

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

June 18, 1921.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Recently I have begun work upon a flora of Central America, which will, of course, require several years for completion, but, barring accident, it should be completed within a reasonable time.

In beginning the flora, which is expected to be issued in parts, one of the first groups to attract attention is the Orchidaceae, the largest and perhaps also the most difficult group of Central American plants. I am writing to ask what suggestions you can make with regard to this family. I should like, if possible, to have the treatment ready for publication in a year and a half. Would you be willing to undertake the preparation of an account of all or of any part of the family? I should like very much to have you prepare the whole account if you consider it practicable. In the preparation of the proposed flora, which is intended to be a resumé of our present knowledge of Central American plants, the treatment of a genus would not necessarily have the finality of a monograph, although, of course, the same results are desirable in both cases, if feasible.

Naturally I should prefer to have you treat the whole family, but I should not mind doing the smaller genera, and others that have been monographed recently--these are not very numerous--myself. I should like to acquire some knowledge of the family and that is the best way of obtaining it.

I have been interested in looking over Schlechter's list of the Central American orchids, and I find he has listed about 870 of them. A good deal of our material has been identified by him, and much of it by yourself, but we have a large accumulation of unidentified specimens. I suspect that Schlechter might be willing to prepare an account of the Central American orchids, but I should prefer not to ask him until other resources have been exhausted. I should state that the proposed flora is intended to be a descriptive one, with keys to the species. I have intended to make the descriptions brief, but any one contributing any portion can suit himself in that respect.

Mr. Oakes Ames-2.

I shall be glad to accept any offer or suggestion that you may make upon this subject. I am expecting to go next winter to Salvador to spend two or three months in field work. I note that only 23 orchids are reported from that country, so it ought to be possible to secure at least a few additions.

Very truly yours,

Paul C Standley

Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

June 28, 1921.

Mr. Oakes Ames,
North Easton, Massachusetts.

Dear Mr. Ames:

Your letter of June 20 is certainly very pleasing to me, for I had feared that you would not be willing to undertake the task of writing up the Central American orchids. Your interest in this matter is very deeply appreciated, for I know that your treatment of the family will add most materially to the usefulness of the flora. We shall certainly assist in every way that we can by sending on material or by any other means that may be feasible. We shall be glad to forward the specimens at whatever time is most satisfactory to you, and in such quantity as may seem most suitable to you. There are likely to be a good many specimens of interest among the large amount of unnamed material which has been gradually accumulating.

Inclosed is a carbon copy (which need not be returned) of my treatment of the genus Scleria and also a general memorandum with regard to the style of the flora. In writing up the orchids you should, of course, aside from the adoption of the general form of the rest of the work, follow whatever plan may seem most satisfactory to you, for whatever you may do in the matter will be quite agreeable to me.

I shall certainly get an extra set of such orchids as I may find in Salvador. I doubt if the number of species occurring there is very large for the mountains do not reach a great altitude and there are none of the wet forests which have yielded most of the orchids reported from Guatemala and Costa Rica. There must, however, be a much larger number of species than has been reported from Salvador up to the present time.

Sincerely yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

(Inclosures)

MEMORANDUM

Area covered is the region between Mexico and Colombia.

Synonyms.--All names based upon Central American material to be listed; also, so far as practicable, names under which the species have been reported from Central America, especially in the *Biologia Centrali-Americana*. It is desirable also to list synonyms based upon Mexican material.

Distribution.--Range to be indicated by states, in the following order: Guatemala; El Salvador; British Honduras; Honduras; Nicaragua; Costa Rica; Panama. Specific localities to be listed when desirable, and altitudinal range when practicable. Extra-limital distribution to be given in separate sentence. Original locality to be cited, unless it is vague and meaningless, as "Central America," "tropical America," "West Indies," etc.

Length of descriptions to suit the wishes of the individual contributor. Vernacular names to be listed at the end of description, with name of region in which they are used. Any notes with regard to nomenclature or any other subject, to be added, as may seem desirable. The more of these, the better. Economic data, especially, to be treated as fully as possible.

June 29, 1921.

My dear Dr. Standley:

After sending off my letter of the 20th in which I agreed to undertake the work on the Central American orchids for the flora you have in preparation, I started the machinery going as I realized that the undertaking would be a highly specialized one notwithstanding a fair degree of knowledge of the orchids that occur in the territory between Mexico and Colombia. I want to do this work for you so that you will be pleased with the results.

Although I set September as the month for material to be sent to me, it may be best to send on the genera of the Cyripideae, Ophrydeae and Neotteeae at once. It will be best to address loaned material to me at North Easton, Mass. as I have ample space for taking care of material there and have steel cases and fireproof quarters. If you desire to send on all of the orchid specimens from Central America I am in a position to take care of ^{them} ~~it~~ in an efficient manner.

I had intended to include Mexico in my treatment. I understand from your letter of the 28th that you simply take in the territory between Mexico and Colombia.

I shall send you a sample of the proposed work shortly.

Yours very sincerely,

Handwritten notes:
I have just had a letter from Standley dated June 29, 1921. He says he will send me a sample of the proposed work shortly. He also says he will send me a sample of the proposed work shortly. He also says he will send me a sample of the proposed work shortly.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

July 2, 1921.

Mr. Oakes Ames,
North Easton, Massachusetts.

Dear Mr. Ames:

We are forwarding by prepaid express a box containing 188 specimens of Orchidaceae from Central America. This includes all of the material requested in your letter of June 29. We are sending also the material of the genus Sobralia which I presume should be included, although it appears to depend upon whose arrangement of the family is followed. If there is any of the Mexican material which you wish to see, or any specimens from elsewhere, we should be glad to forward them whenever you ask for them. The rest of the material of the family we shall send whenever you wish to receive it. I was rather surprised to find that we had so little material of the present genera, but perhaps it is all that could be expected. I hope that we may have a more adequate representation of the succeeding groups. There is included in the present shipment one duplicate specimen of a Panama orchid collected by Mr. Pittier. This is to be retained by yourself.

It has not seemed feasible to include Mexico in the Central American flora. I have just finished the preparation of an account of the trees and shrubs of Mexico, one part of which has already been published. Two others are now in press and the whole volume should be published in the not very distant future. To include the Mexican woody plants would be a rather needless repetition, and it does not seem desirable to include the herbaceous species. The flora of the northern two-thirds of Mexico is so different from that of Central America proper that its inclusion would probably double the size of the completed flora. In the case of the orchids, of course, the conditions are somewhat different because most of the Mexican orchids grow in the southern part of the country and are closely related to those of Central America.

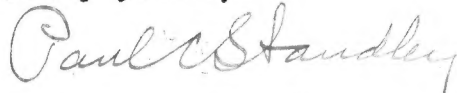
There is one matter which I neglected to mention when writing concerning the style of the flora. I have been hoping to be able to include a line drawing illustrating one species of each genus treated. Whether or not this will be practicable is impossible to say just now, but it will certainly be possible to include all such illustrations that can be secured. If you are able to supply drawings suitable for text figures which may be used to illustrate the generic characters of the Central American orchids, either in whole or in part, they can certainly be published and they would, of course, add greatly

Mr. Oakes Ames-2.

to the usefulness of the work. It will be possible, also, to use half-tone illustrations to some extent.

With regard to Pogonia affinis, our material of this species is certainly not very extensive. It consists of a photograph of a plant which is said to have been collected at Westtown, Pennsylvania, June 1, 1887, by Edith Cheyney.

Sincerely yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

North Easton, Mass.

Aug. 22, 1921

My dear Mr. Standley,

^{letter will}
~~This is just a line~~ to let you know that I have been pushing ahead
 with the arctid flora of Central America. The Preliminary work
 of identifying numerous specimens, drawing the analyses
~~and checking up previous work~~ ^{taking account of what has been done}
 5 Schiebeler images of new species ~~and giving~~ ^{indicating}
 that you have passed to me a task of overwhelming
 difficulty. Of course a compilation would be a simple
 undertaking, but you do not want that and I will attempt
 it reluctantly. ^{As for Schiebeler material I have sent}
~~him a list of specimens of the species I have~~ ^{for taxonip} ~~sent~~ ^{of the species I have} ~~sent~~ ^{sent} If he will perform as
 accurately as he promises he ought to send me ~~him~~ ^{them} in
 the course of several months. ^{As for} I am sufficiently well
 Central America which is the region that surrounds
 Rindlerbach's species. ^{As you will know, he did handle}
~~most material for Central America~~ ^{Wagner's Omnes} ~~and name of my~~
~~comparative study of the plants of~~
~~Mexico~~ ^{the} ~~was sent~~ ^{was sent} the series of a collect
 and I hope that we can ~~see~~ ^{see} ~~one~~ ^{one} of Guatemala or
 Costa Rica ~~before~~ ^{with the work is long}. How
 about Harry Johnston? ^{collector} He made some time ago that
 he had made collection of me and that the material
 would come ~~from~~ ^{through} the National Museum. That
 was last winter.

The Gray Herbarium, by the way, will be a great help.
 There are many things there that are missing from the
 National Herbarium and for my very full collection.
 Do you know which are the Mexican plants?
 or what are Central American species? I am very
 much surprised at the weakness of the National
 Herbarium in such things as Habenaria and the
 Neallia group of arctids. Undoubtedly the other
 groups are better represented with you. If it were
 not for the Small Herbarium you would ^{not} ~~not~~ ^{be so} ~~be so~~
 poor.

A

North Easton, Mass. September 23, 1921.

My dear Dr. Standley:

I am ready now for the genera that follow the Trochilinae: Microstylis, Liparis, Scaphosepalum, Masdevallia, Cryptophoranthus, Phycosiphon, Stelis, and Lepanthes. Depending on the bulk of the material you have of these genera it might be well to add Eleurothallis, Festrepia and Octomeria.

It may be well to send on to you some samples of the illustrations I am having made so that you can tell me if they are satisfactory. I have taken Safford's paper on Anona as a guide. Astere will be about 150 genera in the Flora I am wondering if you really want a text cut or full page plate for each genus? It would be well, I think, if you set a maximum number of illustrations giving the number and size of text-cuts and the number of full page plates. Then I can try to get Mrs. Ames to make them for us, or as many as she will do.

I find that Schlechter's work on the Central American orchids is an undigested compilation. Not much better than my card catalogue started twenty years ago. This, in fact, is very true of his South American contributions. They are simply the result of searching the literature and then adding new species for full measure. His Peru is done and Bolivia is on the way to press.

I have ~~written~~ on the orchid flora with a brief characterization of the family. Is this according to your wishes? In the geographical distribution I intend to give collectors and numbers if you do not object.

When Mr. Harry Johnson's Guatemalan orchids are mounted it may be well to send them on to me. I shall postpone work on my set until the National Museum set is in hand.

I have written, to Powell, Jiminez and Tonduz. Perhaps Powell will be able to send me some specimens in alcohol for drawing. My own collection of alcoholic material will be most valuable to us!

