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About the Institute

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

April 6, 1961

Dear Dr. Papenoe,

This morning I am sad because the postman left a note from Cilda Merida which told me of Helen's death, your Helen, who did so much for me while we lived in Zamorano. You helped too and I shall always be grateful for the friendship of you two those years.

I was looking forward to seeing Helen again as we make plans and anticipate a botanical collecting trip to Guatemala the winter of 1962-63. I wanted to spend a day with her in Casa Papenoe again. You undoubtedly know that Louis is working on the Flora of Guatemala at Chicago Natural History Museum. He is happy to be working again with Central American plants.

We extend our deepest sympathy to you.

Rue and Louis

CHICAGO NATURAL HISTORY MUSEUM
FORMERLY FIELD MUSEUM OF NATURAL HISTORY
ROOSEVELT ROAD AND LAKE SHORE DRIVE
CHICAGO 5, ILLINOIS

June 14, 1962

Dr. Hugh Popenoe
University of Florida
Gainesville, Florida

Dear Hugh:

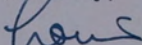
Some time ago I wrote your father a note saying that I hoped to start editing the "homenaje" to Standley, which I have under way, and hoped that he might have his contribution to me by the first of July. I am not very sure of the address which I used and the note may have gone astray.

I am going down to Central America next week and will stop off in Zamorano for a few days. I am to attend a conference in Trinidad the first week in July and then shall be back in Chicago and start work on the papers on Standley.

Dr. Popenoe will also be interested to know that I did write to the president of the University of Miami concerning Standley. The letter was not acknowledged and if anything was done about the possibilities of an honorary degree for Standley I do not know about it.

With my regards, I am,

Sincerely,



Louis O. Williams
Curator of Central American
Botany

FIELD MUSEUM
OF NATURAL HISTORY

March 14, 1969

Dear Dr. Popenoe:

We are back from our trip to Guatemala and have all of our specimens here and through fumigation. Even though we were cut pretty short in our stay in Alta Verapaz we did get a fair number of specimens.

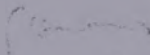
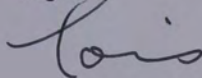
I have had no news about the situation of the car which was stolen while we were there. The insurance agent in Guatemala was not optimistic about getting it back from the police promptly.

Soon after I got back to Chicago I wrote Bob Armour a note about Molina and the discussion that we had had about him and the possibility of wangling an honorary degree for him from the University of Honduras. Bob seemed to think that it should be delayed a bit. --- If you should decide to go ahead with it please let me know what I can do to help.

Botanical congress in Seattle this fall, - the first time that it has been held in the United States. I suppose that there will be a very large number of botanists in attendance but I suppose that the European contingent will be much reduced because of the relatively great cost of passage to the western United States. -- Field Museum's Department of Botany will just about close down and I think that we will all go.

Dr. Barnhart's Biographical Notes Upon Botanists has been published finally, I think with notes upon some 40,000 botanists. The notes concerning yourself are brought up to 1916! No attempt was made to bring the data presented to date.

Regards,



FIELD MUSEUM
OF NATURAL HISTORY

September 19, 1969

Dr. Wilson Popenoe
Casa del Oidor
Antigua, Guatemala, C.A.

Dear Dr. Popenoe:

Your letter of August 12th is just in and I am very pleased to have it.

I would very much like to see Antonio receive an honorary degree from the University of Honduras somewhat in the manner that we talked about when I visited you in Antigua last winter.

I quite agree with you that it would be a disaster if Antonio left Zamorano. It would be very difficult, expensive and perhaps quite impossible to get any one to go to Zamorano, to take his place. When I was last in Zamorano and talked with Bob Armour about Antonio and this in the light of the new four year program for Escuela Agrícola Panamericana, I suggested to him that if there was any reason to believe that Antonio would not have a continuing job at Zamorano I wished to bring him to Chicago. Bob assured me that to the best of his knowledge and belief, Antonio would be kept on at Zamorano.

I have, or course, not talked with Antonio about the possibility of going somewhere else, but I suspect that he would not go down to La Ceiba in the new Facultad de Agronomía, unless he were forced to do so because he had lost his job at Zamorano.

We have just gotten another young man in to work with us on our Central American flora projects, of which there are several, as you know. I hope to come down to Central America with him this winter, introduce him to Guatemala, Honduras, and Nicaragua. He will enter in to the Guatemalan project first and his first project will be to write up the Solanaceae for the Flora of Guatemala.

I wrote Antonio a letter a few days ago suggesting that he should think about the possibility of coming to Chicago and spending 6 months here again. I would like to have him here where I could put a little pressure on him to sit down and prepare one of the families for the Flora of Guatemala. I think it would be most appropriate if we could have authorship of Standley and Molina on one of them. I suspect that Antonio may resist for I think that he is not particularly fond of the climate of Chicago.

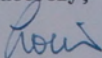
x Sept. ?

- 2 -

The Soccer War, so called, was a sad thing. I suppose that it will take a long, long time for the scars to heal and doubtless will stall the economic growth in Central America.

With my regards to Alice and yourself, I am,

Sincerely,

A handwritten signature in blue ink, appearing to read "Louis".

Louis O. Williams
Chief Curator
Department of Botany

LOW:vc

FIELD MUSEUM
OF NATURAL HISTORY

February 25, 1970

Dr. Wilson Popenoe
Casa del Oidor
Antigua, Guatemala, C.A.

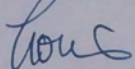
Dear Dr. Popenoe:

I have heard from Dr. Fred Barkley that Antonio Molina, among others, has been proposed for honorary doctor's degree at the University of Honduras. This proposal is based upon the long-continued and the important work which he has done for botanical sciences, not only in Honduras, but in other Central American regions as well.

Winter this year in Chicago has been a rather long-drawn-out and unhappy affair, so far as I am concerned. I certainly wish that it had been possible to spend a month or more in Central America, as we usually try to do.

With my regards, I am,

Most sincerely,



Louis O. Williams
Chief Curator
Department of Botany

LOW/rc

FIELD MUSEUM
OF NATURAL HISTORY

March 11, 1970

Dr. Wilson Popenoe
Casa del Oidor
Antigua, Guatemala, C.A.

Dear Dr. Popenoe:

I was happy to have your note of March 3rd, and I should have been a bit more explicit with my reference to the proposal of an honorary doctor's degree for Toffio.

Dr. Fred A. Barkley, who I am sure you know, has been a Fulbright visiting professor at La Universidad Nacional de Aut6noma de Honduras, and will be there until June of this year. Dr. Barkley went down there to do some special jobs, one of them to outline a degree curriculum in biology for the University. This he has done, but so far it has not been implemented. Another thing that he had to do was to try to get funds for study of the fauna and flora of Honduras, and this he was successful in doing, at least for the school year 1969-1970. He says, however, that equipment needed in the study had not yet arrived.

Dr. Barkley has recommended that Antonio Molina and myself be given honorary doctorates for the work which we have done in Honduras. To the best of my knowledge this recommendation was done upon his own authority, and no one pushed him to make this recommendation. I did not know about it until he advised me in a letter.

I am much interested in seeing that Antonio get an honorary degree from somewhere down there, and will do everything that I can to push such a plan forward. It is quite true that the degree would be important, or perhaps essential, if Antonio is to stay in as a professor should a change be made eventually at Zamorano

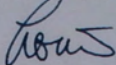
It makes not a great deal of difference to me personally whether I was granted an honorary degree or not. Certainly it is far more important that Antonio be considered, and I would rather that this go through and no mention be made of me in the matter.

I have heard indirectly that Fernando Fern6ndez is going to go back to Colombia to accept a job there. I hope that it is not true, but I suppose that such things are inevitable. I had a letter from George Freytag, who

was up in the States at the time, and I presume that he may be looking around. Jobs in universities, incidentally, are hard to come by at the present time.

With my regards, I am,

Most sincerely,

A handwritten signature in dark ink, appearing to read "Louis".

Louis O. Williams
Chief Curator
Department of Botany

LOW/rc

Antigua, 16 March 1970

Dr Louis O. Williams
Field Museum of Natural History
Chicago, Ill.

Dear Louis:

Your interesting letter of 11 March has just come. I am sorry to say I have not met Dr Barkley but I imagine Bob Armour must know him. (Perhaps I might have met him on the occasion of a graduation at Zamorano or something of that sort; if so it would have course been a very casual meeting).

I very much like the idea of the University giving both yourself and Antonio Molina honorary doctorates. In your case, it would be a very fitting recognition of all you have done and are doing for the Botany of Honduras as well as tropical America in general. In Antonio's case, it would certainly be a tremendous help to him if and when EAP goes on the degree-giving level. If our degree is to have any prestige at all, it must be based, to a considerable extent, upon the academic degrees held by members of our Faculty. Wayne Reitz has pointed this out upon several occasions and thinks it is going to be very difficult for us to get and keep a goodly number of men on our staff who will be well qualified in this respect. The problem seems more difficult with the loss of Fernandez de Cordova who has turned out to be an excellent man, and with the loss of George Freytag (I have heard rumors to the effect that he is returning to the States this coming summer).

My concern about Antonio, which I mentioned in my last letter, is based upon rumors I heard when last in Honduras, to the effect that Antonio was to be given a degree to enable him to join the staff

of the new Facultad de Agronomia which is being established by the Universidad de Honduras at La Ceiba. In my opinion I think this would be a risky move for Antonio. I doubt that he would consider it. But I do not know, of course, what may happen to EAP and its program if and when we go on the higher level. I am not worrying too much about this, because it seems that such a move is not imminent by any means; the money is not in sight yet. But a big effort is being made right now to raise funds.

You know how I feel about the botanical work at Zamorano, and that fine herbarium you have built up. The hopeful feature of the new program which has been discussed in all quarters is that much attention is going to be given to research in various branches. This is receiving much attention from all Universities, and Zamorano will be on the level of a Facultad de Agronomia of a university - again, if and when.

I greatly hope that Dr Barkley will go ahead and push the matter of degrees for both you and Antonio. These things take time, and from what you say he plans to leave Honduras before long.

It would be a great help if several members of the staff of the University would get behind this move before Dr Barkley leaves.

With warmest regards to Rua and yourself,

Faithfully yours

Wilson Popenoe

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AT LAKE SHORE DRIVE

CHICAGO, ILLINOIS 60605

March 18, 1970

Dr. Jorge Fidel Durón
Tegucigalpa, Honduras

Dear Dr. Durón:

C
O
P
Y

Some time ago Dr. George Lawrence wrote to me about certain problems which he had in Honduras. I was pleased to mention you to him; then after the letter had gone, I began to think back to when we had last met. It has been much too long, I am sure.

