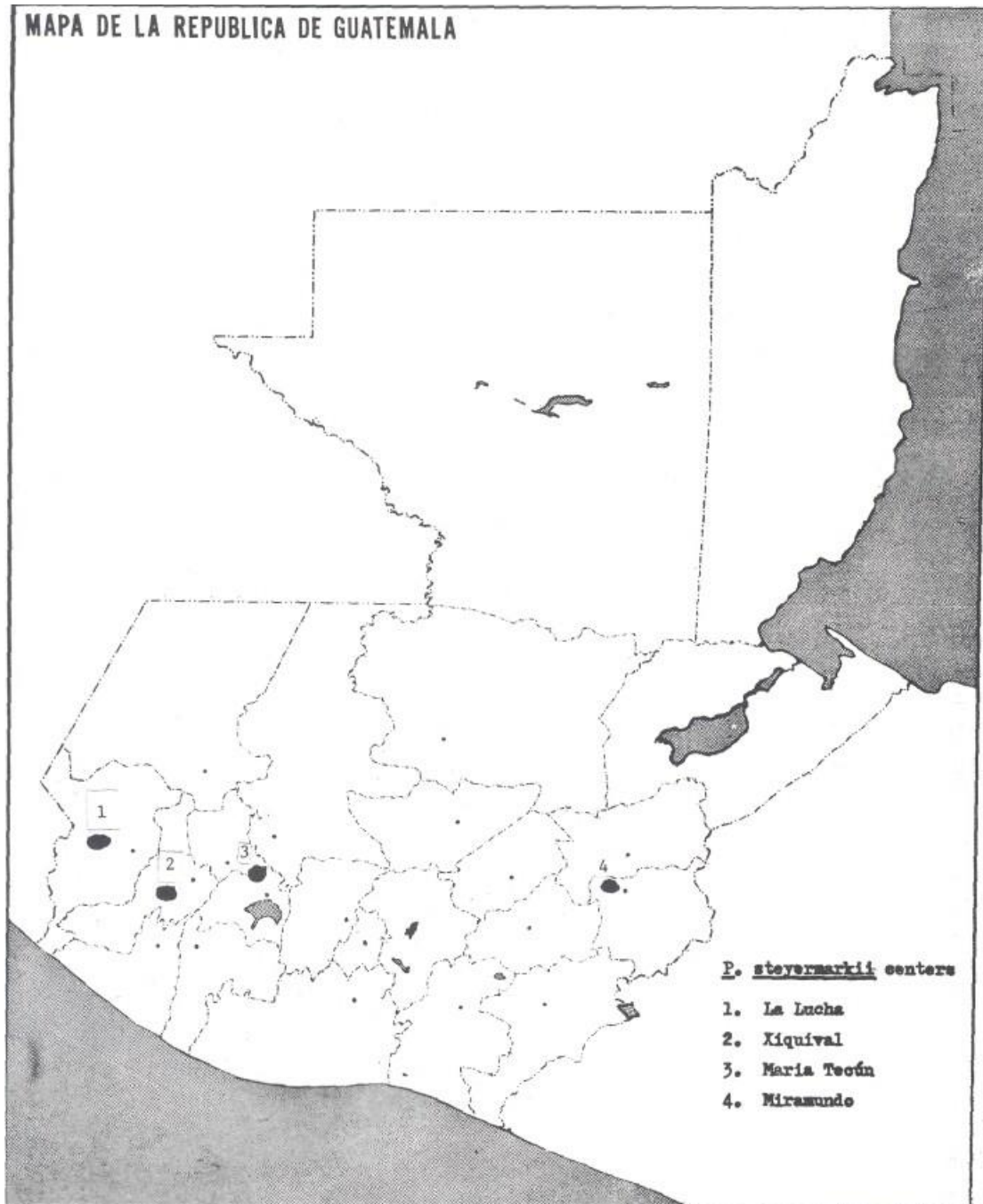
This species thrives well only in cloud forests between elevations of 7500 and 8500 feet above sea level. It needs heavy dew and a good rainy season of 6 to 7 months during the year in the Guatemalan highlands.