Yours sincerely,

Walter C. Coker

P.S. Perhaps it would be well to have the Hall. Hill Spiranthes her.
The species of this genus are often great wanderers.

(A)

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

September 14, 1921.

Mr. Oakes Ames,
North Easton, Massachusetts.

Dear Mr. Ames:

Upon return from a short vacation spent partly in the White Mountains of New Hampshire, I found your letter of August 22. I am very glad indeed to hear that you are progressing so well with the orchids of Central America. They must be a most difficult group and furnish greater difficulties in their treatment than the other families of Central American plants. If we can be of any assistance in the work we certainly shall be glad of the privilege of doing so. Mr. Johnson's orchids were, I believe, forwarded some time ago. We have a partial set of duplicates of his collections. It is unfortunate that he was not able to remain longer in Guatemala for his collections, in other groups at least, are of exceptional interest.

When I am in Salvador this winter I shall try to make a special effort to obtain as many orchids as possible. Mr. A. Tonduz is now collecting in Guatemala and it may be that if you are not already in correspondence with him you might obtain special material of the orchids by writing directly to him. I suspect that he has been sending his specimens of the group to Schlechter. His address is Dirección General de Agricultura, Guatemala City, Guatemala. The only person in Costa Rica of whom I know at the present time, who is likely to do very much in the way of collections, is Mr. Otón Jiménez. He, also, has sent collections to Schlechter, but he has promised to send us a duplicate set of his material which I expect will arrive before long. It would be a good thing, I believe, if you would write directly to him also, for he is very obliging and would probably be glad to send you specimens. His address is San José, Costa Rica. Unfortunately, he does not have a great deal of spare time for botanical collecting.

Last week we received a visit from a Mr. M. A. V. Smith of the Canal Zone. He visited this office especially to give us information concerning Mr. C. W. Powell, Balboa, Canal Zone. Mr. Powell, he states, is a most enthusiastic collector

Mr. Oakes Ames-2.

of orchids. For several years he sent material to Rolfe who promised to publish a list of the species he collected, which were very numerous. Of course this plan is now impossible of fulfillment. Recently Mr. Powell has been sending specimens to Schlechter but Mr. Smith stated that he was not very well pleased with the idea of sending material to Germany and that he should prefer to send it to this country, if its identification could be arranged for. We have just written a letter to Mr. Powell, and it would doubtless be advisable for you to write to him also. Judging from Mr. Smith's statements it should be possible to obtain a large amount of interesting material from Mr. Powell.

Sincerely yours,

Paul Standley

Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

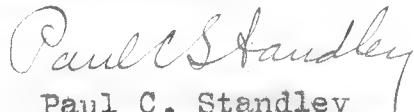
September 23, 1921.

Mr. Oakes Ames,
North Easton, Massachusetts.

Dear Mr. Ames:

Inclosed is a copy of a letter which has just been forwarded to me by Doctor Britton. It is self-explanatory, and gives us further information with regard to his work with the Panama orchids. I hope that what he is going to publish will not cause any unnecessary confusion in orchid literature.

Sincerely yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

(Inclosure)

C O P Y

Balboa, C. Z., Panama Sept. 6, 1921.

Dr. N. L. Britton,
Director, N. Y. Bot. Garden,
New York City.

My dear Dr. Britton:

I have the pleasure to acknowledge the receipt of your esteemed letter of August 13th, and also your pamphlets "Further Botanical studies in Trinidad" and "The Cacti of Trinidad," both of which have given me much desired information. Very many thanks.

It is my purpose to issue early this winter a bulletin on the newly discovered Orchids of Panama; and also at some date during the coming Spring or Summer to issue a pamphlet embracing all Orchids which have been discovered in Panama up to date; with names, botanical descriptions and comments. Determinations by Rolfe of Kew and Schlechter of Berlin. It will be my pleasure to send you copies of both.

Very sincerely yours,

/s/ C. W. Powell.

(A)

North Easton, Mass. Sept. 24th, 1921.

My dear Dr. ~~Safford~~: *Standley*

This is a reply to yours of the 28d in which you enclosed a letter from Dr. Fritton.

It may be well to get a line on just what Mr. Powell has in hand. This I think I can do as Schlechter will give me any information I desire and as Sir David Train will undoubtedly give me an idea of what Polle did for Powell. I do not imagine that the threatened inroad on Panama orchidology will do much more than give us material for critical investigation. It may tend to stop Mr. Powell from sending us specimens. The proposed pamphlet will, I am afraid, be nothing more than a compilation, and how Mr. Powell with his facilities can turn out a good piece of work is beyond my comprehension. If he depends on Schlechter's list he will not get very far. Furthermore, as I see it now, the orchid flora of Panama is different from that of Guatemala etc. The real danger is in the possibility that Mr. Powell will come to think that he is qualified to recognize new species. Preserve us from that!

I have made satisfactory progress in my work and when it is done I am sure that you will be pleased with it. This winter will see us well on our way although a great deal of critical work must be done and many specimens determined before we can begin to think of the end.

Yours faithfully,

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SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

September 29, 1921.

Mr. Oakes Ames,
North Easton, Massachusetts.

Dear Mr. Ames:

Manuscripts for publication in the Proceedings of the Biological Society of Washington should be addressed to Dr. C. W. Richmond, National Museum. It is probable that any manuscripts submitted can be published very promptly.

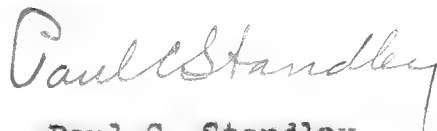
We are having the orchids collected by Mr. Harry Johnson mounted, and just as soon as they are finished, we shall send them on, along with the other specimens requested in your recent letter. It will probably be advisable to send at the same time all of our undetermined material of the family. I am very glad indeed to hear that you are getting along so well with the treatment of the orchids for the Central American flora, and if there is anything that we can do at any time to assist in the prosecution of the work, we shall certainly be glad to do it. I do not know just what to say about the illustrations of the orchid genera. We can, I think, use all that are furnished provided that there is not more than one to a genus. Of course if you should wish to illustrate two or more species in some of the larger genera, there would certainly be no objection to that. It would probably be best to provide first for the illustrations of the better known and more widely distributed genera. There are, I believe, some of the smaller groups which are known from only one or a few collections, and illustrations of these would probably not be so important. The main purpose of the illustrations should be to assist a collector in determining the plants which he is most likely to find, and the rarer species and genera, of course, are of less general interest. As to the size of the cuts, it is best to have them of full page width in most cases. Of course this does not necessarily mean that the drawings should be of full page width, but the cut should be wide enough so that it will not be necessary to reset the type around it. When resetting is necessary it adds greatly to the expense of publication and to the likelihood of typographical errors. Of course in some cases it will doubtless be possible to use quarter page cuts to furnish all that it is necessary to show in a drawing, and in such cases the smaller size would be preferable. It is best for you to use your own judgment as to the number and size of the illustrations, and I am sure that it will be possible to accommodate them in publication. Mr. Safford's

Mr. Ames-2.

Annona paper which you mention is quite satisfactory as regards illustrations, and the same is true of the paper upon grasses which forms the first part of Volume 22 of the Contributions.

We shall have the specimens ready for sending on to you within a few days.

Very truly yours,

A handwritten signature in cursive script that reads "Paul C. Standley". The signature is written in dark ink and is positioned above the typed name.

Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

October 4, 1921.

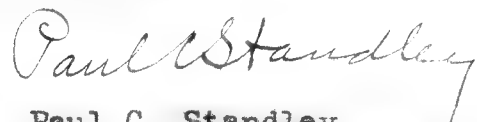
Mr. Oakes Ames,
North Easton, Massachusetts.

Dear Mr. Ames:

We are forwarding, by prepaid express, as a loan, a box containing 660 specimens of orchids, including 24 sheets of type material. This shipment includes the material requested in your recent letters to Mr. Maxon and myself. We are sending, also, the miscellaneous unnamed specimens of the family from Central America, and some from Mexico, as well as some sheets from northern South America which are named only generically. Please do not feel under any obligations with regard to naming the Mexican and South American material, for this has been sent only because of the possibility that it might be of aid in your work upon the Central American species. We have included also the Mexican material of the genera sent and that from northern South America with the same purpose in view. The present shipment includes our set of Mr. Johnson's orchid collections in Guatemala, and four specimens from Jamaica collected by Mr. Maxon of which there were no duplicates. I trust the shipment will reach you promptly.

In a good many cases I notice there are two sheets of some of the collections sent and in other instances there is ample material upon the sheet of some of the smaller plants. If you would care to have some of the duplicate sheets sent you in exchange when the specimens are returned to us, or if you would care to have material taken from the sheets that can be divided, we shall be glad to send on such specimens to you as a continuation of our exchanges.

Sincerely yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

October 4, 1921.

Mr. Oakes Ames,
North Easton, Massachusetts.

Dear Mr. Ames:

Your generous reply to Mr. Maxon's recent letter with regard to assistance in the proposed collecting trip to Salvador is deeply appreciated, and I shall do my best toward making a return for it in material. The amount of material that I may be able to collect is scarcely likely to be an adequate return, I am afraid; still, so little is actually known of the flora of the country that I may, after all, be able to turn up something in the way of orchids that may be of value. In the case of other groups I know that I can, or at least I can obtain a large number of new records for the country. Probably there will be some new species, but I do not care so much about those. I am most interested in getting economic data and in obtaining the vernacular names used in Salvador. In the Cyperaceae about 140 species are known from Central America and only three from Salvador, while there must be 50 or more there. The same is true in other groups, so that there is no doubt about getting new records. In the case of the orchids I shall certainly make a special effort to obtain material.

I should be glad if you would tell me what it is worth while to attempt to bring home in the way of living plants, and what, if anything, to disregard. Of course I shall get dried specimens of everything I see. I should like also to know what you would particularly like to have in the case of economic material and what you do not want. Any special directions as to the form or quantity of material would be appreciated likewise, so that the material may be assembled more intelligently.

Sincerely yours,

Paul C. Standley
Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

October 11, 1921.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding by mail, as a loan, a package containing our specimen of Lockhartia chiriquensis. I trust that the package will reach you promptly.

Thank you very much for the sixth volume of the Orchidaceae. Your thoughtfulness in sending this publication is greatly appreciated.

The occurrence of the Cuban species of Habenaria in Panama is interesting, but perhaps not remarkable. The flora of Mexico as a whole does not seem to have any remarkably close relationship with that of Cuba except in the case of Yucatán. In Central America, however, the relationship with the West Indies in general is much more marked, but I do not recall anything which indicates a special affinity between the floras of Cuba and Panama. There are a great many species occurring in Jamaica, Porto Rico, and the Lesser Antilles which extend into Central America, but do not reach as far northward as Mexico. I have never tried to work out any statistics with regard to the relationships of the insular and continental floras, but it would be an interesting piece of work and perhaps I may try it some day when the volume upon the flora of Central America is further advanced. There are numerous local problems of distribution in Central America and Mexico which are of particular interest. The most remarkable one with which I am acquainted is the fact that along the western coast of Mexico, especially in Tepic, Sinaloa, and Lower California, there are found a number of West Indian species which are not known elsewhere in Mexico. It is interesting, also, to find that in the arid region along the Pacific Coast of Mexico there are found a number of plants which occur in the similarly arid region of Venezuela, but are not known from Central America. I presume there is some good geological reason for such peculiar distribution, but I do not know what it is.