Recently, Dr. Fred Barkley, who is helping out on a project at the University of Honduras, wrote me that he had proposed Antonio Molina R., who has been on staff of Escuela Agrícola Panamericana for many years, and myself for honorary doctorates.

I would be much interested in seeing Ing. Molina receive this distinction from the university in his own country. It seems to me that this would be especially appropriate since, in my opinion, and in that of many other botanists, I am sure, Ing. Molina is the most capable and perhaps best known of Central American botanists. In his botanical work he has been truly a "Central American," for he knows the flora of all five Central American countries very well.

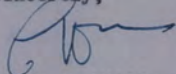
A number of years ago Ing. Molina was given a Guggenheim Foundation grant for study at Washington University in St. Louis, the university where I had received my Ph.D. years before. Ing. Molina did the equivalent of the work for a Masters in Science and published a thesis. The university would not grant the degree, however, because Ing. Molina did not have a B.S. degree.

I have written Dr. Popenoe just recently to tell about this proposal that Dr. Barkley has made. I know that Dr. Popenoe is much interested in Ing. Molina, and I am sure would support Dr. Barkley's proposal if he were asked to do so.

If you felt that you were justified in adding the weight of your opinion to Dr. Barkley's proposal, I am sure it would be to honor a very fine person and outstanding Honduran.

With my regards, I am,

Sincerely,



Louis O. Williams
Chief Curator
Department of Botany

LOW/rc

Dr. Popenoe: a "silent copy" but I thought you would like to see it.

FIELD MUSEUM
OF NATURAL HISTORY

March 24, 1970

Dr. Wilson Popenoe
Antigua, Guatemala, C.A.

Dear Dr. Popenoe:

Letters seem to be flying thick and fast these days. I am happy to say that I just have your letter of March 16th--a very fine letter, I think--and I am taking the privilege of sending it to Dr. Barkley immediately. It may cause him to do a little more, and perhaps to go to the Director of the University with the problem before his time is up in June.

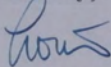
You will have received a copy of a letter that I wrote to Dr. Duron. I do not know what connection Dr. Duron may have with the University at this time, but I suspect that his recommendation, at any rate, might be of value.

The important thing, so far as I am concerned, is that Tokio get a degree somewhere, so that he will be in the "Doctor" group should Zamorano change to a four year school.

Insofar as I am concerned personally, I would (rather much) put the effort onto getting Antonio recognized than for myself to be recognized. I must admit that it would be a very nice gesture on the part of the University and one that would be much appreciated, but after all, it would not be nearly so important for me as it would be for Antonio.

With my regards, I am,

Sincerely,



Louis O. Williams
Chief Curator
Department of Botany

LOW/rc

FIELD MUSEUM
OF NATURAL HISTORY

April 29, 1970

Mrs. Edward C. Sweeney
4013 Douglas Road
Coconut Grove, Florida 33133

Dear Mrs. Sweeney:

I have your recent letter concerning the plant *Malva*, in which you are interested.

A number of years ago we did some research on the food plants of Central America, especially the bio-chemical composition of these plants. The results of the research were published in the journal *Food Research*, and in Volume 15, pages 442 and 445 there is a discussion and bio-chemical analysis of two samples of *Malva parviflora* which we collected in Guatemala. *Malva rotundifolia*, a similar species, is found in Mexico, and has been reported there with results similar to those found for the Guatemalan specimens which we collected. Both of these species of *Malva* are introductions from Europe, and it is rather curious that they have both been used as food plants in America, Mexico and Guatemala. They both are rather rich in certain food elements that are desirable, and it is probably for these reasons that the Indians picked them up as food plants and used them, although certainly the Indians did not know the reason for their use.

I believe that both of these species of *Malva* are to be found in Florida; perhaps they are around the Fairchild Garden. As weeds I would say almost certainly they are there, and I presume that you can find them and try them, if you wish to do so. *Malva* belongs in a family in which fiber plants are abundant--cotton is one of them--and my own experience with *Malva* is that it is pretty fibrous for a food plant. We have collected it and eaten it several times because we wished to try it out, inasmuch as the Indians used it. It is not a very palatable plant, we felt, and at the same time, the fibers make it a little bit difficult to chew.

I hope this information may help you, and if there is anything else which I may tell you, please do not hesitate to write.

With my regards, I am,

Most sincerely,

Louis O. Williams

Louis O. Williams
Chief Curator
Department of Botany

LOW/rc

May 12, 1970

Dr. Louis O. Williams, Chief Curator
Department of Botany
Field Museum of Natural History
Roosevelt Road at Lake Shore Drive
Chicago, Illinois 60505

Dear Dr. Williams:

Thank you so much for your recent letter, and for taking the time to put down all the information on the Malva.

I will try to obtain copies of the pages listed in Food Research journal which you mentioned in your letter, which gives a discussion and analysis of two samples of *Malva parviflora*.

I came across a very interesting paragraph pertaining to the Mallow Family in the book "Edible Wild Plants" by Fernald and Kinsey, put out by the Gray Herbarium of Harvard University, 1943, which I quote:

"MALLOW FAMILY (Malvaceae)

Mallows, *Malva*, *Althaea*, etc. (a dozen species)

The Mallows have mild, mucilaginous juices and throughout regions where they are found the smooth species have often been used as potherbs. In our own flora, we have chiefly introduced species, which occur as weeds about barn-yards or on roadsides and in fields and, although these may be used as potherbs, they are chiefly known through their scalloped fruits, familiar to children as a nibble under the name of "Cheeses." Of more importance is the Marsh-Mallow, *Althaea officinalis*, a European species rarely found in America, the root of which supplies the juice used as the basis of the well-known confection."

Dr. Louis O. Williams, Chief Curator
May 12, 1970
Page Two

I am wondering if in your work as Curator of the Field Museum, you ever ran across the name of Hazel M. Schmoll, who was director of the WPA workers in the Museum Herbarium during the nineteen thirties.

Again, thank you for your kind interest.

Best wishes.

Sincerely,

Mrs. Edward C. Sweeney

dke

CC Dr. Wilson Popenoe
Antigua
Guatemala, S. A.

Dr. Popenoe

I sent one to
El Imparcial & to
Diario de Centro
America, - also
to Dr. Ibarra.

L. O. Williams

LOUIS O.
Williams

NEWS RELEASE

FIELD MUSEUM
OF NATURAL HISTORY



TELEPHONES
922-0916
922-9410

ROOSEVELT ROAD AT LAKE SHORE DRIVE, CHICAGO, ILLINOIS 60605

JANUARY 12, 1971

FOR IMMEDIATE RELEASE

FIELD MUSEUM RECEIVES NSF GRANT FOR CONTINUING
RESEARCH ON "FLORA OF GUATEMALA"

Field Museum of Natural History has been awarded a grant of \$44,000 by the National Science Foundation to support continuing research entitled "The Flora of Guatemala." The grant, to run two years, is under the direction of Dr. Louis O. Williams, chairman of the department of botany.

According to Dr. Williams, when completed, "The Flora of Guatemala" will be the first comprehensive and modern account of the plant life of any large region of the American tropics. It will serve as important reference material for scientists in other fields who need to know about the vegetation of the area.

Eleven volumes of the flora covering flowering plants, ferns and mosses are finished at present, representing thirty years of research. It is estimated that four more years are needed to complete the final four volumes.

Dr. Williams has spent many years in Guatemala and at Field Museum amassing information for the project. Outside of a possible field trip to Guatemala to gather additional material, most of the remaining research involves the Museum's huge herbarium.

Dr. Williams is Consul of Guatemala in the Midwest region of the United States.

FIELD MUSEUM
OF NATURAL HISTORY

January 14, 1971

Dear Dr. Popenoe:

Rua had a note from Ann Arnold saying that she expected you and your lady in Mexico some time soon,- perhaps this not will not catch you.

If you come so far as Chicago we would like to have you stop by and see us, stay if you can. I am not so sure that I recommend Chicago at this time of year for one used to the climate of Guatemala,- but never-the-less we would like to have you.

Some very sad stories are slipping into press here and this Morning the Wall Street Journal had a long feature article on Guatemala, starting on the first page. Tourist travel to Guatemala seems to be dropping off and some of the press accounts of what is happening in Guatemala are not going to help it.

Aprovecho la ocasión para expresarles mi estima y consideración,



Louis O. Williams

FIELD MUSEUM
OF NATURAL HISTORY

March 22, 1971

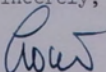
Dr. Wilson Popenoe
Antigua, Guatemala, C.A.

Dear Dr. Popenoe:

I suspect you may receive "Science." If not, the enclosure will be of interest to one who has done his bit to bring food supply up a little.

"Time" this week had a sad article on Guatemala. In case it did not get through let me know. People returning have seen little, nor do they seem to have been inconvenienced.

Sincerely,



Louis O. Williams
Chairman
Department of Botany

LOW/rc
Encl.

FIELD MUSEUM
OF NATURAL HISTORY

June 7, 1971

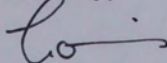
Dr. Wilson Popenoe
Antigua, Guatemala, C.A.

Dear Dr. Popenoe:

Thanks for the clippings from El Imparcial. Time has not done well by Guatemala on several occasions--or by other of the Central American countries.

Blake described Salvia popenoei from a collection that you made near Tactic in 1920. Carl Epling reduced the species in his revision, but he was wrong. I now have seven collections from the eastern departments. It must be quite an attractive thing!

Sincerely,



Louis O. Williams
Chairman
Department of Botany

LOW/rc

FIELD MUSEUM
OF NATURAL HISTORY

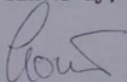
June 30, 1971

Dear Dr. Popenoe:

I just have your note from Florida in which you mention flowers from avocados and difficulty in finding them. --- All of your early collections are in the National Arboretum Herbarium in Washington. No one seems to know this but me for that woman who did a "pseudomonograph" of them missed all of those early collections. _ I am sure Fred Meyer would loan you or George anything that you want out of the collection.

I do not seem to be able to find Hugh's address so I take a chance that University of Florida will do. He seems not to belong to any of the Societies that I do.

Sincerely,





October 3, 1971

Dear Dr. Popenoe:

We have been thinking about Guatemala again and doing a bit of talking among ourselves about the possibility of going down there when retirement time comes, - and that is only about two years away.

