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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.

Tela, Honduras
June 12, 1963

Dear Dr. Haast:

We are in the process of winding up last minute chores before leaving for the States and another medical checkup, but will enclose the slides of Gatsetumviridiflavum, which you have requested, and try to answer a few of the more urgent questions.

You will note that the better of these two slides is not my own (it is mine, but taken by Harry Dunn), so that he rather than I should be credited for it. I would like to have these back, if I may, when you are finished with them, since I have no duplicates.

I have seen your Hawaiian variety of banana with the striped leaves in the Canal Zone, and also in El Salvador, but have never dared to introduce it for fear that the virus which it has should prove to be something more than ornamental, if turned loose in our immense plantings. I didn't know as much about bananas at the time when I saw it as I do now, but should guess that it is simply a horticultural form of either Gros Michel, or one of the taller Cavendish types.

We have some real curiosities in our present collection, with types that have but a single immense hand, which makes up the entire bunch, and winds down the rachis in a great descending spiral, and another in which the fingers are fused together into solid confluent blocks, and another with up to a thousand or more fruits per bunch, and....., but there are so many! Our collection is far and away the world's largest, with more than 750 accessions, and still growing.

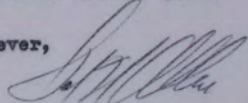
Desmodium gyrans self-sows itself in the rows in our lath sheds at Lancaetilla, so that we always have a few plants. It definitely does not die after fruiting, and is always shown to visitors as one of our plant curiosities.

You may be interested to learn that Dr. Paul Standley died in Tegucigalpa on June 2, and has been buried, at his request, at San Antonio del Oriente in the hills above the Zamorano valley.

We are glad to hear that you manage to keep so active, in spite of your difficulties, and that you plan to return to Hawaii. It must be a wonderful State, but we have only seen a little of the waterfront in Honolulu, on our way to the Far East.

Neither of us are very well, but we try to keep active. Dorothy joins me in warmest regards.

As ever,



Dr. Theodor Philipp Haas,
Botanist.

514 South 44th Street
Philadelphia 4, Pa.

June 7, 1963.

Mr. Paul Allen,
Director,
Lancetilla Experiment Station,
Tela Railroad Company,
Lancetilla-Tela, Honduras, Central-America.

Dear Mr. Allen:

I hope you and Mrs. Allen are well and happy. Dr. Freiberg informed me, that you had a check up in New Orleans. I hope, everything with your health is "ok". I am still "banana minded"! I was last summer in Hawaii and Dr. Degener informed me, that they have in Hawaii banana clones, which the Polynesians brought to these islands together with the coconut palm. In Honolulu is a dentist, who is very much interested in the Hawaiian bananas. Especially interesting is a banana variety, whose leaves have spots without chlorophyll and the fruits, when unripe, are striped white and green. I photographed all these varieties and lent the 35 mm kodachromes to the Norwood Laboratory for making duplicates. Do you know of the Hawaiian clones? They did not reach the "mainland" as they call there the U.S. I shall go again to Honolulu June 29th and stay there for about two months. Honolulu is wonderful and for a botanist most interesting. - Now, I have a great wish; perhaps you may be able to help me. I intend to give a talk about flowers. I found in Hawaii *Gynerospora gynandra*, an African weed, whose flowers have two elongated internodes in the flower axis. This helps me to explain, what a flower is. For this lecture I need the male and female flowers of *Catsetum*, to show the sexual dimorphism. I saw in the Canal zone plants with female flowers, but I could not photograph. Have you a close up 35 mm kodachrome of a male and a female flower? Did you see both on the same inflorescence? I saw it only many years ago in the Munich Botanical Garden. Could you lend me such pictures for making duplicates? I think to send them via United Fruit Co., they would safely arrive. I would return them in the same way. Of course, I would mention you as the photographer. I thank you in advance for your great kindness. How is everything in your paradise Lancetilla? Is your *Desmodium gyrans* still living and moving the leaflets? I saw a very big bush, in 1959, when I was there. Now, a little bit about me. I was not out from the U.S. since that time. In 1960 I was in Tucson, Arizona and saw the giant cacti there. In 1961, I was in Twentynine Palms in the high desert of S.W. California (near the Joshua Tree National Monument) and in 1962 I was in Hawaii. In 1961 I retired from active duty with the Philadelphia College of Pharmacy & Science, where I was for 19 years. Unfortunately I am stricken with osteoarthritis and confined to so called Canadian crutches and a wheel chair, but this does not prevent me from doing scientific work. In 1960 and 1961 I saw the growing of dates in California. I became so interested in the development of the date, which we eat, that I presented a paper about it at the AAAS convention Christmas 1962, which took place in Philadelphia. It will be published in the Garden Journal of the New York Botanical Garden. There are so many questions to answer in the tropics. *Carludovica* and *Cyclanthus* are also very interesting plants. I have the equipment to take photos, close ups and microphotos and I have very beautiful slides, which I will use in my intended talk about flowers. What happens in El Zemorano? Who continues the scientific work there? I was always disappointed, that nobody worked on the endoparasite *Pilostyles mexicana*. This would be a fascinating work. The only what I have found - I believe - that the parasite is dissolved into yellow threads living in the cambium of the host plant *Calliandra Johnstonii* and having cleistogamous and chasmogamous flowers, appearing in rows on the branches of the host plant. I have this in pictures! But pollination, distribution of the sexes (I think, I saw only female plants; if *Pilostyles* is dioecious), or the infection of the host plant is unknown. June 29th I fly to Honolulu and study there my plants.