Sincerely yours,

Paul C. Standley

Paul C. Standley
Assistant Curator
Division of Plants.

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355 Commonwealth Avenue, Boston, Mass.

October 24th, 1921.

My dear Dr. Standley:

As I finish work on the different genera or on groups of species would it not be well to return the National Herbarium material? If a record of the sheet numbers has been kept this plan would be a simple one to carry out and would relieve me of anxiety and make room in cases that are already pretty full. The only objection to a return of a part of the different loans is that the recording system may be upset.

I have just come across another Cuban element in Harry Johnson's Alta Verapaz specimens.

Yours sincerely,

Arthur Cronquist

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

October 24, 1921.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Your letter with regard to the Javan orchids has just been received. Doctor Rose has promised to take the matter up with the Federal Horticultural Board. He is in constant communication with them with regard to the entry of living Cactus specimens, and I am sure that there will be no difficulty in the release of your material. Of course it was not necessary to have it inspected in the first place. It is very seldom that we encounter any difficulties with regard to the receipt of herbarium specimens from abroad, but once in a while it does happen that the packages are incorrectly marked and consequently are sent to the Federal Board for inspection. As a rule, as soon as they learn the nature of the contents of the packages they send them on at once. If there should be any delay in the receipt of the specimens, please let us know and we shall take further steps.

We have not received the duplicate letter from Mr. Powell, but perhaps it will arrive later. I hope that it may be possible to secure something from him. So far as I know, we have never had any correspondence with him and knew nothing of him until the visit which we received recently from a friend of his. The latter seemed to think that Mr. Powell would be very glad to send material to this country.

Sincerely yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

October 26, 1921.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We shall be very glad to have you return the orchid specimens in whatever manner may be most convenient to you, and it is not necessary to return all of one of our sendings at any one time. At the Field Museum, I understand, they insist upon having each loan returned intact, but on account of our method of recording specimens lent this is not at all necessary in the case of National Herbarium material.

Yesterday I received from Mr. Powell a copy of the letter which he addressed to you. Also a short one to myself. I hope that it may yet be possible to secure something from him, but perhaps he is already committed to sending his specimens to Schlechter. It is at least very desirable that a set of the species he collects be deposited somewhere in this country, if possible.

Sincerely yours,

Paul Standley
Paul C. Standley

Assistant Curator,

Division of Plants.

355 Commonwealth Ave., Boston, Mass. Nov. 12, 1921.

My dear Dr. Standley:

I enclose my check for \$250. as a contribution toward your trip to Salvador. Dr. Maxon, as I remember his instructions, requested that the check be made payable to the Smithsonian Institution. If this is not right, kindly inform me.

I understand that you may accompany Mr. Powell to Chiriqui. Such a trip might be very profitable from the point of view of orchids. I hope you will find it possible to accompany Mr. Powell. I have just received a long letter from him, a copy of which has, I understand, been forwarded to you. It would seem that my determination to make amends if any were necessary won for us Mr. Powell's co-operation.

Schlechter has begun to send intracings of critical species. I have just sent him funds to make possible a stay of two weeks in Vienna. He will hire an artist and make copies for me of Reichenbachian types that I must have before I take up *Stelis* and *Pleurothallis*. I suppose this trip will also give him an opportunity to work up some of Mr. Powell's Panama plants. Uberrima fides!

Schlechter has written to inform me that most of the orchid species he has received from Mr. Powell are composed of flowers only.

I have a number of sheets ready to return to you. These should be sent off by the end of the week. Among them you will find some of Johnson's Guatemalan orchids, Dr. Rose's Ecuadorean orchids, some of Pittier's Colombian things and another distribution of Philippine orchids for the National Museum.

Please let me know the latest possible date for delivery of the manuscript of the Central American Orchid Flora. If I have a definite time to work to it will be easier for me to get my materials in final shape. You must realize that I am a bit up in the air because of the Powell-Schlechter combination. A year from this date would be satisfactory to me .

Yours with best wishes,

W. L. C.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

November 17, 1921.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Thank you very much for the check which you forwarded so promptly. Your contribution will certainly assist very materially in making the proposed collecting expedition a successful one.

The other day I received from Mr. Powell a copy of his last letter to you. It is most satisfactory to find that he has changed his attitude with regard to sending specimens to this country. It is to be hoped that you may obtain something worth while from him. I do not remember just what I wrote to him with regard to my visiting Panama. A short time ago Mr. Coville was considering going to Panama in December and wished me to go with him on my way to Salvador. It has been found not to be practicable for him to make his visit this year and, consequently, it will not be possible for me to visit Panama. We are hoping, however to take up the matter of the preparation of a flora of the Canal Zone, and in that connection it will very likely be possible for me to collect there next year.

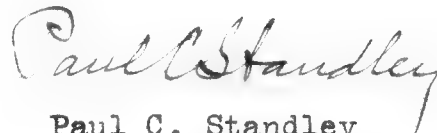
The plans for my visit to Salvador are now completed, and everything has been arranged most satisfactorily. If no accident happens the trip should be a very successful one. Recently Mr. Maxon has received a letter from one of the vice presidents of the United Fruit Company which will help materially in the prosecution of the work. We are to have a reduction in transportation rates, and I have also been given permission to spend as much time as I wish at the plantations of the fruit company in eastern Guatemala. As a consequence, I am now expecting upon my return from Salvador to spend several weeks in eastern Guatemala, probably about Quirigua, a region in which little botanical work has been done. It ought to be possible to obtain something interesting in the way of orchids there. The work in Guatemala, of course, will not interfere with that planned for Salvador, but will be addition to it and will supplement it.

Mr. Oakes Ames-2.

If the manuscript of the Central American orchids is completed a year from now it will be most opportune. It may not be possible to take up the printing of it quite so soon, but I am sure that there will be no considerable delay in its publication. At present the greatest obstacle toward the printing of the first part is the working up of the palms. So far neither Mr. Cook nor Mr. Doyle has found it possible to undertake the task, and I do not wish to do it myself. However, I am sure it will be possible to provide for the family in some way.

You have not yet sent any suggestions with regard to the collection of economic material. If you should find it convenient to do so, I should be very glad to have any directions which you may consider useful.

Sincerely yours,

A handwritten signature in cursive script that reads "Paul C. Standley". The signature is written in dark ink and is positioned above the typed name and title.

Paul C. Standley
Assistant Curator,
Division of Plants.

355 Commonwealth Avenue, Boston, Mass.

November 28th, 1921.

My dear Dr. Standley;

With regard to economic specimens all that it is necessary for you to know is that I like to be able to refer back to the source plants the common useful plants that one meets with in the tropics. I also like to have specimens of the raw products that occur in the shops and markets, with herbarium material of the species that yield them. When Dr. Maxon went to Jamaica a few years ago he collected material for me and my letters to him will probably give you an idea of what I want if this letter fails to do so.

I am preparing drawings of the more common species from Central America. It hurts to do this because so many of them have been figured before. But I suppose what you want is a reference flora and in that case it will be necessary to put stress on the species that one meets in the work of the day. I shall get some of the unfigured species in, however, as I am sure

they will be helpful.

I am in a quandary regarding the orchids of Panama. Mr; Powell has promised me anything I want and his former resentment has given room to an overwhelming desire to assist us. There is no trace left of the bitterness he seemed at first to feel toward me. Now I am in receipt of a letter from Kew in which I am informed that 179 Powell numbers, with photographs and correspondence are on the way to me for determination and future division. The next move, and I think it might now have Mr. Powell's sanction, is to let Schlechter know this and ask him what the future course of procedure is to be. As I feel that this whole question is yours to answer, perhaps you will let me know what to do. The situation is most peculiar, different from anything I have ever experienced before and extremely critical. It would seem no matter what we decide to do, we have exactly what we want and what we feared might not be obtainable. I am well satisfied, because I am not a bit interested in describing new species when the other fellow's types unborn are in my hands. You understand, of course, that I know Schlechter's determinations in part already, because I have Powell's list of numbers with the names Schlechter has given them.

I hope that you agree with me when I say that our chief interest is to ascertain by actual specimens what the orchid flora of Central America consists of, and that a critical revision is more important than an attempt to describe great numbers of novelties.

When you are in Salvador or Guatemala keep a sharp look-out for terrestrial species of orchids. Get any that you find in quantity, as it is very necessary to have ample material for studies of variation. The rule that limits the number of specimens taken should be put aside with regard to the orchids.

I hope that you have a successful and altogether enjoyable trip and that your efforts will help us toward a better understanding of the Central American flora.

Yours sincerely,

Dr. Paul C. Standley,
National Herbarium.

I am delighted to have the uncertainties of the Powell situation cleared up. You will agree with me that matters have shaped themselves very well. Instead of being forced by circumstances to work in the dark, with an element of doubt ever present, we are in a position to know exactly what is being done.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

December 6, 1921.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Your letter of November 28 arrived promptly but I have been so busy with packing and other matters during the last few days that I have not gotten around to answering it until now. I am especially glad to have the suggestions with regard to the collection of economic and museum material, and I shall do what I can toward obtaining material of the sort desired. It is needless to say that I shall do my best to obtain a good representation of the orchids, and I hope that it will be possible to secure something of real interest. I am expecting to leave Washington tonight and I shall reach Guatemala about a week from now. I hope that it will be possible to proceed at once to Salvador.

It is very fortunate that matters with regard to Mr. Powell have turned out so well, and I hope that he will be able to send you a quantity of interesting material. I trust that no difficulties will arise with regard to the collection of Mr. Powell's orchids which is coming from Kew. These, I should suppose, would be different collections than those forwarded to Schlechter and probably your studies of them would not interfere in any way with what he has been doing with the Panaman collections.

In the case of preparing illustrations of the genera for use in the Central American Flora, it will be best for you to use your own judgment as to the species that should be illustrated. I do not think that it is necessary in every case to illustrate the most common species of a genus, and I am inclined to believe that it might in some cases be preferable to use drawings of some of the species that have not been illustrated before.

Sincerely yours,

Paul C. Standley
Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

September 19, 1922.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

It is not through intentional neglect that I have delayed so long in writing about the Central American trip and in replying to various letters of yours but because of a misunderstanding as to the time of your leaving for Europe. When I returned to Washington the middle of June, I was told that you were to sail within a couple of days, and so did not have time to write then, but we learned afterwards that we had been mistaken as to the date of your departure, and that I should have had a month in which to write!

A few days ago I received the labels for the Central American collection and have just begun writing them, an operation that will require some time, but as soon as possible I shall send the orchid specimens to you. You will be disappointed in them, for I did not get into any good orchid country. Still, I got what there was, and collected all that I saw, if they were in determinable condition.