We are not at all sure what we want to do when mandatory retirement time comes but we are quite sure that we do not wish to continue living in Chicago. I probably will not have finished the Flora of Guatemala by retirement time so we will wish to come back here for 4 or 5 months a year until that is done. We have land in Texas (on the Mexican border), in Arkansas and in Wyoming, in addition to the place that we have here so should we wish to stay here we have the option of these places to go to. The situation here in the States, as I am sure you are well aware, is not improving. Racial problems, theft, and air pollution are no fun. It is not advisable to leave a house here for three or four months and the cost of leaving someone in it while you are away is prohibitive.

Travel time is no problem anymore so one might as well live in Guatemala and return here during the part of the year when the weather is not so bad.

We think that Guatemala is the best place to go if one is going to live part of most of the year in Central America, for several reasons. There are two places that we like in Guatemala, - Antigua and Coban. We know Antigua well and the advantages that it offers. Coban we know less well but spent a month there two winters ago, during December and January. We like the town because it is a little greener than the Pacific side of the country yet the rains are not excessive. There are very few foreigners there and I suppose that it will not be a place that Americans will go to although the new road provides easy access and I suppose the air service will improve.

Do you think that it would be wise to consider Coban?

We stayed in the Posada when we were there. It is a very different place than it was when Miss Rosita was alive and is much run down. However a place like that, if it could be purchased at a reasonable figure, would be interesting. It has enough land for gardens. The old buildings are interesting and provide a marvellous view to the mountains to the southeast. We realize that it would cost quite a bit to put the place in satisfactory condition but if the original cost were not excessive this would be no problem. - This is assuming that the Dieseldorfs may wish to sell in a couple of years. There are possibly other places around that would be quite as attractive.

The Museum and EAP have made a joint proposal to National Science Foundation for funds to run a field Program in central Central America in 1972 and 1973. This is to permit Antonio to get into ~~to get into~~ some of the parts of Nicaragua ~~and~~ and Honduras that still needs collecting. — This looks forward to a possible synoptic flora of the three central countries and in Spanish. This is a project of considerable magnitude and it worries me as to whether I will wish to take on a project of this kind when I finish the Flora of Guatemala. If something should happen to me I doubt that Antonio would have the capability and drive to carry it through and to raise the money that it is going to cost. I estimate that it will cost a quarter million dollars to run the project 1974-1978 and those five years may not be enough. It will take perhaps five persons to staff the project. Good thing about it is that much of it could be done in Zamorano, - which is a much nicer place than Chicago, - and then checked in Chicago.

Fall is coming in Chicago. The oaks in our yard are putting down their cover, perhaps upset by an unusually warm fall.

Rua joins me in sending regards to you both,

Louis

FIELD MUSEUM
OF NATURAL HISTORY

Abril 4, 1972

Dr. Wilson Popenoe
Casa del Oidor
Antigua, Guatemala, C. A.

Estimado Dr. Popenoe:

Recientemente recibí una carta del Sr. Embajador de la Gran Bretaña, en Tegucigalpa, y que actualmente preside la Sociedad Hondureña de Orquideología, en la que me nombran "Miembro Benemérito" de la misma; dicho nombramiento también fué dado a Don Luis Landa y usted.

Estoy enviándole por correo ordinario una copia del boletín mensual que edita el Museo y que a grandes rasgos describe la historia actual en el Departamento de Botánica; espero que lo encuentre ameno y totalmente de su agrado.

Aprovecho de la presente para enviarle mis cordiales saludos, me place reiterarme,

Muy atentamente,



LOUIS O. WILLIAMS
JEFE DEL DEPARTAMENTO DE BOTANICA

LOW/bo

I have another secretary, a Mexican,
who is no end of help but is a "wet back" and
I am sure will be caught.

LOUIS O. WILLIAMS



April 20, 1972

Dear Dr. Popenoe:

The merry-go-round here is practically continuous, or at least so it seems to me. --- I have just finished writing up another proposal to NSF. I don't have the least ~~idea~~ ^{idea} whether ~~or not~~ we will get it or not but I need to make the try. --- Maybe I am used, - I don't know. Anyway I have written up about a million dollars worth of proposals since I have been here, and gotten most of them. I have my fingers crossed on the current one though.

I started to clean off the accumulation on my desk and found an old letter of yours that I may not have gotten around to. Anyway I reread it and a question or two came up.

I am concerned about your concern for Zamorano. Rea Armour was through the other week but I missed her. She is to be back through sometime next month and I hope that I get to talk to her.

You say that there is some question about the future of EAP and that some strong cut-back may be required. Then you ask about the possibility of my finding funds to carry Molina indefinitely. Does this perhaps indicate that there may be some thought of cutting back there?

If this were the case then what is to happen with the botanical collections and the library? --- I would assume that if this were a possibility there would be no change for at least two years for I have gotten funds to carry most of the work for that period. However if there were some thought that this might become necessary then it might be in order for me to see what I could do to place him, and the sooner the better. But then Antonio is so "hondureño" that he might rather live in Honduras on what he could find there rather than continue as a botanist somewhere else. -- If the presently proposed grant goes through I will have two persons to hire. The salary not "gran cosa", about \$8,000 and that is not much in the Chicago area.

The grass is green at long last but the lilacs are at least two weeks away still. I hope that this will have been the last winter in Chicago!

Sincerely,

Antigua, Guatemala 1 May 1972

Dr Louis O Williams
Curator of the Herbarium,
Field Museum of Natural History, Chicago.

Dear Louis:

On returning to Antigua last week after an interesting ~~month~~
at Zamorano I find your letter of 20 April.

Hugh and Mr Kimberly, the two present jefes of the Board, came through here last Friday and are now at Zamorano. I do not believe there is any serious doubt that the school will go ahead indefinitely, on the same basis that it was when you were with us, in spite of the fact that a few members of the Board are still trying to get us tied up with Central American academic politics. It is proposed to reduce expenses along several lines, including reduction in the number of teachers. In recent years there have been too many of them teaching only one subject and for only one or two trimesters per year. We cant afford that; at our academic level a B.S. or Master from any good agricultural college can teach two or three subjects - two will probably be required, and for at least two trimesters per year. And I dont think we will be hiring many more Ph Ds. So many of them will teach only their specialty, and the salaries expected are higher than we can afford to pay in our present financial condition. But I am speaking out of turn; just giving you my ideas, without authority.

My talks with Bob and with Hugh have left me with confidence in the botanical side. Everyone (especially Hugh and Bob, among the "key" men as you call them, realises the tremendous importance of the herbarium to Central American botany, and I do not think there is any

feeling that they would like to see Antonio go elsewhere. And from his own standpoint, I know that he would prefer to stay where he is, and that he could not expect a better salary elsewhere in Central America. You remember that there was talk of offering him a post at La Ceiba. He absolutely should not consider it.

More and more people are coming yearly, to use the herbarium and get information from Antonio.

I have heard that you are buying a place in Arkansas, to use when you retire. And you have mentioned Coban and Antigua. The proposed reduction in staff at Zamorano means that we are going to have a surplus of housing. I have not mentioned this to anybody, but it just occurs to me that the Board might be willing to give you a house, where you could spend as much of the year as you wanted. You know the climate at Zamorano; it is a good one. Probably I should not suggest this possibility without talking to Hugh and Bob, but I have the feeling they might be interested.

Warmest regards to Rua and yourself,

Cordially

Wilson Popenoe

May 8, 1972

Dr. Wilson Popenoe
Casa del Oidor
Antigua, Guatemala

Dear Dr. Popenoe:

We were dpleased to have your long letter and the considerable news that it contained. - I had a note from Antonio in which he said that you were in Zamorano and getting around as spry as ever.

I am sorry to know that it will be necessary to cut down a bit at EAP but I suppose that coming up with money for the operation is as difficult there as anywhere else. We surely have our trials and tribulations but we do seem to get along pretty well. I told you long since that the Museum had a capital funds drive underway. This has gone along pretty well but still working hard on it.

I probably also wrote you that I had been working on a "warm bodies and herbarium case" proposal. I have no idea whether or not it will be granted, - I am asking for \$250,000 approximately, - but we could use it. The personnel in the grant is principally two herbarium assistants and a plant mounter, and this over a period of five years. We need, in addition about 150 new herbarium cases and these will cost about \$210 each these days. I bought about two hundred a short time ago and paid \$140 each. A few of these went to Honduras.

The broker that has been helping us ouj for quite a number of years suggested some time ago that it might not be out of order for us to use a little of our income to buy property. Whether or not it was, and is, a good idea I do not know. Anyway we have put a few dollars into land and perhaps will put a little more din. We do have a nice place in the Ozarks of Arkansas and are seriously considering building there starting sometime next year. -- The Tom Dunns are due to visit with us here at the end of the month and we are going to go down to Arkansas then and look at a bit more land. Tom is interested in a place to retire and I guess has no interest in staying in the tropics. This might be a good one for him for the region is an attractive one with a bit of change of climate.

I think that I have told you that I plan (of mice and men) to go down to a botanical congress in Mexico at the beginnigg of December and from there to go on down to Central America and stay, hopefully, until the end of February. If we can do this we hope to stay in Guatemala for a short while and then go over to Zamorano and on down to Nicaragua.

If the staff at Zamorano is reduced and there are residences available there it might be an interesting place to work out of for a few years. Most especially it would be an effective place to work out of while preparing a synoptical flora of the central countries. There is not quite enough library or herbarium there to put the whole thing together but a period of six months there and six months here each year might do the job.

The preparation of a synoptical flora, to be viable, would require quite a lot of dollars. It ought to carry perhaps all of Antonio's salary (or rather reimburse EAP for it), to carry my assistant Mrs. Gibson here (and that will soon be to \$15,000 plus overhead each year). There should be a little for me to cover most expenses. Probably it should pick up also much of the cost of operating and expanding the herbarium at Zamorano and some sort of a printing arrangement to take care of the publication of manuscript as it is completed.

It is something to think about anyway and perhaps I can talk with Bob about the potential when I am down there this winter, or rather next winter for it is still down to 45° here!

When I showed your letter to Rua she said "There is no better climate anywhere than there."

I am now working on the Rubiaceae for the Flora of Guatemala. I thought that it might require relatively little work for this was the family that don Pablito knew most about. His preliminary manuscript is good but the problem is that we have twice as much material as he saw and some of them are species that he never heard of. I described three new Hoffmannias for Guatemala today, - one endemic and two now known from Chiapas to Honduras. One of the new species goes to Honduras and there are 17 collections from the cloud forest on Uyuca, - type will be from there too.

Long letter for one day.