Coming back to your *Desmodium gyrans* (Several years ^{ago} I have sent the seeds, which I received from India, to Lancetilla) It answered a question, which Goebel had: Is *Desmodium gyrans* hapaxanthic? Dies the plant after fruiting? In Munich, we had only small plants, *Desmodium gyrans* survives fruiting. It was Brussonnet in the 18th century, who discovered the motion of the leaflets. For Brussonnet paper-mulberry is named: Brussonnetia. How is your banana breeding? In Hawaii, I saw the breeding of sugar cane and pineapples. The pineapple growers in Hawaii are unhappy. They are threatened by the pineapple growers in Taiwan. They can produce cheaper there. Hawaii will now increase the quality of their pineapples.

Dear Mr. Allen, I hope to receive from you a very interesting letter and with the best wishes also to Mrs. Allen,

I am
 very truly yours
 Berth Pindy Haas



Dr. Theodor Philipp H
 514 South, 44th Street,
 Philadelphia 4, Pa.

Mr. Paul Allen,
 Director,
 Lancetilla Experiment Station,
 Tela Railroad Company,
 Tela - Lancetilla, Honduras, Central America.

AÉROGRAMME • PAR AVION



FIRST FOLD

October 19, 1955

Dr. Theodor Philipp Haas
Philadelphia College of Pharmacy and Science
43rd Street, Kingsessing and Woodland Avenues
Philadelphia, Pennsylvania

Dear Dr. Haas:

It was good to hear from you again and to know that you still maintain your active interest in photography and tropical plants. Your recent trip sounds really wonderful. Since there is relatively little time until your lecture, I will try to answer the more urgent of your specific questions as well as I can.

Myrrhidendron has a fairly wide range in the high mountains of the American tropics, and I have personally collected it in Honduras, Costa Rica and Chiriqui Province in Panama, which is, I believe, its known distribution. *Buddleya alpina* is one of the commonest trees on Irazu in the 9500-10,500 ft. belt, and might well be your host tree. The leaves have a silvery, or perhaps greyish look, and the small flowers are yellow. Neither Dr. Standley nor I know anything about the means of seed dispersal.

Dr. Standley says he is inclined to doubt the validity of *Gunnera Wendlandii*, and feels that it may prove to be a variant of the widespread *Gunnera insignis*. I remember seeing many *Gunneras* along the steep banks in the Talamanca range, but possibly did not see yours with the lobed leaves. Did you by any chance collect specimens?