The whole trip was a most successful one generally, without any unpleasant incident of any sort, and everywhere I was given the most liberal assistance for work. In the five months spent in Salvador, I visited almost all parts of the country and collected 4,600 numbers. Doctor Calderón and myself are expecting to publish in San Salvador a list of the species now known from that country. Doctor Calderón, who is employed in the Department of Agriculture there, is an enthusiastic and very intelligent collector, and he has sent us a series of nearly a thousand numbers, several specimens of each. He is continuing the work for the purpose of building up a national herbarium, and should get a lot of good material. He has collected a few orchids, of which we shall send you specimens. If you can send him any publications, he would appreciate them very much, for they are anxious to build up a botanical library. At present they have practically nothing. His address is Dr. Salvador Calderón, Laboratorio Químico de la Dirección General de Agricultura, San Salvador, El Salvador, C. A.

Mr. Oakes Ames-2.

The general vegetation in Salvador is interesting, and there are at least a few undescribed species represented. The flora is like that of western Guatemala (which is practically unknown), and, I presume, like that of Pacific Nicaragua. I found there good many species which were known previously only from Costa Rica and Panama. The climate is pretty dry, and that is the reason for the paucity of orchids and ferns. The highest volcanoes reach about 8,000 feet, but the volcanoes, unfortunately, are planted with coffee, often to their very summits.

In Guatemala I spent about a month, chiefly on the United Fruit Company's properties around Quirigua. There it is as wet as Salvador is dry, and the plants are much more interesting. I got over 1,500 numbers, including some orchids. The officials of the Fruit Company were certainly very kind, and furnished every facility for work there, including all accommodations without any charge for them.

The collections obtained will add materially, I think, to our knowledge of Central American vegetation, and will help enormously in the preparation of the flora. I specialized somewhat in economic data and vernacular names, and secured a large quantity of these. About a year from now I should like to go back again, to either Honduras, Nicaragua, or Costa Rica, although the plans are somewhat dependent upon what Mr. Maxon may do that winter (1923-24). With the experience I have gotten on the last trip, it should be possible to do better upon another trip.

There is one matter that I might mention here. When I was in Guatemala, Mr. Gooch, of the United Fruit Co., had a plant of the white-flowered form of Lycaste skinneri which he had obtained for Mr. Victor M. Cutter of the United Fruit Company in Boston, who wished to present it to Mr. Preston. Mr. Gooch could not bring it into the States himself, and as he had been very helpful in my work in Guatemala, I offered to bring it in myself, thinking there would be no difficulty. When I tried to get the plant passed here by the Horticultural Board, all sorts of difficulties were encountered. I finally put it with some others (from Colombia?) which were being sent to you. I understand that the plants have been forwarded to you, and if the Lycaste can be turned over to either Mr. Cutter or Mr. Preston, with a note of explanation, I should appreciate it very much. It was Mr. Cutter who was responsible for the favors extended by the Fruit Company.

Mr. Oakes Ames-3.

Is there an illustrated catalogue of orchids that can be obtained here or abroad? A gentleman in the custom house in Guatemala City is anxious to obtain one, and as I may have to pass through that custom house again, I should like to get it for him, if possible. If such a publication is available, I shall be glad to purchase it for him.

Since my return, I have done a little work upon the Central American Flora. Professor Hitchcock expects to take up the grasses soon, and when they are completed, I shall try to get the first part, up to the palms, ready for the press. The palms are a great obstacle at present, but if nothing else can be done, I shall have to prepare some fragmentary account of them myself.

It is a great pleasure to hear that you are progressing so rapidly with the orchids, which are doubtless the most important group, and the most difficult with the possible exception of the palms. I am very glad to hear that the matter of illustrations is progressing so favorably. It seems a pity not to use all the orchid illustrations available, when we consider how difficult it is to get them and how improbable it is that such an opportunity will happen again. Certainly an illustration of each genus can be used, and more I think in the larger genera. If the drawings can be combined into full-page plates, almost any number can be used, I think. In such a case, I do not see why it might not be possible to publish illustrations of even all the species. It is very unsatisfactory to use text illustrations which necessitate resetting of type, for the cost of printing then is nearly doubled, at least at the Government Printing Office, where the ordinary cost of printing is outrageous, in comparison with that done in private establishments. If the drawings are in such shape as to extend, singly or placed side by side, across the page, or be collected in a full-page plate, the resetting of type is unnecessary. I do not know in what form, with regard to size and parts of the plant represented, you are preparing the drawings, and if I had some knowledge of this, I could perhaps give a more definite idea of the number of illustrations that could be accommodated.

Please let me know of any way in which I may be of assistance in the furtherance of your work, for it will be a privilege to be of any service possible in its successful accomplishment.

Sincerely yours,

Paul C. Standley
Paul C. Standley
Assistant Curator,
Division of Plants.

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NORTH BASTON, MASS. October 7th, 1922.

My dear Dr. Standley:

Your letter of September 19th, should have been answered more promptly. I reached home on the fifteenth Sept. and ever since I have been catching up with the work that accumulated during my absence.

I devoted the entire time while in Europe to the study of Central American orchids. I visited Kew, Brit. Mus., Paris, Vienna and Berlin. I took upwards of 500 photographs, made about three hundred tracings and water-color drawings of types (with Mrs. Ames's assistance), secured a number of critical specimens and learned a great deal about species that have been little known or obscure. Since my return home I have been very busy making my material ready for the herbarium.

I am delighted to learn that your trip was a successful one. You may be sure that whether you secured a few or many orchids, I am impatient to look them over.

Everything I have on hand, including seven volumes of Orchidaceae will be forwarded to Dr. Calderón. I enclose a prospectus of a book that should answer the needs of your friend in the Custom House. I have a duplicate of this. I will send it to you and you can forward it to him.

I have been at work on *Stelis*. I had assembled material of every known species from Central Am. For an understanding of Schlechter's species I had depended on the analyses drawn by Schlechter and mounted in his herbarium. On these analyses he based his descriptions. Now, I find that these analyses are extremely inaccurate as are

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the descriptions drawn from them. I must work up the entire group from fresh observations. I wrote to Schlechter this morning and begged him to send me a flower or two from all of his types. This he should be able to do. This genus is such a highly technical one that any extra effort to make it clear is well worth while.

Powell has sent me excellent material of the greater part of the new species Schlechter has recognized from Panama. As the specimens are usually taken from the same plants that furnished Schlechter with material they are to all intents and purposes equivalent to types. Powell is very much interested in my efforts to build up a representative collection of orchids from Panama. I think he regrets now that he sent his specimens to Germany. I received a letter from him last week in which he informed me that he had urged Schlechter to send me Costa Rican species.

I was unable to obtain definite information from Schlechter regarding the publication of Powell's orchids. I intend to await publication of the new species before closing my work.

When I move to Boston I will send you a sample package of illustrations. I think we can plan to treat these in any way that we wish.

Kraenzlin has *Masdevallia* and *Dichaea* in hand for monographic treatment. I intend to delay work on these genera until I receive Kraenzlin's papers.

Yours sincerely,

Oakes Oakes

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

October 28, 1922.

Mr. Oakes Ames,
North ~~Easton~~, Massachusetts.

Dear Mr. Ames:

I was very much interested in your letter of October 7, and delighted to hear that you had such a successful trip to Europe this summer. The opportunity to examine the type material in the old herbaria must greatly simplify the study of the American orchids, but, on the other hand, I presume that it is likely to complicate matters greatly. I am glad to hear that such satisfactory arrangements have been made with Mr. Powell for securing specimens of his Panama orchids. That part of Central America must be one of the richest in plants of this group, although I suppose it is not superior to Costa Rica where conditions are almost the same. I hope that it may be possible to secure something from Mr. Jiménez and from the new collector whom he recommended, whose name escapes me at the present moment. Sometime ago I wrote a letter to the latter offering to help him in every way possible in his study of Costa Rican plants and giving him all the encouragement that I could think of. So far I have received no response from him, and it is very possible that my letter did not reach him. I am going to take the matter up again with Mr. Jiménez.

Thank you very much for the copy of the orchid atlas which was received a few days ago. It is certainly very kind of you to send it, and I know that the gentleman in Guatemala City must be greatly pleased when he receives it, for it is one of the handsomest things of the sort that I have ever seen. I am writing to the publishers to secure some additional copies, since I should like to send them to some friends in Salvador also.

In your letter you did not mention the matter of the Lycaste specimen that Mr. Cutter is so anxious to get hold of. A few days ago I received a letter from Mr. Gooch, then in Panama, asking whether the plant had ever reached Mr. Cutter's hands. Mr. Gooch is the one from whom I received it.

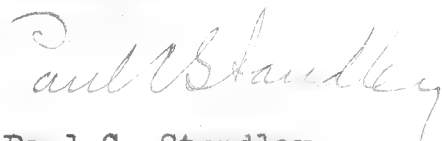
Mr. Oakes Ames-2.

I should like to do anything possible to accommodate Mr. Cutter for the favors which we have already received from him, and also because I hope to some day secure from the United Fruit Company facilities for collecting about their properties on the eastern coast of Honduras and Panama.

Most of my time recently I have spent in writing labels for the collection obtained this year. It is slow work, but is now over two-thirds finished. Just as soon as I get to the end of the orchids, I shall send them on to you.

I wish to thank you also for sending the publications to Doctor Calderón. I know he will be greatly pleased to receive them, for he is always deeply appreciative of every favor shown him. He has now sent us 1,200 numbers of plants that he has collected. I am sorry that he is not able to devote more time to botanical work, in which he is greatly interested, but the larger part of his time must be given to routine duties in the chemical laboratory, of which he has charge. The funds available there for botanical exploration are not very ample, but he has been making good use of them. I wish that he might be able to make a trip to the Volcano of Santa Ana, the highest peak of Salvador, during the wet season, for then I think it might be possible to find more orchids and ferns. The dry season, although the most comfortable and convenient for collecting, is not the season at which Central American plants flower most profusely.

Sincerely yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

November 24, 1922.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding by prepaid express a box containing 350 specimens of orchids, 293 of which are sent as an exchange, and 57 are those which I obtained this year in Central America.

In the case of the latter you will no doubt be greatly disappointed, as I am myself, but I certainly made every effort to hunt out the plants of this group, and the only reason for the insignificant number obtained is the fact that more could not be found. In one of my earlier letters I stated that I did not find many orchids, but I fear that the statement may not have been taken quite so literally. In Guatemala all my work was done upon the coast, where few orchids can be expected, and in Salvador the climate is too dry for them, to say nothing of the fact that everywhere the mountains have been cleared off in order to plant coffee. The best localities for orchids and other epiphytes are also the best places for coffee plantations, which often extend right up to the summit of the volcanoes. It is superfluous to state that I deeply regret my lack of success in collecting this group of plants, but even now I do not see how I could have done any better. Most of the orchids seem to blossom in the wet season, and then it would probably be possible to get more species in Salvador, especially those which drop their leaves after the rains cease.