Sincerely,

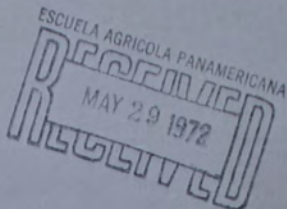
Howe

9th. Weather this morning clear and
a cool 37 degrees

PC-✓ Dr. W. Popenoe
Prof. A. Molina
FIELD MUSEUM
OF NATURAL HISTORY

May 25, 1972

Dr. Robert P. Armour, Director
Escuela Agrícola Panamericana
Tegucigalpa, Honduras, C.A.



Dear Bob:

As I think you may know, I have been invited to contribute a paper in a symposium which is to take place in Mexico at the beginning of December. During the last 10 days I have been busy preparing this symposium article for I am instructed that the paper will be published before the symposium takes place. Manuscript has been requested by the 15th of June.

A rough draft of the manuscript is being typed right now, and I hope to have a copy of it ready to send to you by this afternoon's mail. I would appreciate it if you would look it over and also ask Antonio Molina to look it over and then both of you send comments on it to me. These might include anything that might be added and certainly should include the things that you might not wish to be there.

When you have completed with the manuscript will you please send it by air mail to Dr. Popenoe. I am writing him a note also asking him to look it over and to make any comments on it which he will.

I have written to Antonio some time since suggesting that he should attend the congress in Mexico, for I think it would be useful to him. He might very well come to Guatemala with the car and collecting equipment, leave it there, and fly up to Mexico City for the congress. Rua and I will go back to Guatemala with him, spend some time there, and then come over to Honduras and Nicaragua and spend a month or two more working in those two countries.

With my regards, I am,

Most sincerely,

Louis O. Williams
Chairman
Department of Botany

LOW/rc

FIELD MUSEUM
OF NATURAL HISTORY

May 25, 1972

Dr. Wilson Popenoe
Casa del Oidor
Antigua, Guatemala, C.A.

Dear Dr. Popenoe:

I have just finished the manuscript for a symposium article which I have been asked to give at the Primer Congreso Latinoamericano de Botánica which is to be held in Mexico City beginning about December 3rd of this year. I have been asked to prepare my contribution well in advance, as I believe it is intended that the contributions be published and ready by the time the congress is held in December.

My contribution, such as it is, is essentially complete and a rough draft is being typed up at the moment. I hope to get a copy off to Bob Armour for him and Toffio Molina to see and comment on. I have asked Bob to send the copy to you just as soon as they can, and I shall appreciate it if you will be kind enough to read it over critically and make those suggestions that you may care to make. The manuscript must be completed and sent to Mexico by the 15th of June. I shall be away from Chicago now for about 10 days, returning, I think, the fifth of June. If I might have your commentary with that of Bob and Antonio by that time I can make what changes may be necessary on the manuscript.

Velva Rudd, a capable botanist in the U.S. National Herbarium, is, I believe, retiring out this year and plans to go to California--I think perhaps to live near her sister and to be near one of the large collections out there where she can continue to do some work. I have just written her a note to inquire why she wants to go to California to vegetate when she might very well take part in a flora of central Central America. I have no idea how she may react to this suggestion.

Guatemala is sending a delegation to Stockholm next month to attend a conference on human ecology. Our friend Jorge Ibarra is to be one of the participants in the Guatemalan delegation.

With my regards, I am,

Most sincerely,



Louis O. Williams
Chairman
Department of Botany

LOW/rc



ESCUELA AGRICOLA PANAMERICANA
TEGUCIGALPA, HONDURAS

*

Mayo 29 de 1972

Dr. Wilson Popenoe
Calle de la Nobleza No. 2
Antigua, Guatemala

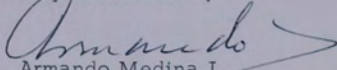
Estimado Dr. Popenoe:

La copia adjunta, de carta del Dr. Williams de fecha 25 de Mayo, se explica por sí sola.

Como se trata de algo urgente y en vista de que Mr. Armour regresa hasta el Sábado 3 de Junio entonces me estoy apresurando a remitir a usted, aquí mismo, la copia del manuscrito en referencia para su revisión y que haga usted el favor de enviar sus comentarios al Dr. Williams, de acuerdo con lo solicitado por él mismo en el tercer párrafo de su carta.

Mientras tanto, he hecho una fotocopia del aludido manuscrito para dejarla aquí y que el Prof. Molina ahora y Mr. Armour, después de su regreso, la lean y puedan mandar sus comentarios y observaciones al Dr. Williams tan pronto como sea posible.

Lo saluda muy atentamente,


Armando Medina L.
Secretario

Adjuntos

cc: Dr. L. O. Williams
Prof. A. Molina R.

June 5, 1972

Dr. Louis O. Williams
Chairman
Department of Botany
Field Museum of Natural History
Roosevelt Road at Lake Shore Drive
Chicago, Illinois 60605

Dear Dr. Williams:

I refer to your letter of May 25, and a copy of the manuscript of a paper to be presented in Mexico during early December. These were received when I returned to the office to-day. The provisional reply to your letter, given by my secretary on May 29, indicated that copies were distributed to both Dr. Popenoe and Antonio Molina at that time.

Antonio mentioned that he had nothing to add and no comment regarding the contents. Since I know much less of the historical background of botanical exploration in the area, I also have made no additions and have merely marked one or two typographical errors.

When we consider the botanical collections of more contemporary times, however, I do feel it detracts from the presentation when the contributions of Paul H. Allen are not mentioned. Not only must we consider the number of herbarium specimens (over 5,000), which appear under his name in the "Paul C. Standley" Herbarium but, surely, the publication of "The Rain-forests of Golfo Dulce" (University of Florida Press 1956) is a valuable contribution to a better understanding of the rich flora of Costa Rica, so often mentioned in your paper. For these reasons I feel that Paul's contributions during the period 1934-63 should receive mention in your manuscript.

I note what you have to say about a possible trip for Antonio Molina to attend the Symposium and I am certain this can be worked out satisfactorily.

With best regards,

Sincerely,


R. P. Armour
Director

RPA/aml

Enclosures

Antigua, Guatemala 7 June 1972

Dr Louis O Williams
Field Museum of Natural History
Chicago, Illinois.

Dear Louis:

Armando Molino wrote you that Mr Armour was not in Honduras when your letter of 25 May arrived together with the MS of your paper on Floristic Studies, but that he had made a copy for Mr Armour and Antonio Molina and was sending the original to me for my comments, to be sent direct to you. I am sorry to be a little slow in sending them; Alice and I have just returned from a hasty trip to Costa Rica.

I have made some comments in pencil on the enclosed copy of the MS, so they can easily be erased if they are not of interest. I shall make, below, comments which require some explanation, with the understanding that some of them may not be at all necessary or relevant, and you can forget them. I am afraid there too many minuteae included.

You say "Floristic Studies on Central America, Past, Present and Planned" which I suppose is alright, but later you refer to future studies and it seems to me "Past, Present and Future" would sound a little better. More logical - but not important at all.

In the first paragraph you talk of Centroamerica, con la inclusion de Belice. Later on you discuss British Honduras. I guess you have done about the best you can, to be technically correct, for the publications have been about "British Honduras" but I sure would dodge that term as much as possible. In writing a paper for Latin American consumption. You can't try to explain things, without putting your foot into it. Would appear to be taking sides, no matter what you said - or so it seems to me. But referring to page 2 - is this

correct - "the small British Commonwealth nation of British Honduras." I thought it was still a Crown colony, and I have never understood that a Crown Colony is a Commonwealth Nation. Maybe I am about 10 yrs behind the times.

Page 9. You mention Antonio as Ing. Molina. Unless he has a B.S. this would not be correct. I would stick to "Prof." which he is, and which sounds better to me anyway. That is the title used in EAP publications.

Page 11. You mention Jorge Leon, who was a promising botanist until he switched to administrative work. He could say the same thing about you!! You can be doing administrative work and still be a damn good botanist, as you are. Furthermore, Jorge Leon is not an old man and may switch back to botany (he would probably do a lot more good if he did).

Page 14. Paul Standley too great pride in his Flora of the Lacetilla Valley, primarily because it came out in such beautiful form, with all those swell natural-size fotos which Frederick Coville took with the big camera I still have here in Antigua. If I were writing your paper, I would make mention of the fact that it is not often a local flora appears in such fine form.

Oton Jimenez is such a remarkable man I would elaborate a bit, mainly to point out that he has been at work for some time on biographies of Costa Rican botanists, that is, those who have worked in Costa Rica. His paper on don Carlos Lanketter was splendid. His paper on Adolf Tenzel just right, a character sketch which could not be bettered. He is now working on don Carlos Wercklé. I would praise Oton a little bit more; he deserves it.

I consider your paper a real contribution; you have told us where we stand and what there is to do. Excellent.

Faithfully yours,

FIELD MUSEUM
OF NATURAL HISTORY

June 14, 1972

Dr. Wilson Popenoe
Casa del Oidor
Antigua, Guatemala, C.A.

Dear Dr. Popenoe:

Your letter of June 7, about my paper to go to the symposium in Mexico, arrived here just in time for me to get part of your suggestions incorporated into it. I had also a letter from Bob Armour and was embarrassed no end because I had forgotten to even mention Paul Allen in the paper. That error and oversight has been corrected.

I have taken, happily, several of your suggestions and made the changes indicated. The title, "Past, Present and Future" I could not use because the word planned had already gone into it. We had thought of this possibility and discarded it.

British Honduras or Belice is a problem of another color. I called the British Embassy here and asked what the official status of that country was, and got the answer which I used in the paper. The word Belice I think is perfectly acceptable to most Latin Americans because it does not indicate colonial or Commonwealth status in any way. The Guatemalans have an office in the Capitol building for the affairs of Belice, or did the last time I was there. I do not know how busy the gentleman in charge of the office may have been.

I wish that Jorge León would come back to botany, but I suppose he never will. I saw him last in Peru, and his wife Maruca was very unhappy with Lima and was ready to do almost anything to get out. The University of Costa Rica had offered Jorge a place, a professorship actually, but at about one-third the salary he was getting at that time. I presume his salary has increased considerably since then and since he was transferred to Rome.

Don Otón Jiménez, for my money, is one of the finest people that I have ever known in Central America. There is nothing that I like more than to go over to his so-called "hole in the wall" office (his terminology) and disturb the work that he is doing. I have a feeling that he would rather stop and talk to a botanist than to do that work anyway. It certainly is too bad that botany was not a way to make a living when he was a young man and was inclined to take up the profession. He told me that his father was pretty certain, and I guess that Don Otón was also, that a decent living could not be made in Costa Rica as a botanist, and certainly Don Otón did not wish to go to any other part of the world. This last I can well understand.