Seeds of *Warszewiczia coccinea* (which is, by the way, a very beautiful plant) are extremely small, about the size of those of tobacco. They can be sown on prepared flats of powdered sphagnum, in the same way as those of *Eucalyptus*, and covered with a glass plate until they germinate. Your real problem will be to get someone to send them to you. Unfortunately the genus does not occur in our area, but ranges at least into the drainage of the Orinoco, where I have seen and collected it.

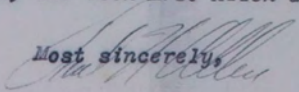
Our local *Podostemonaceae* grow in the Rio Yeguaré on rocks, and while common, are deeply submerged at the present season of high water. I should think December or January the best time to look for flowering material. Wonderful big ones, with flowers the size of a five cent piece are in all the big falls and rapids in Amazonian South America.

I don't know anything about the little *Pilostyles*, but will look as soon as our present semester examinations are graded and out of the way.

While I havn't been able to see Dr. Williams personally about your Honduras manuscript, I do know that they are always on the lookout for good manuscripts on this area, and I would suggest that you submit it to him, or to Dr. Popenoe for consideration, together with any illustrative material you could supply.

This will have to be all for the present, but both Mrs. Allen and Dr. Standley join me in best wishes,

Most sincerely,


Paul H. Allen

PHILADELPHIA COLLEGE
OF PHARMACY AND SCIENCE
43RD STREET, KINGSESSING AND WOODLAND AVENUES
PHILADELPHIA 4, PENNSYLVANIA

FOUNDED 1821

Philadelphia 4, Pa.
October 12, 1955.

Mr. Paul Allen,
Escuela Agrícola Panamericana,
El Zamorano, - Tegucigalpa, Honduras.

Dear Mr. Allen:

I hope you and Mrs. Allen are well. On my recent trip to Costa Rica and Panama, I learned that you are in El Zamorano, the Paradise in Honduras. I hope also that Dr. Standley and Dr. Williams are well. Please forward to them my most cordial regards. Dr. PopXenos, I never have met!

This summer, I was for the second time in Costa Rica and Panama. It was wonderful! I saw so many new and most interesting things! I left Phila. June 30th, was for a few days in Miami, went to Key West and flew to Havana. I had no chance to visit the Fairchild Garden. From Havana I flew to San José and was for about a week in Turrialba. Then I went to Bataan and Limón to see the plantations of the United Fruit Co. on the Atlantic side of the country, returned to San José and was there for two days. Then I flew to Panama and was there for about a week to I met Dr. Zetek, a very charming gentleman, who knows you also. I rode through the Panama Canal, and the following days I was in Barro Colorado (two days). Then I flew to David and Armuelles and saw the plantations there. I went then to Golfito, Coto Esquinas and Palmar, flew from there to San José and back to Paritta. Finally I returned - after having visited Quepos - to San José, returned to Havana and Key West - Miami, and participated for a few days in Gainesville, Fla. on the Science teachers Seminar. August 21 I was back in Philadelphia! This was my trip. I am very much obliged to the kindness and generosity of the United Fruit Co., to make this trip so extremely successful. I used 14 kodachrome rolls with 36 exposures and most of the pictures turned out very well. They are already arranged to lectures; the first is October, 27, 1955 in the Philadelphia Botanical Club. I also will participate on the AAAS convention in Atlanta, Ga. this Christmas. In San José, Dr. Raphael Rodriguez University of Costa Rica, helped me so wonderfully! We were together on the Irazú, in a swamp, near San José, where we saw Equisetum giganteum, and there we visited the Paramos along the Panamerican highway. Now, I have different questions, and I would greatly appreciate it, if you would kindly answer them before October 27, before my lecture. On the Irazú, Dr. Rodriguez gave my attention to Myrrhidendron Donnellsmithii. It is mentioned as an endemism of the Irazú. I have just read your article in "Ceiba" "The Conquest of Cerro Santa Barbara". You say here, that you have seen Myrrhidendron so, it cannot be an endemism, and will be found on other high mountains in Central America. Myrrhidendron is a facultative epiphyte. This means, it can grow in soil and also upon stronger branches of trees. I saw this all on the Irazú, and my slides show how many Myrrhidendron plants can grow on a single carrier tree, mostly - I suppose - Buddleya appina