I am hoping to go to Central America again next winter, and then I hope I may find a more favorable region for orchid collecting. As yet I am uncertain as to what part of the region I shall try to go. Honduras and Nicaragua are the countries from which we have the smallest collections, but Mr. Maxon is inclined to believe, as I do myself, that the most remunerative results could be obtained in Costa Rica. Although so much collecting has already been done there, it seems that the flora has scarcely been touched, for every collection that comes in contains new species, and I believe that we have in the herbarium several hundred awaiting description. For that matter, it is immaterial in what part of Central America one collects, for no portion is at all well known at present. Collections obtained recently around Guatemala City, the most easily accessible and longest known portion of Central America, contain new plants of various groups.

Mr. Oakes Ames-2.

In order to compensate to some extent for your disappointment in the orchids of this collection, I have just gone over the material of the Orchidaceae of the Buchtien Herbarium with considerable care, and it is from that collection that there have been taken the 293 specimens forwarded in exchange. About a hundred of these are Old World collections, and the remainder American. I have divided all the South American collections that could be divided, and this has been possible in nearly all cases.

Sincerely yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

P. S. I should have stated above that we shall appreciate having your identifications of the Central American orchids when it may be convenient to send them. Doctor Calderón and myself are expecting to publish in the near future a list of the plants known from Salvador.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

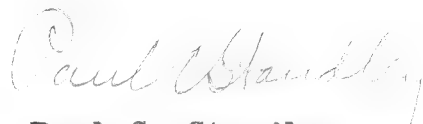
November 24, 1922.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding, in a package by mail, 3 specimens of orchids collected in Brazil by Prof. E. W. D. Holway. These are presumably hosts of rusts, and Professor Holway wishes the determinations for use in his mycological work. If you can supply him with identifications, we shall be greatly obliged, and we should be glad, also, to have the identifications, since we have specimens of two of the collections represented. The specimens of course need not be returned to us. Prof. Holway's address is Animal Biology Building, University of Minnesota, Minneapolis, Minnesota.

Very truly yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

November 28, 1922.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding, by mail, a package containing three specimens of orchids from Guatemala for which we should appreciate having your identifications, when it may be convenient to send them. These were included in a package received recently from the Guatemalan Department of Agriculture. Mr. Salas of that institution seems to be interested in continuing the formation of a herbarium in Guatemala City, and has been sending a package of plants for identification almost every week. Most of those forwarded heretofore were collected by Mr. Tonduz, who died last year while I was in Guatemala. Recently, however, some other persons have begun collecting, and I hope we may be able to give them sufficient encouragement, so that they may continue the work. These recent collections have not been particularly interesting, although they have contained some good plants. After having gained a little experience, I hope that the new collectors may be able to extend their work into more interesting parts of the country. Even around Guatemala City they ought to be able to find a good many plants worth collecting, for scarcely any collections have ever been made in that part of the country. The specimens which we are sending are of course to be retained by yourself.

Very truly yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

(A)

355 Commonwealth Avenue, Boston, Mass.

December 3d, 1922.

My dear Dr. Standley:

I have received notice that the specimens mentioned in your recent letters have been forwarded to me. As soon as they arrive I will give them prompt attention and send you determinations of the Central American and Brazilian species.

Central American orchids are now taking up all of my time including Sundays and holidays. I am afraid that neither of us realized what a tremendous task this Central American orchid venture would prove to be. The critical work necessary to pave the way for reliable keys is still far from done. The larger and more difficult genera have been keyed, however, and the mechanical work of writing descriptions simply involves the time element necessary to finish them. It would be well now to tell the latest date at which the work ought to be completed. In doing this give me as much time as possible as I have not yet completed the study of undetermined specimens lying in my herbarium. I want all the time I can be allowed. Write about this in detail.

(A)

I have been at work on Epidendrum for just about a year. I intend to publish a critical survey of the species in a short time to place on record the results of my investigations.

Powell has practically severed his ~~AMR~~ connection with Schlechter and will now send all of his material to me. As he is to employ native collectors and will send specimens in duplicate I am looking for rather interesting results. I would like to go to Panama this winter if I can get away. It all depends on the work I must do for you.

If you go to Costa Rica next winter or sooner. I hope you will give me an opportunity to participate in the venture. Costa Rica is in need of intensive study. I am pleased to have Lankester working for me there. He seems to be an enthusiastic fellow. He has promised to use his influence to interest other people in the work.

We are just beginning to get together the material for an orchid flora of Central America! It is a fascinating region.

The collection of drawings is growing slowly. Mrs. Ames has just completed an excellent record of *Selenipedium chica*. Powell sent fls. in alcohol.

John G. Jones
October 1912

(A)

355 Commonwealth Avenue, Boston, Mass.

December 6th, 1922.

My dear Dr. Standley:

The Buchtien orchids and your specimens from Guatemala and El Salvador arrived day before yesterday. I am unable to express to my satisfaction the thanks you deserve for placing at my disposal such a wonderful accumulation of good things. I have taken it that the Guatemalan and Salvador numbers are an exchange and need not be returned. Your letter was a bit obscure as to this. I certainly hope that my understanding is correct.

The Brazilian and Guatemalan orchids that you wish immediate results from arrived yesterday afternoon. I beg to make the following report.

GUATEMAL

Solas 92. *Brassavola nodosa* Lindl!

Solas 93. *Govenia utriculata* (Sw.) Lindl.
Only one good flower. I believe the determination is as close as possible.

Rojas 73. *Malaxis calycina* (Lindl.) Kuntze!

BRAZIL

Holway 1194. *Liparis elata* Lindl. var.
In fruit. But surely the species named which is always characteristic and not easily confused with other things.

Holway 1854. *Cranichis candida* Cogn.

(A)

Holway 1214. *Spiranthes nitida* Cogn.

The specimens of *Cranichis candida* (Rodr.) Cogn. are a bit under-sized, but in this genus we usually find a tremendous variation in the vegetative development of the plants.

Among the Salvador plants there are several very interesting extensions of range. This, of course, was to be expected. I intend to work up this collection as promptly as I can. When the work is done the list of determinations will be forwarded to you. The Guatemalan specimens do not promise anything new. But one never can tell what close study will reveal.

If not too much trouble will you forward the determinations of the Brazilian species to Prof. Holway.

Yours faithfully,

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355 Commonwealth Avenue, Boston, Mass. December 8, 1922.

My dear Dr. Standley:

Under another cover I am sending to-day the determinations of the Central American orchids received last week. Or rather on December ⁴th. There were no new species, but Epidendrum ionophlebium Reichb. f. was worth the trip. I have only known this from the type and a duplicate of the type collection which Schlechter published as E. Hoffmannii. Several of the Lycaste species I have not identified to my satisfaction. Although I know most of the Central America species when I see them alive, they become very puzzling when dry. Pleurothallis Purpusii Schltr. represents an interesting extension of range. Most of the species you obtained in Salvador seem to be new to the country, with the possible exception of Bletia alta. I hope Calderon will make an effort to secure more material from Salvador. A recent letter from Schlechter reveals the fact that he is about to publish Powell's orchids. He also has a large collection of Costa Rican things under way. We must make determined efforts to keep him out of our field.

Yours with best wishes,

Charles Oakes

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355 Commonwealth Avenue, Boston, Mass. U.S.A.

December 10th, 1922.

My dear Dr. Calderon:

At the request of Dr. Paul C. Standley of the United States National Museum, I am sending to your address this day several packages of books for the botanical library of the Laboratorio Quimico. Perhaps as an exchange you will be able to help me secure orchids of El Salvador for my Orchid Herbarium. I have just completed the determination of some of your numbers submitted by Dr. Standley. These have stimulated a desire to secure more material from your country. Determinations will be made promptly and carefully. I should expect to find many representatives of Spiranthes in El Salvador. An interesting species of this group was among the specimens just identified.

We know so little about the orchids of El Salvador that I am most anxious to assemble them.

With best wishes for the Holidays

Yours truly,

Dr. Salvador Calderon.

Salvador Calderon

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

December 20, 1922.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Your letter of December 14 with regard to the new Pleurothallis from the Volcano of San Vincente is received. I shall ask Doctor Calderón to look out for the plant and see if he can not obtain additional specimens of it.

We are forwarding, by mail, a package containing 7 specimens of orchids included in a shipment received for identification from the Guatemalan Department of Agriculture. We should be greatly obliged for your identifications of these when it may be convenient to send them. The specimens sent, which comprise all the material that we received, are so fragmentary that identifications may not be possible in all cases. They need not be returned to us.

Have you ever had any correspondence with Mr. Mariano Pacheco of Guatemala City? I understand that he is a dealer in orchids and has a small collection of them at his residence. We have just received a letter from him in which he states that he is anxious to obtain publications upon the plants of tropical America, and offers to send in return for them plants--especially orchids. We shall be glad to send him some publications, but we do not have any use for living plants from Guatemala, and I doubt that he is prepared to send dried specimens. Very likely you might be able to obtain something of interest from him, if you wish to write to him directly. I am sure he would be pleased to obtain your publications, but I should be inclined not to send them to him without a definite promise from him of orchid material, for the Latin Americans while very generous in their promises are too rarely given to fulfilling them. Mr. Pacheco's address is Avenida Cand. 26, Guatemala City.

Sincerely yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

(A)

355 Commonwealth Avenue, Boston, Mass.

December 21st, 1922.

My dear Dr. Standley:

Here are the determinations of the Mexican orchids sent here for study.

Ortega 141: Epidendrum naevosum Lindl. No flowers present. Material poor.

Ortega 142: Erycina echinata (HBK) Lindl. No flowers present.

Ortega 500: Epidendrum, probably new species. The material is scrappy and hardly dependable for descriptive purposes. If you have duplicates they might help to clear up up ambiguities due to the condition of my specimen. This is a most interesting species and it is a shame to let it go if there is any hope of a clear understanding.

Ortega 813: Oncidium Cebolleta Sw. This represents one of the many forms of this very poorly understood species.

With best wishes for the Christmas season,

Yours faithfully,

Oakes Ames

Ⓐ

355 Commonwealth Avenue, Boston, Mass.

December 26th, 1922.

Dear Dr. Standley:

The Guatemalan things arrived this afternoon. I found them very fragmentary and hardly suitable for careful determinations, but I think you can rely on the following:

Tonduz 833 *Notylia bicolor* Lindl.
Tonduz & Rojas 181 *Epidendrum ionophlebium* Reichb.f.
Tonduz 741 *Habenaria entomantha* Lindl.
Tonduz & Rojas 182 *Epidendrum cochleatum* L.

The following are approximate.

Rojas 592 Sterile material. *Meiracyllium gemma* R.f.
Tonduz 693 Fragment. *Bletia florida* R.Br.
Tonduz 893 Fragments. *Bletia* sp.

I am sorry to be obliged to find fault with the material, but as you yourself realized its limitations no harm is done.

I want to get into Honduras. The United Fruit Co. is felling thousands of acres of forest. I talked about this with Mr. Cutter of the Fruit Co. this evening. He seems anxious to help.