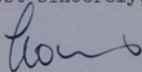
I ^{think} ~~that~~ you know that the Dunnes were here and visited with us. We took them down to northwest Arkansas in the Ozarks and showed them around the countryside. They eventually settled on a bit of land down there and I believe have purchased it. I presume that it is their intention to move there within two or three years.

If you wish to read and comment again on the idea of a central Central American flora it is brought forth in the end of this paper. We certainly would appreciate any commentary. I am getting along to the point now where I have to prepare a new proposal to N.S.F. to carry the years 1973-1975 for the Flora of Guatemala. It might be possible to incorporate into this something about the synoptic flora of the central countries. Actually, I think it would be fairly easy to prepare it at the same time we are preparing the last families for the Flora of Guatemala. The only big ones left to do are Rubiaceae and Compositae.

I hope that this finds you in good health and enjoying yourself as usual.

With my regards, I am,

Most sincerely,



Louis O. Williams
Chairman
Department of Botany

LOW/rc

[Louis Williams]

23 June 1972

Dr. Popenoe:

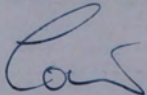
I thought that you might be interested in this, since we had a note from you about the "colony" recently.

There was a letter from Antonio Yesterday saying that George Freytag was leaving Zamorano and going to the FAO in Brazil.. He said that another man, whom I do not know about had been released.

Summer by the calendar here and I guess that the temperature has not been above 70° since. So cold that I can't get out at 5 in the morning to ride my bicycle for a half hour.

L. Wms.

I turned in 633 pages of manuscript and 106 plates for the Flora of Guatemala the other day. I have a considerable number of pages of manuscript in now, enough for about 250 pages of "flora" and it is supposed to be out within a couple of months and I have not even seen galleys yet. If all goes well and the inertia of the Museum can be overcome the flora should be finished in 1975. Working on Rubiaceae now and only one blockbuster left, Compositae!



CONSULATE OF GUATEMALA

1813 CAMBRIDGE AVENUE
FLOSSMOOR, ILLINOIS 60422
TEL. 312 798-1151

July 5, 1972

Dear Dr. Popenoe:

I guess that you will have to change the name of your Guatemalan comosellama to a Burmese comosellama. I suppose that the orchid is Coelogyne cristata, one of the most popular "botanicals" for it flowers easily even though the flowers do not last very long.

The Dunns bought a quite nice piece of land on the top of a hill overlooking Beaver Lake. For the Ozarks it is exceedingly flat and has some soil. Mostly the area is up and down, somewhat like Honduras, and the "soil" is made up of Mississippian limestone in greater or smaller pieces. This "soil" extends from the surface down for some thousands of feet! Anyway that ~~is~~ is the kind of land we ought to live on. It takes no land out of agriculture.

We are still not at all sure that we should not go back to Central America but the thing that worries us is how we are going to get all of our junk back down there. Guatemala is generous. You may bring back \$100 worth duty free and then you start paying duty. Costa Rica offers considerably more enlightened policy,-- all of your things up to \$5,000 worth plus permit to import a car duty free. But we do not believe that we would want to live in Costa Rica.

We are taking off at the end of the month to go out to Wyoming and Montana to take a rest and do some intensive flyfishing. It is relatively easy to drive out now. Get on an interstate about 3 miles from here and the next stop-light is when we get off an interstate out in Montana.

This is July 5th and my recording thermometer shows 46° to 65° today! I went down and changed the system from air conditioning to furnace this morning. Day after day the cold records for all time have been broken.

We hope that it is not so cool in Antigua,

Sincerely,



FIELD MUSEUM
OF NATURAL HISTORY

September 15, 1972

Dear Dr. Popenoe:

I had a letter from Peter Raven yesterday, - new director of the Missouri Botanical Garden, saying that he was going to try to get Molina an honorary degree from Washington University. He had hopes that he might get it all through for June 1973. I am not at all sure whether or not he will be able to carry this all out or not but I hope that he will.

I asked for a copy of Antonio's records from EAP. These were pretty scanty in the early days but at least will give an indication of what he did there. Tonio wrote out a curriculum vitae which covers the essentials but little more.

Would you be willing to write a letter, either to me or to Dr. Peter Raven, Director, Missouri Botanical Garden, St. Louis, Mo. 63110, which might be used to support Raven's petition?

Bert Muller might be able and willing to prepare such a letter too but I have completely lost track of him but suppose that he is in Florida. We had a Christmas Card last year, but with no address. --- Someone told me, I do not remember whom, that Bert was having some trouble with his heart.

Looks like we may get a bryologist here, at least for a year or two. I wrote a letter to one of our friends a couple weeks ago and outlined the situation and possibilities. I suggested that \$12,000 would carry the man I had in mind for a year. I got a phone call back a few nights later with promise of a gift of \$25,000 for the purpose. Last night another call indicating that there might even be more available.

Rua and I are thinking right seriously about the trip to Central America this winter. Botanical Congress in Mexico in December and I am in a symposium on D.C. 3. From there we plan to go on down to Guatemala, then eventually on to Honduras and Nicaragua. We have thought about buying a VW squareback and driving down but this is still only a possibility. We would like to do field work down there about three months this winter and I have money to cover the project, - some it from my lefthand pocket.

I have just completed writing a new proposal to NSF for funds to complete the Flora of Guatemala. In this there will be funds for a couple of months of field work in 1974 (January onward) and that will be the end of any field work before completion of the flora. I estimate now that it can be finished by the end of 1975. Keep my fingers crossed and hope that this grant proposal will go through. It is fairly large, more than \$100,000 direct costs plus about \$70,000 in indirect cost.

Regards,

Low

FIELD MUSEUM
OF NATURAL HISTORY

July 11, 1973

Dear Dr. Popenoe:

I was pleased to have your note, which indicates that all goes well with you. I hope that this shall continue for years to come.

Salvia hempstediana Blake is under S. cacaliaefolia and the collection which you made is cited.

Writing floras presents problems no end. I had no sooner gotten back the Labiatae from the printer when I got good specimens of a genus which I can not find, from Peten. I suspect that it may be a new one. -- Yesterday I got three Russellias from Antonio which extend the ranges of two of them to Honduras, both previously known only from the types.

I understand that the next director of EAP is named Adams. More information than this I was not given and what Adams this might be I have not the least idea. I hope he is "botany oriented" for I have to make a new proposal to NSF to continue carrying the Central American project.

Rua and I are going down to our place in Arkansas for the month of August.

Finally the Museum has gotten a chairman to replace me so I no longer have to push the pencil. Lorin Nevling, probably an unknown to you. He has been at Harvard as head of the herbaria for a number of years.

Regards to you both!

Lorin

FIELD MUSEUM
OF NATURAL HISTORY

July 24, 1973

Dear Dr. Popenoe:

I was pleased to have your letter and to know something about the new man at Zamorano. It is curious that I had not heard of him before this time.

I wrote Bert Muller a letter a few days ago and at the same time addressed it to the director in case Bert had packed his bags and gone back to Florida. I hope that we can get something going on a continuation of the central Central American project. I do not really want to quit working when the time for the Flora of Guatemala is up. This might be an interesting and pleasant thing to do. The collections and library at Zamorano are adequate for the purpose, with a little time spent up here once in a while.

We are thinking about spending a bit of time down in Central America this winter. I think that the money is available and the main thing that is holding us up now is the same of our property here in Flossmoor.

I hope that Lempiras do not go to 12 to the dollar. I should think that it might even be ther other way!

We had a letter from the Jim Webbs a few days ago. They asked about you and about Mrs. P. who was their neighbor in Tegucigalpa quite a number of years ago.

Rua joins me in sending regards,

Howie

FIELD MUSEUM
OF NATURAL HISTORY

29 August 1973

Dear Dr. Popenoe:

I told you wehn we were at your house in January that there was a proyecto de ley which would have to do with retired persons with a specific minimum income to live in Guatemala with certain very definite benefits. This decree has been passed by the congress under Decreto No. 58-73. It was signed on July 30 and takes effect when published which I presume has happened by this time. The decree is called "LEY DE RESIDENTES PENSIONADOS Y RENTISTAS." — The de~~cre~~ree permits you to import free up to \$7,000 in household effects plus one automobile. The law does not limit the value of the car. This car may be sold after four years without paying duty and a new one may be imported duty free. Thjis operation may be repeated then each three years.

The income which you declare to prove that you have the right to enter Guatemala under this law shall be free from impuesto sobre la renta. I presume that if you showed an income of \$10,000 in order to qualify then that the amount would be not taxed.

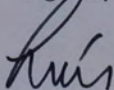
Apparently the only real restristion is that you can not work. You may invest in Guatemala if you wish.

The tourist bureau is the entity charged with starting the proceedings. This is Artículo 11 of the decree.

Rua and I think that we will leave here for Central America about the end of October or beginning of November. We will go to EAP first then finally back to Panajachel about the beginning of 1974.

I am busy this hot day, 92° in my office, preparing a proposal to NSF to continue our project of central Central America with EAP. Total asked of NSF for two years will be about \$36,000. We got \$29,000 these two years.

Regards,



FIELD MUSEUM
OF NATURAL HISTORY

September 21, 1973

Dear Dr. Popenoe:

Don't complain too loudly about the 6 mills tax. Our Flossmoor house, which we have just sold is on the tax rolls at a valuation of about \$13,000. The tax in 1973 was \$1,780! And Flossmoor has one of the lowest tax rates in Cook County. Appraisal of the house before sale was \$83,000,- which I think was stupid.

We are moving from our house on Monday. Part of our impedimenta has been moved to Arkansas,- the rest we will take to an apartment where we do not plan to spend more than five months a year.

We will leave for Arkansas in about three weeks and from there to Central America. We will go first to Zamorano, then Nicaragua. About the first of 1974 back to Panajachel for a month or two.

I will complete the proposal for central Central America next week. I sent a copy down to Adams, Molina and Dixon to look over and I have a signature sheet back. — I am not at all sure that we will get our proposal granted but it would help if your fingers are crossed in our behalf!

We probably will not get to Zamorano while you are still there but we shall make a point of seeing you when we come back to Guatemala at the end of December or early January. — Anyway you may find it essential to spend a few days in Panajachel. We have reserved a chalet from your friends at Hotel Regis and if they stay with it we will have a "rest" there. If not we will find some place to stay.

First day of fall and it has been cold all week. Down to 42 last Sunday.