Centers

Since the detection of the first trees of *P. steyermarkii* in La Lucha, we have found additional centers in Guatemalan cloud forests. These include the following areas (see map), from the Mexican-Guatemalan border to the Honduras-El Salvador border:

1. La Lucha, San Marcos Dept.
2. Xiquival, Quetzaltenango Dept.
3. Maria Teciin, border of Solola and Totonicapan Dept.
4. Miramundo, Jalapa

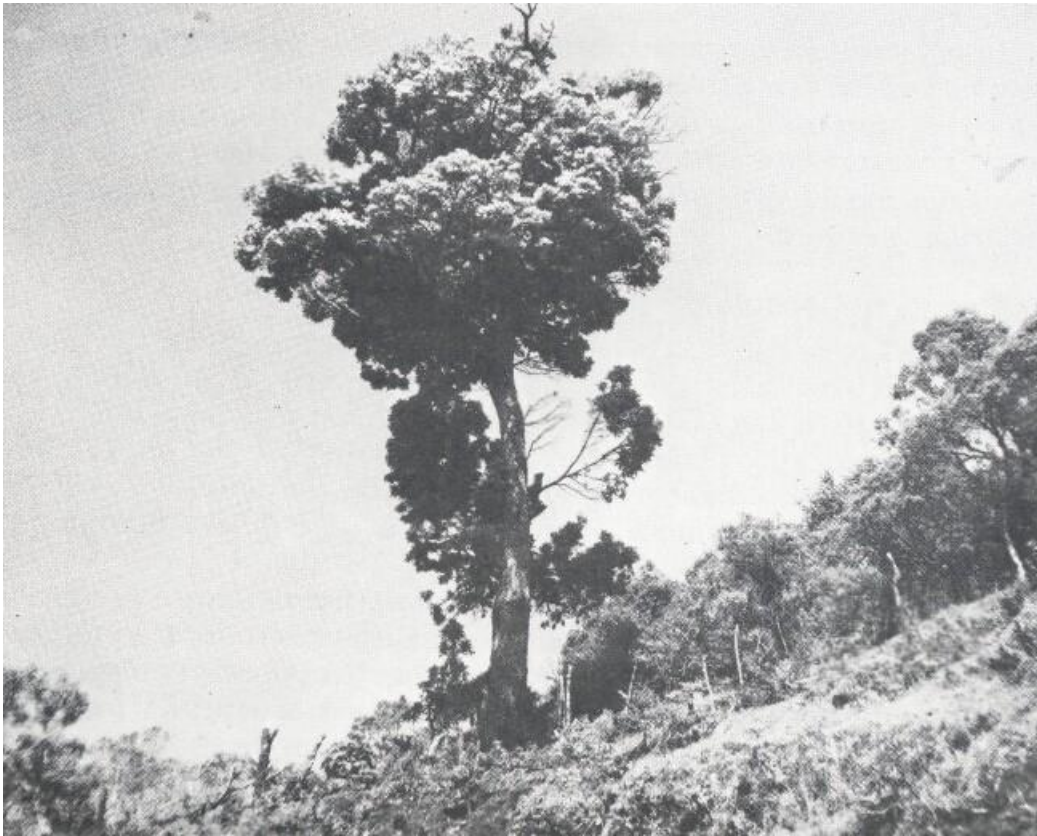
The highest of these centers is Maria Tecun, with an elevation of over 8500 feet. It is of interest that stands of *P. steyermarkii* grow close together with stands of *P. nubigena* in Maria Teciin, and that both related species grow well under the same ecological conditions.