Yours sincerely,

Robert Ames

Report on Collection of Orchids from Guatemala & Salvador

Collected or Obtained by Paul C. Standley. 1922.

Standley

19428. *Epidendrum Stamfordianum* Batem.
 19429. *Epidendrum nonclivense* Reiche f.
 19504. *Epidendrum Stamfordianum* Batem.
 19524. *Epidendrum Stamfordianum* Batem.
 19977. *Epidendrum aurantiacum* Batem.
 19984. *Cattleya Skinneri* Batem.
 20008. *Epidendrum nonclivense* Reiche f.
 20132. *Corymborchis flava* (Sw.) O.K.
 20176. *Pleurothallis* sp. (sterile).
 20204. *Polytaenya minuta* Britton. (fruiting)
 20205. *Isoclilus linearis* R. Br. (fruiting)
 20283. *Sarcoglottis hondurensis* (Schltr.) Ames comb. nov. ined.
 20383. *Blechna alta* Hitchc.
 20465. *Epidendrum aurantiacum* Batem.
 21547. *Isoclilus linearis* R. Br.
 21554. *Lycaste* sp. ^{conspicua Lindl.} Material difficult to interpret.
 21555. *Maxillaria varabilis*.
 21560. *Pleurothallis* sp. Fls. too mature.
 21569. *Dirchaea squarrosa* Lindl (Sterile)
 21592. *Hexadesmia crurigera* Lindl.
 21595. *Trichopilia tortilis* Lindl.
 21611. *Odontoglossum pulchellum* Batem.
 22147. *Epidendrum nonclivense* Reiche f.
 22187. *Natylia* sp. (fruiting. in autumnable)
 22193. *Epidendrum atropurpureum* Willd. Fine variety.
 22994. *Spiranthes pyramidalis* Lindl.
 23007. *Ponera striata* Lindl. (Advanced fruit.)
 23008. *Epidendrum palacum* Lindl.
 23023. *Lycaste* sp. ^{conspicua Lindl.} Material difficult.
 23142. *Blechna alta* Hitchc.
 23670. *Stanhopea saccata* Batem. var.
 23900. *Stelis confusa* Schltr.
 23901. *Pleurothallis Purpusii* Schltr.
 23902. *Pleurothallis pergracilis* Rolfe
 24196. *Oncidium pusillum* Reiche f.
 24197. *Pleurothallis pergracilis* Rolfe
 with this a fragment (sterile) of *P. myriantha* Lema. & Krieger
 24461. *Epidendrum cochleatum* L.
 24464. *Campylocentrum micranthum* Rolfe
 24470. *Oncidium ablongatum* Lindl. aff. fruiting specimen.
 24471. *Epidendrum polyanthum* Lindl.
 24474. *Epidendrum rigidum* Jacq. var.
 24554. *Vanilla planifolia* Andr. (sterile specimen)
 25064. " " " (fruiting)
 25009. *Hexadesmia crurigera* Lindl.

Calderon

216. *Epidendrum nonclivense* Reiche f.
 350. *Maxillaria varabilis*
 518. *Vanilla planifolia* Andr.
 582. *Cattleya Skinneri* Batem
 584. *Oncidium ascendens* Lindl. var.
 684. *Epidendrum ionophlebium* Reiche f.
 905. *Salweenia marcantha* Lindl. var.
 920. *Oncidium carthaginense* Sw. var.
 929. *Lycaste cruenta* Lindl.
 1063. *Habenaria macrantha* Wedd
 1064. *Habenaria affinis* Reiche f. var.
 1094. *Calasium Russellianum* Hook
 1129. *Epidendrum ariforme* Jacq.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

December 8, 1922.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Your letter of December 3 was received a few days ago, and this morning your second one of December 6. We are greatly obliged to you for the identification of the Brazilian and Guatemalan orchids, and the names of these collections will be forwarded immediately to those interested. Today we received a collection of Mexican plants which contains a few orchids, and we shall send you a set of these, also, shortly.

The specimens from Salvador and Guatemala are, of course, to be retained by yourself, although I see that I failed to make this plain in the letter. I do hope that there may be something of interest among them to compensate in part for their small number.

It is certainly very pleasing to hear that your work upon the Central American orchids is proceeding so favorably. As to the completion of this part of the Central American Flora, there is no need for any special haste. I fear that the publication of the work will not proceed as rapidly as I had anticipated, for financial reasons, and personally I am not at all displeased because of this condition. The longer the publication is delayed, the greater will be the degree of completeness possible, and since there is a good prospect that collecting will be carried on rather vigorously in Central America in the near future, I think it will be just as well to wait for awhile before publishing the flora. It is of course, as you suggest, a very good plan to publish the new

Mr. Oakes Ames-2.

species promptly, although it is not so important in the case of other groups as in that of the orchids. It will be most fortunate if you are able to go to Panama this winter, and I sincerely hope that you may find it practicable, for you would undoubtedly be able to obtain a larger amount of more useful material there than any one else. One who has the acquaintance of any special group of plants obviously can collect more intelligently than one who is unfamiliar with them.

So far I have not made any definite plans for going to Central America this coming year. What I may do has to depend to a certain extent upon some of Mr. Maxon's plans for collecting. However, it seems very probable that I shall be free to go to the region about November. I am favorably inclined toward the idea of going to Costa Rica, although for the purpose of the flora it is perhaps more important to get collections from Nicaragua and Honduras. At the same time it seems pretty certain that it will be possible to find more interesting plants in Costa Rica than in any other part of Central America, unless it be in some part of the mountains of Guatemala.

I should be very glad to obtain the address of Mr. Lancaster. Some time ago there was published in London the description of a new species of Wercklea, which he obtained in Costa Rica. Mr. Pittier and I described the genus as new several years ago, and we are anxious to obtain material of the second species. I have been intending to try to get into communication with Mr. Lancaster, but I was under the impression that he was now in tropical Africa, where some one of that name is now collecting plants for the British Museum or for Kew--I do not remember which. Apparently I have confounded two persons of the same name.

Very truly yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

December 14, 1922.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding, by mail, a package containing 4 specimens of orchids collected in the State of Sinaloa, Mexico, and for which we should appreciate having your identifications when it may be convenient to send them. The specimens are duplicates and need not be returned to us.

Thank you very much for the identifications of the Central American orchids just received. I was naturally much interested in going over the list, and I regret that it is not a great deal more extensive. I have asked Doctor Calderón to make a special effort to take specimens of all the orchids that he may find upon his trips, and I am sure that he will do so. There must be many more species than those now known from the country. It is rather unfortunate that Schlechter is going ahead with the publication of the Central American orchids, but perhaps after he has finished with the present lot of material he will not have anything further to work upon. If I can only get down to Costa Rica this year, I think it will not be very difficult, through personal contact, to make arrangements to have such orchids as are obtained by the collectors there forwarded to you for identification. I suspect, however, that Mr. Jiménez is not doing very much in the way of collecting at the present time.

Sincerely yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

Telephones
Boston, 447 Back Bay
Stoughton, 74-2

Three hundred and fifty-five
Commonwealth Avenue

January 3, 1923

My dear Dr. Standley:

I have decided to visit Honduras in February, my plan being to spend several weeks on the Fruit Co. property where deforestation is in rapid progress, as we only know about nineteen species of the orchid family from Honduras I am sure that it will be a profitable outing. Two presses and driers have been sent to Honduras by Mr. Cutter with instructions to have orchids collected for me. Collecting will be done in places about one hundred miles apart. The plan will also be followed of bringing in specimens to be cared for pending my arrival. I think it will be more profitable to spend my time in Honduras than to remain here and write up The Flora. I hope you agree to this.

My present plan is to leave here on February first.

Yours sincerely,

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

January 3, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.


Dear Mr. Ames:

We are forwarding, by mail as an exchange, a package containing 72 miscellaneous specimens of orchids. Recently we have been making a distribution of an accumulation of duplicates, and these specimens represent the orchids of the accumulation. Some of the specimens were collected by Buchtien, and it is likely that we may have sent you specimens of these previously, but if so, the present ones are likely to be somewhat ampler than those of the former sending.

I am very much obliged for the identifications of the orchids collected in Mexico by Ortega, and of those obtained in Guatemala by the Department of Agriculture of that country. We are sending the determinations to the persons interested who, I am sure, will appreciate having them. Thank you also for the address of Mr. Lankester. I shall write to him especially with regard to the Weroklea, of which I hope he may be able to obtain material. I should like, also, to get in touch with him in case it is practicable for me to go to Costa Rica at the end of this year.

The north coast of Honduras must be an interesting region botanically, and I believe that the only collection obtained there is that made by Percy Wilson some years ago which was not very extensive. The United Fruit Company has several plantations upon the coast with which as headquarters it should be quite easy to make collections there. From what I was told while in Guatemala, some of the mountain ranges lie quite close to the Fruit Company's plantations.

Sincerely yours,


Paul C. Standley
Assistant Curator
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

January 6, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding, by mail, a package containing a specimen of Habenaria (no. 1292), the only orchid in Doctor Calderón's last sending of plants. I have not compared it with the other two species of the genus which Doctor Calderón has collected, but according to my recollection of them this looks as if it might represent a third species. The specimen is of course to be retained by yourself.

I am very glad indeed to hear that you expect to visit Honduras so soon, and trust that you will have a pleasant and successful trip. I wish that it might be possible to secure a very comprehensive collection of all the plants of the Honduran coast. If you should have an opportunity to collect any other plants besides orchids, even though they be common ones, some of them are pretty certain to represent new records for that country.

Sincerely yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

January 10, 1923.

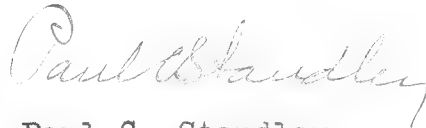
Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Just now I am beginning to write up the list of Salvadorean plants which Doctor Calderón expects to publish in San Salvador. If you have available a list of the orchids known from that country, aside from the ones which we collected this year, I should very much appreciate having it, so that those species can be included in our list. I have not looked up Schlechter's list of species since I prefer to obtain a list from you, if possible, with the idea that you may have certain corrections or additions to his published list.

If you expect to visit Tela, Honduras, as I presume you will since there is a United Fruit Company plantation at that place, I should be very glad if you could visit Dr. Andrés van Severén, a physician who is now located there. His home is in San Salvador and I became acquainted with him and his family while I was there last year. He is a very pleasant man and has paid a good deal of interest to botanical subjects. I think that you could very likely get him interested in the collection of orchids about Tela. At any rate, I am inclosing a brief note of introduction to him, in case you should have an opportunity to look him up.

Sincerely yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

(Enclosure)

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

January 17, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Thank you very much for the list of Salvadorean orchids. I am very glad indeed to have this so as to make the list of the representatives of the family as complete as possible in the publication which we are getting ready. I am hoping that Doctor Calderón will soon be able to obtain further material of the family. I am expecting to sell the duplicates of the collection which he has been sending us recently, and with the money thus obtained he expects to make further explorations in certain parts of the country which so far have not been explored botanically.