I studied my kodachromes with the dissecting microscope and found, how many plants of Myrrhidendron sit upon the carrier plants. Some have died, and so I am wondering, if Myrrhidendron is hapaxanthic (once flowering). Another problem is, how are the fruits distributed, are birds responsible? Did you make observations on Myrrhidendron? I asked Dr. Rodriguez to do the job. Of course, it is not so easy, because the area is rather far away from San José. We also saw Gunnera insignis with the blue-green alga colonies in the tissue of the stem. The blue-green alga is a Nostoc. In the Paramos along the Pan-America highway, we saw another Gunnera with lobed leaves. Was this Gunnera Wendlandii? I think, you know all these places. - When I went by motor car from Coto to Esquinas, I saw on two places, on mountain slopes, plants with fire red leaves and Dr. Leon told me that these plants were *Warszewiczia coccinea*. (I think, it was unpolite of Klotzsch to give this beautiful plant such a terrible name, which is so hard to pronounce!) Do you think, I could get seeds, if I would write to Coto? Do you think they would germinate? Now a few El Zamorano questions: Dr. Fogg, who was in El Zamorano in January or February 1955 told me, that you have a Podostemonaceae on your campus, or not far away. Could somebody take a close up kodachrome (35 mm) for me? I don't know, is it *Tristichia*; it should look like a green lichen; of course, it lives submerged. Would it be difficult and expensive, to send me a bit in alcohol for my museum? The another problem: Dr. Standley told me several years ago, that you have in your vicinity the *Rafflesiaceae Pilostyles mexicana*, growing as an endoparasite, on, or - better - in *Calliandra Hustoni*. When I was in El Zamorano in 1952, I was studying this plant; Dr. Williams may remember this. I found a lot of very interesting facts, which I reported at the AAAS convention - I think - in Boston. I took very good kodachromes through the dissecting microscope in your laboratory, but - unfortunately - I could find only female plants. *Pilostyles* is dioecious. It is quite possible, that the male plants bloom at another time as the female ones; it would be also interesting to discover how the host plants - *Calliandra Hustoni* - becomes infected with the parasite. Such work could be done only by someone who lives permanently in El Zamorano. Would you like to look in this matter? This would be wonderful. Dr. Williams knows the localities where you can find the parasite. Finally, in connection with my visit to Honduras in 1952 and 53, I wrote an article about my visits, which was never published; do you think, Dr. Williams would like to see it? Your article was also published a few years after your trip. -

How is La Lima? I would like to know something about their work with radio-isotopes. I learned in Armaelles, that Dr. Freiberg has found by the use of C^{14} , that the banana leaves absorb fertilizers also through the leaves, and that they put a certain percentage of urea into the Bordeaux mixture with which they spray the banana plants against Sigatoka. Who is now in the Lancetilla gardens? Is Mr. Davidson there? Where is Mr. Armour now? Do you see sometimes Dr. Jorge E. Zepeda, Dean of the School of Pharmacy, Tegucigalpa? Please say to all these gentlemen my most cordial regards!

Now, I wish you and Mrs. Allen a very happy time, and I am looking forward to your kind reply. I thank you in advance for your great kindness.

Again with the best wishes,

I am

Did you see the very interesting article:
"Fusarium Wilt of Bananas in Jamaica" I.
Some Observations on the Epidemiology of the
disease by J. Rishbeth.
Annals of Botany, New Series vol. XIX, # 75.,
July 1955.

Very truly yours

Theodor Philipp Haas
Theodor Philipp Haas, Ph.D., Botanist.