Regards,

Lois

[Williams]



December 21, 1973

Dear Dr. Popenoe:

Antonio and I returned from Nicaragua just in time to sit in on the graduation ceremonies here. It was impressive but perhaps the smallest turnout that I had seen, due no doubt to the gasoline problem that was here at that time. We have done a bit of collecting in Honduras since we came back but mostly have been working in the collections. It seemed to me that this might be a good time and opportunity to have a hard look at the true avocados again, especially so since Zentmyer is still on my neck now and again.

I have worked out a "treatment" of the Persea subg. Persea group but have done nothing with the much larger subg. Briodaphne. Anyway the latter I now suspect has nothing to do with the true avocados and is probably entirely useless as stock for the true avocados.

There is herewith a machine copy of my manuscript. Pretty rough but we will not have the time here to get it smoothed out and typed. If you can find the time to do it I shall appreciate it if you will look over the manuscript critically. When we are in Guatemala about mid-January we will plan to come to Antigua and talk to you about it. If we can get into a hotel in Antigua we may stay a few days and maybe even "Loaf."

There would seem to me, at this writing, to be seven species of true avocados, two of which you have not seen so far as I know: 1, P. americana and its variety drymifolia; 2, P. floccosa; 3, P. steyermarkii which neither of us have seen and which is a perfectly good species I think; 4, P. nubigena which includes P. gigantea and which we saw at the north of its range at Puerto del Aire in Puebla and it goes down the mountains to Costa Rica; 5, P. schiedeana; 6, P. primatogenia (n. sp.) from Nicaraguan montane forests; 7, P. parvifolia (n. sp.) which we collected back of Tetla, Vera Cruz 25 years ago.

The Molinas and the Williamses are going down to Copán next week to do a bit of collecting and to look at the ruins again. We expect to cross over to Guatemala on Dec. 31, the last day my permit is good in Honduras, and go to Cobán. We want to work a forest in Baja Verapaz that now has a road thru it and I suppose will have been destroyed in few years. We

(over)

plan to come up to Guatemala by the middle of January or before, when we hope to see you. From Guatemala we are going over to the highlands and will spend ten days or so collecting. From there the Williamses will go to Mexico and north, - the Molinas to Honduras.

The Molinas may go to Chicago for a month or two this winter to work in the Museum. We have an apartment which they can see and thus reduce the cost a bit.

Dear Dr. Robinson:

Rua joins me in sending regards to you both.

Sincerely,

Howe

in on the graduation ceremony here. It was impressive but perhaps the smallest I had seen, due no doubt to the gasoline problem that was here at that time. We have done a bit of collecting in the highlands since we came back but mostly have been working in the lowlands. It seemed to me that this might be a good time and opportunity to have a hard look at the true avocados again, especially so since Zentgraf is still on my neck now and again.

I have worked out a "treatment" of the *Persea* subg. *Persea* group but have done nothing with the much larger subg. *Persea*. Anyway the latter I now suspect has nothing to do with the true avocados and is probably entirely useless as a stock for the true avocados.

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There would seem to me, at this writing, to be seven species of true avocados, two of which you have not seen as far as I know: 1. *P. americana* and its variety *gracilifolia*; 2. *P. floccosa*; 3. *P. stephensii* which neither of us have seen and which is a perfectly good species I think; 4. *P. nudigena* which includes *P. gigantea* and which we saw at the north of its range at Puerto del Aire in Puebla and it goes down the mountains to Costa Rica; 5. *P. schiedeana*; 6. *P. prismatica* (N. sp.) from Nicaragua; 7. *P. parvifolia* (N. sp.) which we collected back of Tetla, Vera Cruz 25 years ago.

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(over)

Antigua, 27 January 1974

Dr Louis O. Williams
Route 6, Pointe Clear
Rogers, Ark. 72756

Dear Louis:

I have worked a lot on your avocado paper and I have reached the conclusion that you yourself will have to do a lot more work on it before it should be sent to the printer. I am going to mention a number of points which I think demand attention:

I think you must start out with more history. I am not sure that this should come first - perhaps an explanation, more detailed, of what this paper is trying to do, i.e., tie up the 3 horticultural races with their wild prototypes and other avocado ~~as~~ ^{wild} which are similar and where they tie in. Very early in the paper quote Bernabe Cobo's remarkable statement in 1653 (see my Manual, page 16) that there are three kinds of avocados.

Then - tho I am not sure of the sequence - go into the history of the cultivated avocados. Show where they were grown at the time of the Conquest, as far as we know: Collin's bulletin should be cited, and the recent discovery of avocado seeds on the coast of Peru as far south as Nazca, which does not mean that the avocado was native that far south but they must have grown it there and all along the coast. You end up by saying horticultural avocados were grown P. ~~argentea~~ ^{shown by} in Mexico around the volcano Orizaba and as recent explorations by ourselves, Carl Crawford C.A. Schroeder and others; varieties derived from P. americana nubigena in southern Mexico and especially in Guatemala; and varieties developed from P. americana var. americana on the coast of northern S. America and probably into Venezuela but no farther East, then Caribe, probably from Colombia over to Jamaica

by the Spaniards, Martin Fernandez de Enciso having been the first to mention this fruit, which he saw in Colombia. And somewhere along in this part you should dig out the Yearbooks of the Calif. Avocado Society for 1934 and read my paper on the Early History of the Avocado and 1935 on the Origin of the Cultivated Races of Avocados. You should bring down to date what we have learned regarding the origin of the cultivated races, especially the wide distribution of the nubigena group and the discovery of Paul Allen's wild avocado at Golfito and the probability that this may be found in Colombia and perhaps down to Ecuador.

Then you should go into the Phytophthora problem - though I am again not sure of the sequence of the treatment - and here you should draw on the excellent paper by Zentmyer and Schieber in the 1972-23 Yearbook of the Calif Avocado Soc.

After you have done all this I think is the time to go into descriptions of the species and their grouping by affinities. This is probably where your paper can make itself really important, and you can take a crack or two at Lucille without having it appear that we are a bit sore about some of her mistakes and here is where ^{you} can come in for a little philosophical discussion of the difficulty botanists have in doing a good job on a group of plants which has long been in cultivation and which are represented in the herbaria by leaves and flowers and no fruits. Point out how much variation there can be in size and shape of leaves on one and the same tree - a point which is made by Collins and which to me is highly important. I hold that we can not, or should not, attempt a definite description of a plant long cultivated until we have seen numerous ⁱⁿ specimens, fruits and all. And even then he must not base his new species on a minor variation as Blake did with *P. leiogyna*. It would be just as fair to make two

species ~~out~~ of *Homo* by describing Hugh, who can't grow a beard at all and David Fairchild's grandsons who looked like Santa Claus (at age 16).

Incidentally, Gene Schieber has shown me a fine photo of *Persea steyermarkii* fruit's foliage and flowers. It is mighty close to *nubigena* as far as fruits are concerned and the venation is the only thing you can stick to, apparently. And he has shown me photos of the fruit of the new species from Nicaragua, very interesting. Schieber has found *steyermarkii* fruits in several places and Zentmyer has a bunch of seedlings now growing at Riverside. And as for *floccosa*, there is a photo in one of the recent Yearbooks of a cross between *Has*, I think it is, and *floccosa* which Bob Bergh has made at Riverside. The fruits sure look like *floccosa* as I remember it.

I think you and I are right in feeling that there are no intergradations between the widely dispersed *nubigena*s and *P. drymifolia*, if you will look at fruiting trees of the two. And I still think we must call the aguacate de San Isidro (Pompilio Ortega's aguacate de mico) nothing but a form of *nubigena*, though it is stretching things a bit; it grows clear down to the coast, and it has so much anise odor that nobody thought it worth while to domesticate it. I still feel confident that Paul Allen hit upon the prototype of the West Indian race and it is *americana* var. *americana* since you folks insist on sticking to this classification. I am going to get somebody pepped up to the point where he will look for this form in Panama, Colombia and perhaps Ecuador. I'll bet the avocados Martin Fernandez de Enciso saw at Yaharo were cultivated ^{derivative} ~~derivatives~~ of Paul Allen's avocado; They were yellowish which is not true of *nubigena*s and they were pear shaped which means cultivation. I have come to feel very sure that it takes cultivation to make the true avocados stick their necks out.

My best to Rua and yourself.

Antigua, Guatemala 7 April 1974

Dr Louis O. Williams,
Field Museum of Natural History
Chicago.

Dear Louis:

In your letter of 25 March you suggest that there be two papers, one by me on the origin and history of the avocados, and another by you on the taxonomy, both to be published, probably simultaneously, in "Economic Botany". I think the suggestion is good. I have already covered much of the origin and history in the Yearbooks of the California Avocado Society, but it is scattered over a period of 30 years or more, and we have quite a bit of recent information which I have not published in the Yearbooks. I believe the time is ripe to summarise the whole business. I have been waiting for years to publish a paper of the kind I now have in mind, hoping that we could clear up a bit the distribution of wild avocados in South America, but we will not get this in my time, and as a matter of fact we lack very little. As you mention in your letter, nobody living today has seen so many avocados in so many places as I have, and again as you say, the field experience of yourself and myself out to be put down in black and white before either of us kicks the bucket. In my case, I am already making passes at the bucket.

I have just gone through all of the Yearbooks of the California Avocado Society. There is a tremendous amount of material in those volumes. And some elsewhere - many years ago they got out a bibliography of the avocado in California, and it was mentioned that I was responsible for 75 titles, more, at that time, than anybody else had chalked up. Many of these titles, of course, were popular in character. Not scientific contributions by any means.

To give you an idea of what I have in mind, and show in a general way what I contemplate, here it is, tentative title and all:

THE ORIGIN AND HISTORY OF THE HORTICULTURAL AVOCADOS

and I would tie into this notes about non-horticultural forms such as that curious Avocado of San Isidro, Costa Rica, which was written up by Oton and myself long before Pompilio Ortega brought me specimens from La Libertad, Comayagua, and I found it near Lencetilla, and Antonio Molina collected it later. It is interesting because it knocks into a cocked hat our use of "anise scent" as a distinguishing character of the Mexican avocados. And I would tie in *P. floccosa* because it looks like an avocado, and pretty nearly is an avocado, even if it ain't an avocado. And *Persea schiedeana* by the same token, and now *P. steyermarkii*, about which we have at last good information thanks to Zentmyer and Schieber. And I suppose I will have to mention the late-lamented *P. leiogyna* Blake just to explain what happened.