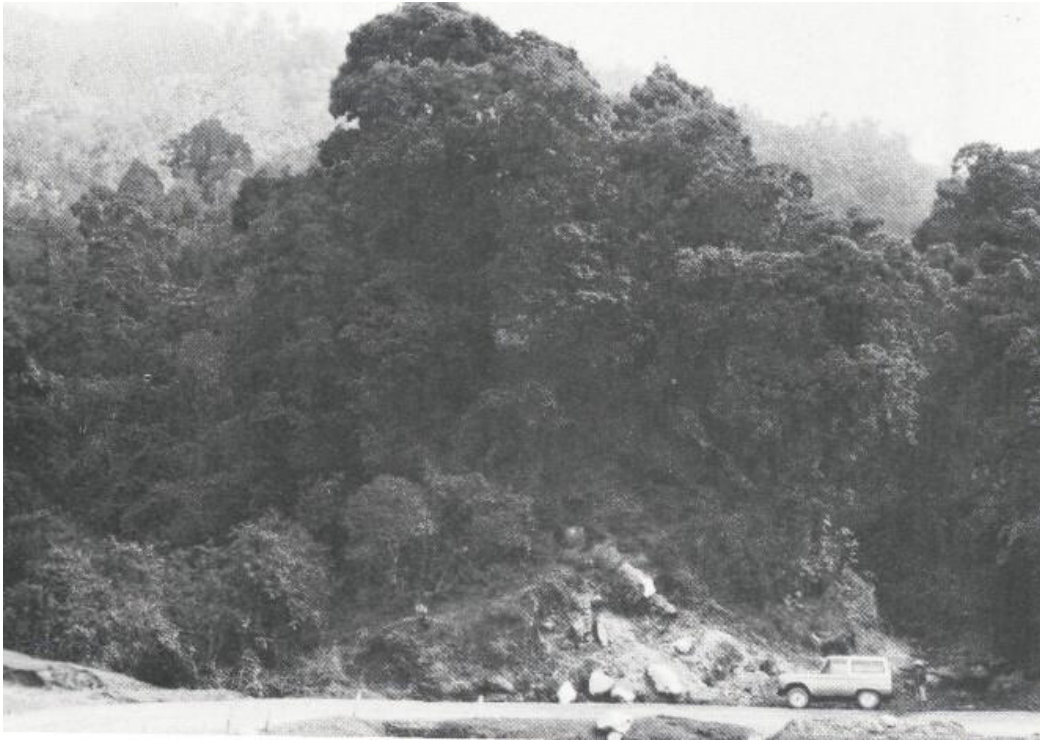
Variants

In recent years we have found what we call "variants" within this important species, involving fruit of different shape and color. Some trees bear fruit that are green to pale green, others bear fruit of an intense yellow or even reddish color, as in Miramundo, Jalapa.

Variants are found sometimes even within a stand of trees or in one population of this species, as in Miramundo, Jalapa. The characters of the leaves of course do not change, although some trees show differences in the average size of the leaves. The main leaf character is the divergent venation.



Vigorous tree of *Persea steyermarkii* in Miramundo, Jalapa.



The isolated region of La Lucha, San Marcos, showing a stand of *Persea steyermarkii* and our jeep.



Fruit of *Persea steyermarkii*, collected in La Lucha, San Marcos.

Hybrids

In a stand of *P. steyermarkii* growing together with another stand of *P. nubigena*, we have encountered recently a tree that we are presently studying, with leaf characters of *P. nubigena* but with the fruit characters of *P. steyermarkii*. The question is whether we have a natural hybrid between these two close related species, the species that constitute the most important ancestors of the Guatemalan race.

The Danger of Collecting

The La Lucha region in San Marcos-Guatemala is a very isolated place, even though it is only a few kilometers from the district city of San Marcos. The winding road from San Marcos down from 8500 feet altitude to the Pacific coast is not paved; and, along it, you see only scattered "parajes" or "caserios" (that constitute campesino homes) after leaving the last town of Esquipulas Palo Gordo. This town is unique, offering almost a "western" pioneering aspect of the American West.

It is in this region of La Lucha as stated before that we located the first living trees of *P. steyermarkii* during our recent California collecting program. Among four trees detected, in this cloud forest, one tree (already photographed and described in a previous Yearbook issue) (2) has been of particular interest to us, and we have collected fruit and seed of this vigorous tree.

Recently, I (E.S.) went with my native guide, Martin, to collect fruit from that tree of interest to us. After returning home and reading the Daily News *El Impartial* of Guatemala City, I was shocked to read that in La Lucha, exactly one kilometer down the road, the army detected a "guerrilla camp." The "guerrillas" left the camp and arms behind (photographed by the *El Impartial*), crossing possibly the cloud forest with the thick stand of oak trees and Laureaceae, to hide when the camp was discovered. I was thankful that a few days before with my native guide, we did not camp outside in La Lucha. Incidentally, "la lucha" means in Spanish "the fight." We had only one "machete," or big knife, then in the jeep to confront any danger.



Guide Martin and branches of *Persea steyermarkii* inflorescence, photographed in La Lucha, San Marcos.

LITERATURE CITED

1. KOPP, LUCILLE E. 1966. A taxonomic revision of the genus *Persea* in the Western Hemisphere. (*Persea Lauraceae*). *Memoirs of the New York Botanical Garden*, pp. 21-22.
2. SCHIEBER, E. and G.A. ZENTMYER, and E.LV. JOHNSON. 1973. Collecting *Persea* in the Highlands of Guatemala. *California Avocado Society Yearbook 1973-74*. p.130.
3. SCHIEBER, E. and G. A. ZENTMYER. 1976. Exploring for *Persea* in Latin America. *Proc. 1st Int. Tropical Fruit Short Course—The Avocado*. Nov. 5-10, 1976, Miami, Florida.