Sincerely yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

January 31, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding, by mail, a package containing three specimens of orchids, in poor condition as usual, included in a sending recently received from Mr. Salas of the Guatemalan Department of Agriculture. We should greatly appreciate having your identifications of these when convenient. The specimens need not be returned to us.

Very truly yours,



Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

April 18, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

I was glad to hear of your safe return from Central America, and of the success which you had in collecting orchids. You must have obtained a great many new records for that family, at least in Honduras, where so little collecting has been done.

Mr. Maxon has asked me to reply to two queries in your letter of April 9 addressed to him. I have not been able to place the locality in Mexico listed by Lindley as Xapatam, nor can I find any place name which could easily be so rendered if the writing were illegible. As you suggest, it seems quite possible that Zacuapan may be the locality referred to, for Hartweg did collect there. I have made a search in *Plantae Hartwegianae*, and I do not find any other locality mentioned there which at all suggests Xapatam.

There has certainly been very little collecting done in Honduras, and practically all of the plants obtained there have been secured either along the north coast or in the corner by Copán. C. G. Bernoulli is said to have visited Copán in 1870. Carl Scherzer is reported to have visited Tegucigalpa in 1854, but whether he made any collections or not I do not know. The largest collection of plants made in Honduras is probably that obtained by Percy Wilson for the New York Botanical Garden a few years ago. The plants were collected upon the north coast and you can doubtless obtain more precise information by writing directly to Mr. Wilson. Mr. W. C. Shannon obtained a few plants for Captain Smith in Honduras in 1892 and 1893. These were collected chiefly along the Salvadorean frontier, while Mr. Shannon was engaged in surveying the region for the International Railroad, which is now at last being constructed. Mr. F. J. Dyer a few years ago was Consul at Ceiba and Tegucigalpa and collected a few plants there which he forwarded to us. He was particularly interested in Entomology and although there are two or three hundred of the plants, they are mostly very common things.

Mr. Ames-2.

Mr. Pittier has been in Honduras for very short periods, the second time in 1919. His collections all come from the region of the Guatemalan border and they are not very extensive. Doctor Blake accompanied Mr. Pittier in 1919 and obtain 300 or 400 specimens in Guatemala and Honduras. These, of course, are all from the frontier and most of them were collected, I believe, in Guatemala.

These I believe are about all the collections that are known from Honduras except that there are references in Biologia to certain specimens at Kew obtained by miscellaneous collectors. Their collections were probably of very small extent. It is a curious fact that no collections whatever seem ever to have been made in the central tablelands in Honduras about Tegucigalpa, and I suppose that that region is the part of Central America least known botanically. It is probably a very interesting area too, because the elevation is considerable, about like that of Guatemala, and there are a great many high mountains with deep canyons. The country contains little improved land, and should prove to be a paradise for the collector. I am hoping that it will be possible for me to go there before very long. The region is easily accessible from the Pacific Coast by automobile from the port up to the capital. It is quite difficult to reach it from the Atlantic Coast.

I have been making tentative plans for the trip to Costa Rica this coming winter and hope to have something more definite with regard to the trip within the next few weeks. Doctor Robinson is expecting to be here next week, and I hope then to discuss the matter with him.

Sincerely yours,

Paul C. Standley

Paul C. Standley
Assistant Curator,
Division of Plants.

I collected about 100 plants at Amapala, Honduras, last year. I did not see any orchids there.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

May 1, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Today I had a letter from Dr. van Severén in Tela in which he mentioned having visited you while you were in that town recently. He also stated that he was sending me some plants that he had collected. I presume he does not have much time to devote to such matters, but I hope that he may be able to make a small collection there, for we need the specimens so badly. I was entertained by Dr. van Severén at various times while I was in San Salvador, and enjoyed the visits very much. He has a charming family and two attractive daughters, one of whom has published various volumes of poems. I suppose that his family is not in Tela.

Mr. Maxon seems to have found your Honduran ferns decidedly interesting, and I only wish that we had a proportionate representation of the flowering plants of the Honduran coast. When getting together the data concerning the collectors, I was really surprised to find that so little had been done there, although I knew that in our herbarium we had little from Honduras.

Both Doctor Robinson and Doctor Britton were in Washington last week and I had an opportunity of speaking to them about my plans for the coming winter. Of course, to Doctor Britton it is immaterial where I go, and as usual he will contribute to the trip. Doctor Robinson also is favorably inclined, and stated that he hoped to be able to give financial aid. He does not look with so much favor, however, upon a trip to Costa Rica, and said that he would much prefer to have me go to western Honduras, where no collecting whatever has ever been done. I told him that I should ask your views upon the matter before proceeding further.

We know definitely that there are a great many orchids in Costa Rica, and it is certain that there are not nearly so many in western Honduras, for there are no very high mountains there. I should like to do some

Mr. Oakes Ames-2.

collecting in a good orchid country where I might atone for my very poor record of last year. I do not have much information about the Tegucigalpa region, but it should be much better than Salvador, and I suspect that the flora is very different. The central plateau is over 3,000 feet high, and the mountains everywhere rise much higher. The region has been described to me by Central Americans as abounding in great canyons, and since little of the land is under cultivation there ought to be plenty of virgin forest. There are many pine forests in the country, and I suspect that the vegetation is much like that about Guatemala City. It can not be very moist but must be much less arid than Salvador.

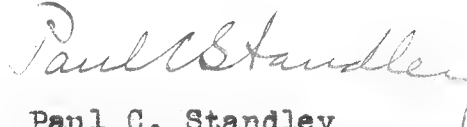
I have been rather favorably inclined toward Costa Rica because the work there would be much easier than anywhere else, since transportation is comparatively easy, and the country is the most advanced of all Central America. Honduras, on the other hand, is the most backward country, and the facilities for travel are exceedingly poor. It is easy to get from Amapala, where I was last year, up to Tegucigalpa, for there is a fine automobile road. The trip to Amapala is a tedious one, and I estimated the other day that in going there it is necessary to have your baggage handled thirteen times! The only practicable route, with a large collecting outfit, is across Guatemala, then taking the steamer down to Amapala. I should much like to make the trip from Tela to Tegucigalpa, collecting along the way, for then I believe it would be possible to get more interesting material, and at least to cross a region wholly unknown botanically. That would be quite feasible if I had to make only one set of plants, but when making three sets of specimens, one for the Gray Herbarium and one for New York, it is necessary to take such a large quantity of driers and other material that it can not well be transported on muleback.

I should much like to hear what your views are with regard to the respective merits of Costa Rica and Honduras, since you were so kind as to offer to assist in work in the former country. I know that I should enjoy the work in Costa Rica more, since I have various friends there who would facilitate it in every way possible, but there is always a peculiar attraction about work in an unknown region like Honduras.

Mr. Oakes Ames-3.

Mr. Maxon's plans for his visit to Nicaragua seem to be settled now, and I expect that we are going to obtain a large amount of valuable material from that country, from which there is practically nothing in American herbaria.

Sincerely yours,

A handwritten signature in cursive script that reads "Paul C. Standley". The signature is written in dark ink and is positioned above the typed name.

Paul C. Standley
Assistant Curator,
Division of Plants.

355 Commonwealth Avenue, Boston, Mass.

May 2d, 1923.

My dear Dr. Standley:

My reaction to your letter of the first May is simply this: the battle ground at present is in Costa Rica. We have simply got to get material from there in order to hold our own. Lankester is doing a good job and his letters and specimens are telling, but I fear he misses much and simply goes afield when his work eases up. Costa Rica from present indications is by no means exhausted. Lankester's sets have been running, I should say, off hand, about 50% new species. I am just pushing through a paper with over thirty new species and I have another paper in preparation. Some of his specimens are puzzles generically and some of his species are extraordinary in their genera. I have just finished the work on his Kew material received from Captain Hill since my return from Honduras. He has more material in press that ought to reach me this summer.

Panama, as you know, has come to us through Powell. I have really got him on a botanical basis and his specimens are good. He is no longer sending material to Berlin. Just at present he is making ready his Chiriqui set. From that I expect many interesting species as he is now using field presses and gathering in things in quantity.

Honduras is a practically untouched field, but to collect there is difficult and in many ways impracticable unless one has pretty substantial backing. The flora on the east coast is very much Guatemalan from the orchid point of view. I have just had a small set come in from El Dorado that simply duplicates species that I got at Tela and Truxillo. Honduras is arid when compared with

Costa Rica. From my point of view aridity is an evil condition.

Whatever you decide to do you may count on me for assistance. But I hope you will select Costa Rica.

I am working at the Central American orchid flora to the exclusion of everything else. In fact I have only been to the Bussey once since my return from Honduras. It is astonishing the amount of effort necessary to assimilate the material that has come in and that has accumulated in years past. Since I began work on the orchids for you there have been over three hundred species added to the flora of Guatemala, Costa Rica and Panama. To get records of all of this material has taken time and patience. But I have got them. Now I am waiting for Schlechter's big drive on Costa Rica. In the meantime I am working up my material with that speed which prudence allows of. It is an even bet that my forthcoming paper will be too late to head him off and force him to review his novelties in the light of my proposals.

It will be extremely wise to put off any idea of publishing an orchid flora of Central America until next winter. This summer I intend to push ahead with monographic treatment of the larger genera and to make a general key to the genera that will be something more than an old fashioned front door key with which the public is requested to open a Yale lock! Kränzlin's ^{monograph} of *Oncidium* is awful. The key is a philosophical abomination. I have simply got to ^ueat blood over this group.

As I have already said, I am interested in whatever plans you make. If I can be of use to you let me know what you think you can produce and what you think it will be worth. Also excuse this hasty oncoherent ⁿ~~at~~_ktempt to express myself.

Yours faithfully,

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

May 9, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Your letter with regard to the proposed collecting trip to Central America is most satisfactory to me for the reasons stated in my former letter. I shall assume then that I shall go to Costa Rica this next winter, in case conditions are favorable. I am sure that it will be possible to obtain a large amount of useful material there, and I hope that in the case of the orchids it may be possible to obtain something that is really worth while.

Your fourth number of the *Schedulae Orchidianae* arrived yesterday, and I am glad to see that you have found the recent Costa Rican collections so interesting. The Germans seem to have taken a great interest recently in Mexican and Central American plants, for what reason I do not know. I fully agree with you as to the desirability of having the critical work upon the flora of those countries done in the United States, so far as possible. As a matter of fact, I do not believe that they are receiving much material from that region at the present time, but are working over the older collections with which there remains still a great deal to be done.

In view of the present conditions, I am not in any hurry about beginning the publication of the flora of Central America. So much exploration is going on there at the present time that it seems better to wait a little before beginning publication, since our knowledge of the region is progressing rapidly, and it seems desirable to have the flora as complete as possible when it is published. As a matter of fact, we are at the present time somewhat limited as to funds for publication of botanical and other papers, and I do not think that it would be possible to begin the printing of the flora in the very near future.

Mr. Oakes Ames-2.