Somewhere in this early part of the paper I will want to say that based upon lots of field work, you have decided, and are going on record in your paper to go back to Cham. and Schlecht's days and accept *P. drimifolia*, the horticultural Mexican race of avocados, as a good species, and accept all other horticultural avocados as geographical variants of *P. americana* just as Lucille Kopp does. In other words, *P. americana* includes what we now call the West Indian race and what we call the Guatemalan race (not type, they are races in sensu strictu.) So that brings us down to our horticultural situation, three races, the Mexican, Guatemalan and the West Indian (I think I would list them in this order, because of their relative hardiness to cold.)

What, then, is the early history of horticultural avocados in general? There is no doubt that all of them are American. The first work published on the New World was Martin Fernandez de Enciso's "Suma de Historia" published at Seville in 1492. He saw avocados on the coast

of what is now Colombia, not far from Santa Marta. I think I will translate his account, as it is the basis of our avocado history, and I will also quote from Oviedo - his brief account was published in 1526 I believe. Then I would go on to quote briefly from a few other very early accounts, until I came down to Padre Bernabé Cobo, who wrote in 1653 that there are three kinds of avocados. He accurately characterizes the three which we now know as the West Indian, the Guatemalan, and the Mexican races.

So now we come down to the three races and allied forms specifically different from the horticultural races whose taxonomical standing has just been mentioned.

THE MEXICAN RACE

Abundantly cultivated in the Mexican highlands at the time of the Conquest, as shown by accounts of the earliest Spanish chroniclers. As far as I know, its distribution as a wild tree has not been tied down very closely, but beginning with the statement of that excellent German botanist, C.A. Purpus (about 1920) it grows wild on the slopes of the volcano Orizaba. In relatively recent times avocado fanciers from California and a few other regions have searched for wild trees of the Mexican race and have found where and are believed to be plenty of them north from Puebla in the highlands. For a long time it was thought that the leaves of this avocado must possess the anise-like odor which gave it the name Drumifolia (is this correct?) but semi-wild forms have been seen which do not have this odor. C.A. Schroeder has reported such forms; I believe others have also. Because of its resistance to cold, this is the only avocado grown at high elevations in Mexico (and elsewhere) and it was carried, almost certainly by early missionaries, to South America, especially Ecuador and Chile, probably in the seventeenth century. There is no record of its having reached California until 1856. From the Aztec

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name ahuacatl (hispanised to aguacate or aguacate) has come, apparently by a devious route, the modern name avocado, which was first reported from Jamaica in 1796 by Sir Hans Sloane, who lists other variants such as albecato, avigato, albecato and finally alligator pear, a name which has persisted to the present day. How aguacate become alligator is hard to imagine; the pear part came naturally, for the British in the West Indies dubbed the tropical fruits apple, peach, plum or pear with a qualifying word such as "starapple", "Spanish plum" and so on ad infinitum. Incidentally, the alligator pears of Jamaica were avocados of the West Indian race, not the mexican species. In the tax rolls of pre-Columbian Mexico there is a glyph for the town of Ahuacatlan, which was adopted years ago as the symbol of the California avocado Society. The word is formed from ahuacatl, plus the locative tlan, shown by teeth set in one side of a somewhat conventionalised avocado tree, ergo "place where the avocado abounds".

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Somewhere in this early part of the paper I will want to say that based upon lots of field work, you have decided, and are going on record in your paper to go back to Cham. and Schlecht's days and accept *P. drimifolia*, the horticultural Mexican race of avocados, as a good species, and accept all other horticultural avocados as geographical variants of *P. americana* just as Lucille Kopp does. In other words, *P. americana* includes what we now call the West Indian race and what we call the Guatemalan race (not type, they are races in sensu strictu.) So that brings us down to our horticultural situation, three races, the Mexican, Guatemalan and the West Indian (I think I would list them in this order, because of their relative hardness to cold.)

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FIELD MUSEUM
OF NATURAL HISTORY

June 4, 1974

Dear Dr. Popenoe:

I have a fine 14 X 20 inch photograph of "Wilson Popenoe, Plant Explorer". This must have been taken no fewer than 60 years ago but I have no idea where except that the tree used for a background looks like it might be Eguanacaste. You are mounted on a white horse and have a black pack mule loaded with two "box" panniers with stuff piled on top.

If you or any of your youngsters might like to have it I shall be glad to ship it to wherever you may indicate.

Quite a long time ago a note went to you sounding you out on YOU preparing an article on the horticultural aspects of avocados. The suggestion was that this and one that I might complete on the systematics might both go in the same journal at the same time.

Working on Eupatorium. Guatemala has something more than 80 of the some 500 species and they are difficult. We have been collecting these things every time that we saw them for the last ten years and I guess that we must have some 500 "new" collections.

Don't know whether we will get to the tropics coming winter or not. Rua is having problem with her back and if that does not clear we will not leave the states.

Molina is coming for a couple months, possibly September-October if I can find the money to bring him. Think that I can.

Regards to you both,

Louis

FIELD MUSEUM
OF NATURAL HISTORY

June 11, 1974

Dear Dr. Popenoe:

I had a letter from Antonio yesterday which came through in relatively quick time. He told me that you were there and that you planned to stay about three weeks.

I wrote a few days ago to say that I had a large photograph of you taken perhaps 50-60 years ago when you were exploring for plant introduction. Shows you on a white horse with a mule for a pack animal. I would be glad to send this photograph to any place that you suggest, one of your children or to any place that may be storing information about you. Let me know.

Quite a long time ago,- after receiving your letter about the Persea manuscript,- I wrote to suggest that the paper might be much better if you could prepare the part of the manuscript that might have to do with the horticulture of the avocados, that this and mine on the systematics might go to the same journal to be published at the same time. Your critique was excellent but indicated that I would have to do quite a lot of research into the horticultural aspects IF I were to do it. I did not, and do not, feel that my research into a field that I have no competence in would be too valuable.

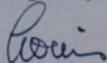
Did the letter ever get to your desk, and if so what do you think of the idea?

I am much involved in Eupatorium and hope to finish it now in a few days. I am down to and working on the things that seem to be new. Some 85 or 90 of the world's 600 species of Eupatorium are in Guatemala. More there than any other comparable area. The western highlands are full of them at the end of the rainy season and on into the dry season. We had accumulated nearly 500 collections from Guatemala over the last ten years or so.

We hope to get a new field vehicle for the Central American project. Antonio will probably come up and drive it down and do a couple of months of digging in the herbarium while he is here.

The rainy season has been terrific here this year. The farmers do not have their corn or soy beans in the ground yet and I guess it is probably now too late to hope for a crop. There was 10 inches more rain in May than the normal and already in June the usual fall has been exceeded.

Regards,



Antigua, Guatemala 28 June 1974

Dr Louis O. Williams
Field Museum of Natural History
Chicago, USA

Dear Louis:

Your letter of the 11th reached me at Zamorano, where I spent three weeks. During this time I went over the Persea material in the Herbarium and had several good talks with Antonio Molina. I am very pleased with the way he cares for the herbarium, and his work in general.

The photograph you mention must be the one taken of me on my pony Starlight, when I was bring down a load of avocado budwood from Coban to Guatemala City, some time in 1917. It was published later in one of the Yearbooks of the California Avocado Society. Probably the best place to store the enlargement would be right here in Antigua, or in the library at Zamorano. I think it must be one of the enlargements made before I left Washington.

Yes, I received your letter about the paper on the "Origin and History of the Horticultural Perseas" and had prepared part of an answer when George Zentmyer came into the picture and it occurred to me my contribution would be improved by including a lot of material he and Gene Schieber have accumulated. George was here a few days ago and we outlined a joint paper which in addition to the origin and history of the horticultural species will also touch on the problem of rootstocks, probably a bit about disease resistance, and one or two more matters. It is George's idea that if you publish your paper on taxonomy in the Journal of Economic Botany, we might do the same with ours, perhaps preparing a summary for the Yearbook of the

California Avocado Society.

As you know, much of the material on which we are going to draw has already appeared in the Yearbooks, so what we plan to do is to bring together all of that with the addition of quite a bit of material which George and Gene have assembled in the past few years.

In line with the discussion you and I had, we plan to go back to Chamisso and Schlechtendahl and consider the horticultural race of avocados as a good species, and we will give brief attention to a few Perseas which are not avocados but have some horticultural interest in one way or another. Here would fall that confounded avocado of San Isidro, as Oton Jimenez and I called it, which is a Guatemalan with more anise odor than any Mexican, and here would fall floccosa and schiedeana, even the floccosa is horticultural only that Bob Berg of Riverside claims to have crossed it with a horticultural avocado.

We shall be careful not to get involved in systematics and from time to time I will check with you to see we do not get out of the horticultural field and into the taxonomic. Incidentally, Gene has some fine fotos of *steyermarkii* which look like *nubigena* except for that venation business.

With best regards to Rua and yourself,

Faithfully yours,

Wilson Popenoe

Antigua, Guatemala 9 Sept 1974

Dr Louis O. Williams
Field Museum of Natural History
Chicago, Illinois.

Dear Louis:

In connection with the "Origin and History of the Edible Perseas" I am still up against the problem of how far south *P. americana* var. *americanis* native. I think Paul Allen's work satisfied us that wild avocado he found in the Golfo Dulce region is the ancestor of our West Indian race, and if there are wild avocados in Colombia they ought to look like the Golfo Dulce fruit. They should be round (as all wild avocados so far seen have been, except the *drymifolias* of Mexico) and therefore would have round seeds, as Paul Allen's did. But the avocados several of us have seen in the Santa Marta region of Colombia are not round and do not have round seeds. And in this connection it is interesting that the avocado seeds found in prehistoric graves on the Peruvian coast seem to have been pear-shaped fruits, if we can judge by the one illustration of a seed shown in Margaret Towles excellent "Ethnobotany of Pre-Columbian Peru".

What we need is some truly indigenous material from Colombia, like Paul Allen's from Costa Rica. Or information from some botanist who has collected in those parts of Colombia where the wild avocado is found. I have been trying to think of someone who has worked in that region and who would be interested in *P. americana*. I have thought of Voc or Manuel Patiño of Cali, who has done a lot of work on cultivated plants I believe, but I don't know that

he has ever done any collecting of wild plants in the field. I am wondering about José Cuatrecasas. I don't know much about his work but it seems to me he has done a lot of collecting though I don't know that he has ever worked in the Santa Marta region, and to my mind, that would be the first place to look. The lower slopes of the Sierra Nevada de Santa Marta. I have heard a number of reports that there are wild avocados in that region, but I have always been fearful that they are the sort of things I found when I went to look for wild avocados where H.H. Smith had collected some botanical specimens many years ago, which I had seen in some herbarium before I went to Colombia. I am afraid the things he got were just what I saw, pear shaped fruits of various shapes and sizes which I could not feel were indigenous, but escapes. We know the avocado has been cultivated in that region for a long time, for that is where Martin Fernandez de Enciso reported seeing it about 1510. Or am I wrong in thinking we must have fruits which are uniformly round in shape, as the ones in Golfo Dulce are. I don't think there should be a lot of variation in wild avocados, as regards shape of fruit. I'd go along with shape of leaves - you know how your nubigenas behave, but they don't deliver bottle-necked fruits or even pear-shaped.

