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COLLECTING PERSEA SCHIEDEANA IN GUATEMALA

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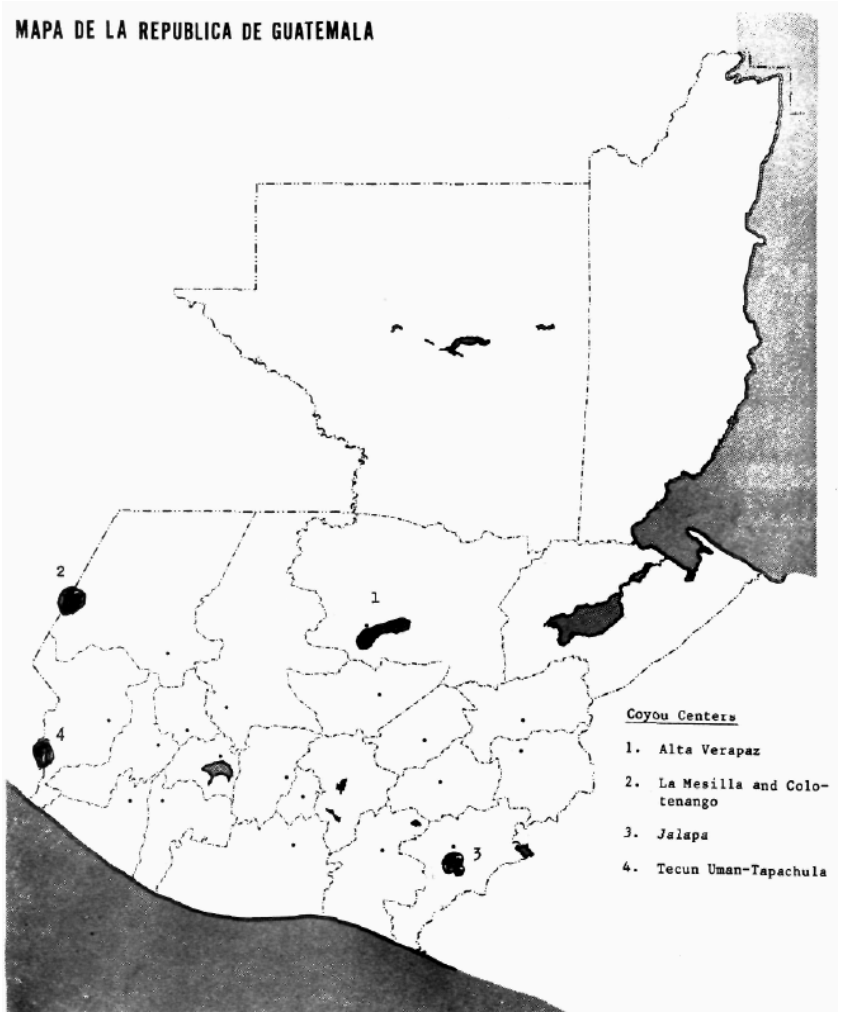
During the University of California at Riverside program on "hunting or Aguacatenado" for wild avocados, a special interest has been the collection of "Coyou," or "Chucte" *(Persea schiedeana,* C. G. Nees) in Guatemala and other countries of Middle America. This interest stems from the beginning of the explorations by Zentmyer in 1952 (5), in the search for avocado rootstocks resistant to *Phytophthora cinnamomi.* This species of *Persea,* is known in Guatemala as "Chucte" and "Coyou," in contrast to native names such as "Yas" used in Costa Rica, and "Chinini" in Mexico. *Persea schiedeana* was described by Standley and Steyermark in their Flora of Guatemala (4), from a botanical collection made in Guatemala in Central America.