What do you know about Cuatrecasas? It seems to me the last I heard of him he was at the Smithsonian. Is he still alive, and working there? The other man I have in mind is Armando Dugan about whom I have heard nothing for years, but it seems to me he used to be at Barranquilla region and there was a herbarium there. I don't know whether Dugan ever did any field work or not - in fact I don't know anything about him. You of course do.

My feeling is now, that the avocado of Golfo Dulce, which

have extended southward into the Santa Marta region and perhaps over on the Atrato and down into the Chocó. Since it appears to be limited to the lowlands in Costa Rica I would not expect it to be found above two or three thousand feet, would you? Maybe as high as 4000. I am making the guess, based upon the behavior of the cultivated West Indian race, which I am convinced had its origin in the wild avocado Paul Allen found.

If you think Cuatrecasas is a good bet, could you give me his present address? And what else can you suggest.

Many thanks for Part X, numbers 3 and 4 of the Flora of Guatemala. Best regards to Rua and yourself; I hope you will be coming down this way again before long. I think I have written you that I was over at Zamorano in June and had a good lot of the Persea material with Antonio.

Faithfully yours,

Wilson Popenoe

Antigua, Guatemala 16 January 1975

Dr Louis O Williams,
Rogers, Arkansas.

Dear Louis:

This letter refers to yours of 6 January, addressed to Dr Zentmyer and myself. It was discussed at some length yesterday here in Antigua, by Dr. Zentmyer, Dr Schieber and myself.

Because of the great importance of the work on Phytophthora cinnamomi, I decided to combine the information I have on the Origin and History of the Edible-Fruited Perseas with that which has been accumulated by Zentmyer and Schieber on wild and cultivated avocados (and close relatives) and prepare a paper, hopefully for publication in Economic Botany, to tie in, so to speak, with your treatment of the taxonomy. In this connection we have gone over your preliminary views on the taxonomic synopsis and wish at this time to make some comments.

We believe our familiarity with avocados in the field and in cultivation, together with your own, puts the whole subject on more solid botanical ground than is possible by working only with herbarium material. Dr Kopp herself suggests this in her excellent monograph on the Perseas of the Western Hemisphere.

The main point in which we differ with the views in your letter is this: We do not feel it wise to attempt to treat the hybrids between the horticultural races on a ^{botanical} ~~taxonomic~~ basis. There are too many of them; we are in many cases not certain of their parentage; and ~~then~~ propagated by seed they show too much variation. They constitute neither a botanical variety ^{ies} nor a horticultural race.

What we are interested in, primarily, is the origin of the horticultural races, and we believe we are now pretty clear about this. Next, we are interested in the origin and history of a few wild forms which have not yet given rise to horticultural races, as is the case with schiedeana. We would like to ask if you do not think our paper should be lined up somewhat as follows. I have the feeling that you will go along with this set-up:

1. PERSEA AMERICANA, parent of the West Indian race. You have shown us that this species was based upon material which was certainly of that race. Why call it a botanical variety, . P.americana var. americana? We have every reason to believe that this race had its origin in the wild avocado which Paul Allen discovered in the Golfo dulce region of Costa Rica; which he later saw in other nearby regions; and which has been seen by Zentmyer and perhaps others in Costa Rica. We do not know that it exists north of Costa Rica; we have reason to believe its distribution extends into northern South America and that it was the ancestor of the avocados cultivated as far south as Ica, Peru, in pre-Columbian days.

2. PERSEA NUBIGENA, which includes your P. gigantea. Undoubtedly the ancestor of the Guatemalan race of avocados. Abundant in cloud forest regions from Oaxaca and Chiapas to Nicaragua. It forms almost solid stands -or is the dominant feature - in several places but always at higher elevations than P. americana, and the fruit is different from that of the latter. We see no reason for considering it a botanical variety of P. americana, if you get away from characters seen only in the herbarium.

3. PERSEA DRYMIFOLIA. Ancestor of the Mexican race. No taxonomic problem here, we simply fall back on Chamisso and Schlechtendahl. We know that it is wild from northern Mexico southward, perhaps to Guatemala where Schieber has been turning up wild trees in recent years. ^{The} ~~It was a cultivated~~ ^{was being eaten} fruit tree seven or eight thousand years ago in the region of Puebla, as shown by the archeologists.

Jimenez
4. PERSEA Sp. ^{your aguacate de San Isidro is} The extraordinary aguacate de mico, which has been talked about so much as a Guatemalan with anise odor so strong humans will hardly eat it, but animals do, so it must be included among the edible-fruited Perseas. What are you going to do with this botanically? It is not a nubigena, it is not an americana. It has been found as an indigenous tree in Honduras at elevations from sea level to 5000 feet; it occurs as far south as Costa Rica, where Oton Jimenez and I described it years ago as the "aguacate de San Isidro" (Yearbook, Calif. Avocado Soc.) ^{1935, p. 192} Apart from being edible, it must be included as of interest in connection with the Phytophthora problem, ^{we intend to keep} ~~and we intend to keep this point in mind~~ throughout our study of the edible-fruited Perseas.

6 5. PERSEA SCHIEDEANA. Mexico to Costa Rica. Sea level up to 5000 feet, rather variable, more so than nubigena for example, Of considerable interest.

5 6. PERSEA STEYERMARKII, Mexico and Guatemala. Very close to P. nubigena, but the fruits have very little edible flesh. Practically nothing has been known about its fruit until Zentmyer and Schieber got interested in it. It has had nothing to do with any of the cultivated horticultural races.

8 7. BIELSCHMIEDIA (Hufelandia) ANAY. While not a Persea, its fruit

is quite edible, and so much like a long pear-shaped Mexican avocado as to warrant its being given ~~much~~ attention. Limited to the lowlands of Mexico and Guatemala, so far as known to us.

9. *PERSEA FLOCCOSA*. A rare species in the Mexican states of Puebla and Chiapas, perhaps elsewhere. Considered close to *nubigena*, but the leaves are more pubescent, and the fruits, which are of about the same size as those of *nubigena*, have thicker epicarps. Not seen in the lowlands.

9. *HYBRIDS*. It is probably safe to say that many of the best commercial avocados of the present day are hybrids. Practically all of them are natural hybrids, of which only the pistillate parent is known, but plant breeders in Florida and more particularly in California have produced by controlled pollination numerous hybrids and doubtless many more will appear in the future. Among commercial varieties now cultivated are numerous hybrids between *P. americana* and *P. nubigena*; *P. drymifolia* and *P. nubigena*; and ~~these~~ ^{these} have been observed in Mexico and Ecuador - and perhaps elsewhere - which are believed ^{to} be hybrids between *P. americana* and *P. drymifolia*.

In recent years Dr Zentmyer and Dr Schieber have done a lot of field work on wild and cultivated avocados. For this reason I decided to combine my own material, most of which was brought together some years ago, with what they have accumulated and get out a joint paper on the origin and history of the edible fruited perseas, hopefully for publication in the Journal of Economic Botany, to tie in, so to speak, with your treatment of the taxonomy. In the ^{preparation} ~~xxxxxxx~~ preparing our paper we shall want to mention the work of Art Schroeder and numerous others: there are too many to include all of them as joint authors, and several of them are dead.

In general, I like the line-up on your letter of January 6. In our discussions ~~xxxxxxx~~ of your synopsis we have brought out several points which we believe will simplify the subject and which I personally feel you will like. I will go into them below, and then await your comments before I work up my part of the final draft.

We will start with the race first described botanically, which is the one which grows at the lowest elevations, and work upward as regards climatic requirements (no especial reason for this, of course);

PERSEA AMERICANA Miller. Later described by Gärtner as *P. gratissima*). Indigenous in Costa Rica as shown by Paul Allen; probably extending southward into Colombia. The first avocado to be seen by Europeans - Erico saw it on the coast near Santa Marta and described it without a common (local) name in the first book published on the New World - his *Suma de Geografia*, Sevilla, 1509. It is *P. americana*, and no more; we ignore Kopp's "var. americana" and consider it the ancestor of all avocados of the West Indian race, so called.

PERSEA NUBIGENA L. Wms. Abundantly wild from Oaxaca southward to Nicaragua (Costa Rica?), commonly in the cloud forest zone, 5000 to 8000 feet ^{and} ~~or~~ even higher ^a in Guatemala. This is the ancestor of the Guatemalan race of avocados. We do not recognize it as a botanical variety of *P. americana*.

PERSEA DRYMIFOLIA, Cham. ~~et~~ Schlecht. Wild at medium to high elevations from northern Mexico to Guatemala - most cold resistant of all the horticultural avocados.

PERSEA SP. As yet undetermined botanically but very close to *P. nubigena*. Honduras to Costa Rica. Distinguished by very strong anise odor which does not, however make it a species. Grows from sea level up to 5000 feet. Of no horticultural importance but the fruit is edible.

PERSEA SCHIETZIANA. Mexico to Costa Rica. From sea level up to 5000 feet. Chinini, coyó and Yás. Fruit appears in the markets in many places.

PERSEA STEYERMARKII. Mexico and Guatemala. Very close to *P. nubigena*. Flesh so scanty that people do not bother with it, but squirrels and other animals eat it so it must be included.

HUFELANDIA (Bielschmiedia) ANAY. Mexico and Guatemala. Not a *Persea* but the fruit is so similar to the Mexican race of avocados, that it should be mentioned. Eaten by people but not planted for this purpose so far as we have observed. Limited to the lowlands.

HYBRIDS. Abundant and at the present day account for the majority of commercial avocados. Those planted at the present day are natural hybrids. Most important are hybrids between *P. nubigena* and *P. drymifolia*. Many such hybrids have come from Mexico. Next most important are hybrids between *P. americana* and *P. nubigena*, Many of these have originated in Florida. What are believed to be hybrids between *P. americana* and *P. drymifolia* are known in Mexico and Ecuador and perhaps elsewhere. All these hybrids should be considered horticultural forms, not involved in botanical taxonomy.