In recent years, some important collections have been made in Guatemala in addition to collections made in Costa Rica, El Salvador and Honduras, within the California program. In exploring Guatemala for wild avocados we have found four distinct centers of importance in regard to Coyou or Chucte, that include: 1) Alta Verapaz, 2) La Mesilla and Colotenango, 3) Jalapa, and 4) Tecun Uman-Tapachula,

It is of interest to point out, that this species thrives at lower elevations (below 4000 feet) that is in warmer regions in comparison to other species collected in Guatemala.



1. *Alta Verapaz*

This is the most important center of Chucte or Coyou in Guatemala. It is located in the north-central part of the country (see map). The first collections were made in this area by Zentmyer in 1952 (5). We have, in recent years, made several trips to this region to collect from markets and have also located additional trees. On one trip, 19 collections of Coyou were made in the regions of Tactic, Santa Cruz, Coban, and San Juan Chamelco.

Fruits of *P. schiedeana* differ in shape from long-necked to small pyriform to almost round in shape. Also in this important center, we have found brown fruit, in contrast to the usual green or yellow collections. The flesh is brown and milky in most of these collections.

Some important trees have also been detected in this region, as the one from Tactic shown in Figure 1.

It is important to use native guides in making collections in the Alta Verapaz, since natives here in northern Guatemala do not speak Spanish at all, but their local Mayan

language.

2. *La Mesilla and Colotenango*

This center of Coyou is located in the western part of Guatemala bordering Mexico and in the Department of Huehuetenango. After driving me cool western highlands of Guatemala, you reach a tropical warm region near the Mexico border. It is here that Coyou grows in its natural habitat or in the campesino farms. Natives call it Coyou here even though Chiapas (Mexico) is so close, where this tree is known only as Chinini.

We have made several collections in this center, but mainly of the smaller and round fruit types. Trees grow close to citrus or mango trees in the campesino farms. The Colotenango market has been one of our sources in recent years. The market opens at 5:30 in the morning, so it is necessary to stay overnight in Colotenango to visit and collect in the market.

3. *Jalapa*

Jalapa is a Department of Guatemala in the east, bordering with El Salvador. Here we have made several collections in the market. Trees are rarely seen, but grow sporadically in the warmer sections of the Jalapa Department. Collections have been mainly from the round and yellow-green color fruit types.

4. *Tecun Uman and Tapachula*

This is a small center of Coyou. It is a tropical region bordering Mexico, in western Guatemala. Round and pyriform fruit types have been collected here.

Rootstock Compatibility

Persea schiedeana is one of the few species of *Persea* that is graft-compatible with the avocado *(P. americana).* There have been varying reports of the degree of compatibility, however. Fiester in 1949 (1) reported that "coyo" or *Persea schiedeana* was compatible with avocado in a test run in Honduras using coyo seeds from Honduras. He noted that the coyo rootstock made more growth than the scions, however. In some trials in the 1950's by the late Dr. Wilson Popenoe in Honduras, *P. schiedeana* seedlings did not provide very satisfactory rootstocks for several avocado varieties; the rootstock overgrew the scion extensively and scion growth was poor.

Schroeder (3) reported in 1974 that *P. schiedeana* was providing a very satisfactory rootstock for avocados in South Africa. Seedlings grown from seed from *P. schiedeana* (coyo) trees grown from budwood originally from Guatemala (via U.C.L.A.) were grafted to Fuerte and Edranol. Both types of scions made excellent growth on the coyo rootstock.

Some of our recent collections of *P. schiedeana* from Guatemala are compatible with avocado, thought it is too early to determine how satisfactory a rootstock they will produce with commercial avocado scions.

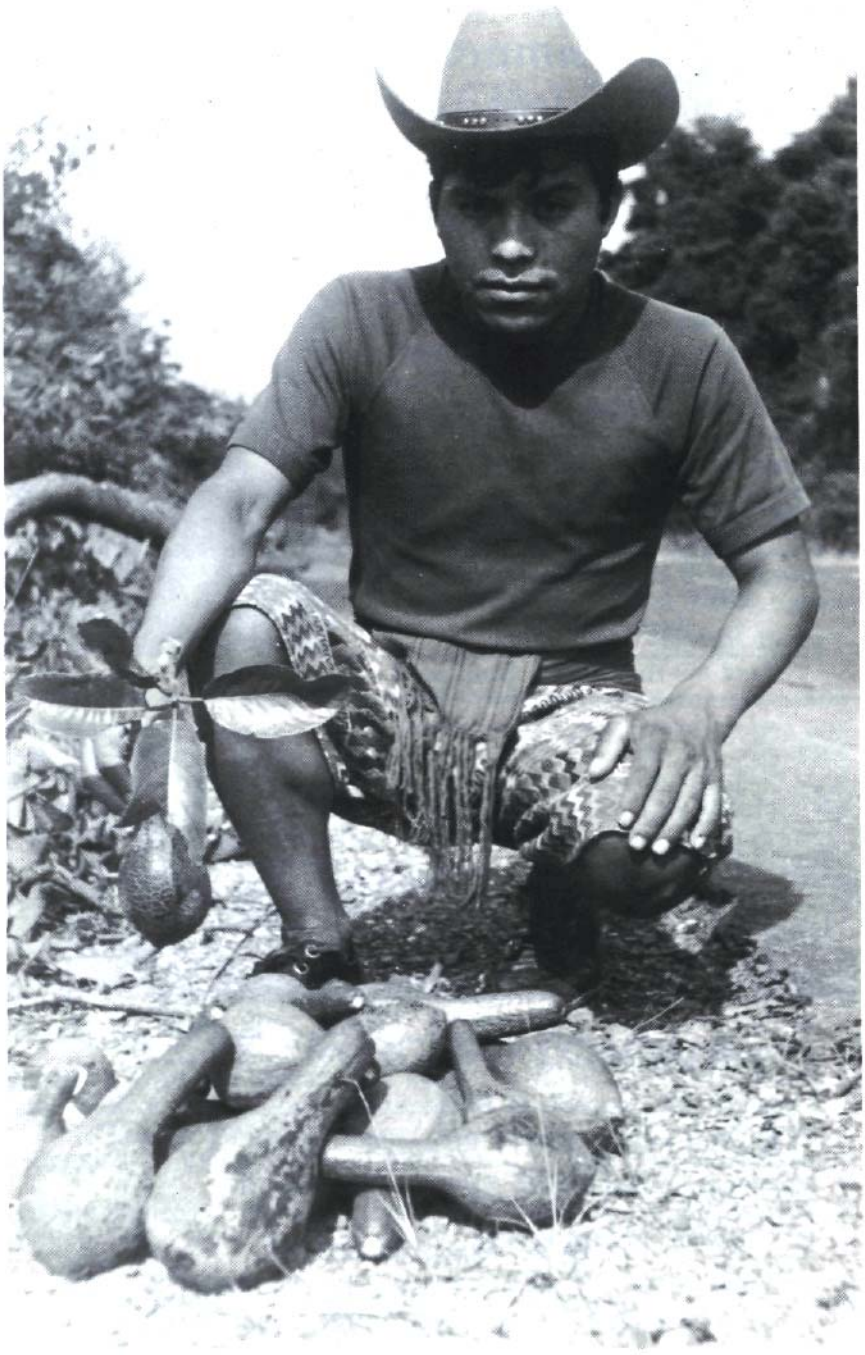


Figure 1. Native guide with an important collection made of a tree of P. schiedeana in the Tactic region (Alta Verapaz).

Natural Hybrids

There are indications, from some of our collections in Guatemala, that natural hybridization may be occurring there between *P. schiedeana and avocado.* One of our recent collections has characteristics of both species, with the long-necked typical fruit of "Chucte," but seedlings from these seeds have smooth leaves and other growth

characteristics of the avocado. One of these collections from Alta Verapaz is showing indications of resistance the Phytophthora root rot, and is compatible with avocado.

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