When Mr. Maxon returns from his contemplated trip to Central America it will be time to begin making preparations for my own, and I shall, of course, write you with regard to my plans as soon as they have assumed definite form.

Sincerely yours,

A handwritten signature in cursive script, reading "Paul C. Standley". The signature is written in dark ink and is positioned above the typed name.

Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

May 22, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding, by mail, a package containing 3 specimens of orchids from Quezaltenango, Guatemala. These were included in a rather interesting collection received the other day from the Guatemalan Department of Agriculture. We should be very glad to have your determinations of the specimens when convenient. They need not be returned to us. I wish that it might be possible to get into communication with the collector, apparently a German, for that region must be an exceptionally interesting one because of its great altitude, and scarcely any collecting has ever been done there.

Sincerely yours,

Paul C. Standley
Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

May 28, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

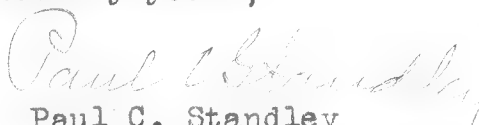
Dear Mr. Ames:

Your letter of May 25 is just received. We shall get the Central American and Colombian orchids ready for sending immediately.

The lichen specimen we are forwarding to Mr. G. K. Merrill, and I expect that he will report upon it promptly as he usually does.

In my last letter to Mr. Salas in Guatemala City I asked for the name of the collector at Quezaltenango, and I hope that it may be possible to get in touch with him, for his specimens were exceptionally interesting.

Sincerely yours,


Paul C. Standley
Associate Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
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May 31, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding, by express, as a loan, two boxes containing 314 specimens of orchids from Mexico, Central America, and Colombia. This includes all the material mentioned in my letter, and also an accumulation of Central American specimens which I had forgotten about at the time of writing to you. There are also included in the shipment three duplicate specimens which are to be retained by yourself.

Sincerely yours,



Paul C. Standley
Associate Curator,
Division of Plants.

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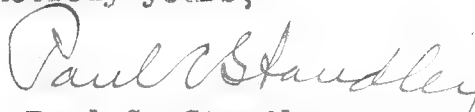
June 1, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding, by mail, a package containing two specimens of orchids received within the last few days from Mexico. We should greatly appreciate having your identifications of them when convenient. The specimens need not be returned to us.

Sincerely yours,



Paul C. Standley
Associate Curator,
Division of Plants.

June 5, 1923.

My dear Dr. Standley:

The following determinations are submitted for your consideration.

Vaght 2666 *Epidendrum polyanthum* Lindl.

Vaght 288 *Bletia* sp. aff. *B. macristhmochila* Greenm.

Vaght 292 *Stanhopea* sp. probably *S. bucephalus* Lindl.

Material badly agglutinated. From dried material species of this genus are often baffling.

Odontoglossum grande Lindl. One flower mingled with the *Stanhopea*.

Tonduz 743 *Malaxis calycina* (Lindl.) Kuntze

Tonduz 740 *Bletia* sp. aff. *B. coccinea* Llave & Lex.

Rojas 122 *Polystachya minor* Fawc. & Rendle, form.

Ortega 5000. *Epidendrum*(*Barkeria*) *Lindleyanum* Reichb. f.

When the other specimens now on the way arrive, determinations will be furnished promptly.

Yours faithfully,

Ⓐ

NORTH EASTON, MASS.

June 5th, 1923.

My dear Dr. Standley:

The following determinations represent material recent specimens

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WASHINGTON, D. C.

June 7, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Thank you very much for the identifications of the orchids contained in your letter of June 5. We are certainly greatly indebted to you for your kindness in naming this material.

Sincerely yours,



Paul C. Standley
Associate Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

June 20, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Some time ago you sent us a specimen of a lichen collected in Costa Rica by Mr. Lankester. I forwarded the specimen to Mr. G. K. Merrill but had not received a reply from him until today. He states that the lichen is Cladonia calycantha foliolosa Wain.

Sincerely yours,

Paul C. Standley

Paul C. Standley
Associate Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

June 27, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Thank you very much for the identifications of the Mexican orchids just received. We are forwarding them to the persons interested, who will be glad to have them.

According to letters just received from Mr. Maxon, I presume he is now in Nicaragua. Apparently he had very good success in Panama in collecting, although he has not mentioned specifically the orchids. He is expecting to return to Washington about the 20th of August.

Sincerely yours,



Paul C. Standley
Associate Curator,
Division of Plants.

July 3th, 1923

My dear Dr. Standley:

Have you ever been successful in locating the materials on which LaLave and Lexarza based their new genera and species of Mexican plants.? I may have put this same question to you before. I have arrived at a point where, unfortunately, the treatment of some four hundred species depends on definite knowledge of one of the genera proposed by Lexarza. If we can disregard the LaLave and Lexarza proposals because no types are extant, the way is easy. But one must be sure of such a thing when a large number of species must be disposed of.

Yours faithfully,

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UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

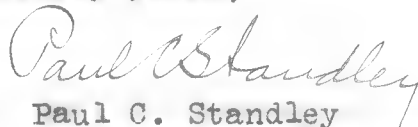
July 9, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

I have never had any information as to the place in which the collections of La Llave and Lexarza were deposited. As a matter of fact, I rather doubt whether they made herbarium specimens, and if they did it is more than probable that they have been lost or destroyed long ago. Scientific collections are not regarded very highly in Latin America, apparently, and there have been so many revolutions and so many earthquakes that even with the best of intentions the collections have little chance for permanent preservation. It is barely possible that there may be some specimens of these collectors at Madrid, but I doubt if such is the case. I have a rather uncertain recollection that Doctor Rydberg once told me that at the New York Botanical Garden they accidentally got hold of a collection of plants made by La Llave and Lexarza, and it is possible that there may be orchid specimens among them. I do not now remember the exact circumstances under which the collection was secured, but I remember that the details were interesting. It is barely possible that I may be mistaken as to the names of the collectors and that the specimens were those of some other Mexican botanist, but according to my best recollection the specimens received were those of these collectors.

Sincerely yours,



Paul C. Standley
Associate Curator,
Division of Plants.

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July 9, 1923.

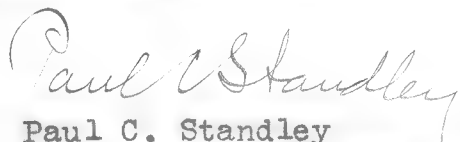
Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Under separate cover we are forwarding a couple of specimens of Central American orchids for which we should appreciate having your identifications when it may be convenient to send them. The specimens need not be returned to us.

Mr. Salas, Director of the Department of Agriculture in Guatemala City, informs me that Mr. P. Voght of Quezaltenango, Guatemala, is interested in plants. I have named a few specimens that he forwarded to Mr. Salas for identification, and I am now going to write directly to him to see if it is not possible to have him make further collections. Perhaps you would like to write to him directly, asking for orchid material. It is much easier to obtain material of some definite group, such as the orchids, than it is to secure general collections, since people generally take more interest in collecting plants of some easily recognized family.

Sincerely yours,



Paul C. Standley
Associate Curator,
Division of Plants.

July 16th, 1923.

My dear Dr. Standley:

The two specimens sent for identification are as follows: *Pardilla* s.n. Salvador, *Habenaria macroceratith* Willd. G. Salsas 384, *Campylocentrum micranthum* Rolfe. It may be well to state that neither of these specimens is satisfactorily typical, but to refer them to new species would be to strain a point.

Mr. H. C. Skeels has sent in species of *Vanilla* from Ecuador for determination. One of these, *Vanilla odorata*, Presl, is most important. Please use your influence to have herbarium specimens and the economic fruits obtained from Mr. Skeels' correspondent. I have asked Mr. Skeels to take a special interest in the matter. Of course he will do so, but a word from you may help. *V. odorata* in good condition is a most necessary addition to our herbaria. And the capsules as used by the Indians are needed to round out the economic collection. It is essential that every effort be made to secure flowering material of *Vanilla* both dried and in alcohol. Our knowledge of this genus is much hampered by sterile specimens and by agglutinated flowers. Only two leaves of *V. odorata* were sent to me.

Yours sincerely,

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July 21, 1923.

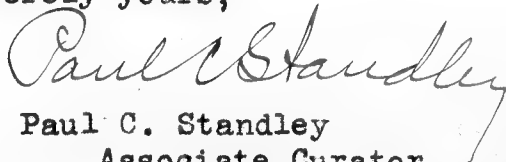
Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Thank you very much for the identifications of the two Central American orchids contained in your letter of July 16.

I am sure that Mr. Skeels will do all that he can to obtain specimens of the Ecuadorean Vanilla. I have forwarded your letter to him with the request that he make a special effort to obtain the material.

Sincerely yours,



Paul C. Standley
Associate Curator,
Division of Plants.

July 26th, 1923.

My dear Dr. Standley:

In Panama, last February, Dr. Piper turned over to Mrs. Ames two orchids he had collected. One of these was a species of Vanilla. He had flowers in alcohol, but Mrs. Ames could not take them. If Dr. Piper has returned from Panama, and the flowers of Vanilla are still in his possession, it would be a great help if they could be forwarded to me for study. I think the species is *V. pomona*, but to make sure of my suspicions it would be well to examine the flowers in alcohol. Vanilla is a hopeless group unless the flowers are preserved carefully or are available in a fresh state.

We are sadly in need of collections from Nicaragua. It will be wonderful if Mr. Maxon finds some of the orchids that are critical or discovers some additions to the flora of that country.

Yours faithfully,

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

July 31, 1923.

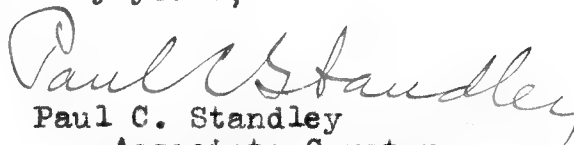
Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Under separate cover we are forwarding three specimens of orchids received a few days ago from Doctor Calderón for which we should appreciate having your identifications when convenient. The specimens, of course, are not to be returned to us. The Honduran orchid is in very poor condition for determination, but perhaps you may recognize the genus. Doctor Calderón is interested in learning its identity because of the vernacular names assigned to it. I suspect, however, that the names may be applied erroneously to the plant.

Today I made an attempt to obtain the alcoholic material of the vanilla flowers. Doctor Piper unfortunately is away from Washington at the present time and will not return until the middle of September. The people in his office are not able to find the material, and I am afraid that it will be necessary to await his return in order to secure it. The dried specimens which he collected are all here in the herbarium awaiting study, but he has not transmitted to us any of the alcoholic material which he collected.

Sincerely yours,


Paul C. Standley
Associate Curator,
Division of Plants.

Ⓐ

North Easton, Mass. August 6th, 1923.

My dear Dr. Standley:

I beg to submit my report on three orchid specimens sent for determination, these being the ones referred to in your letter of July 31st.

Calderon 1537..... *Epidendrum difforme* Jacq. Material very poor.

Calderon 1583..... *Ponera striata* Lindl.

Calderon 1645..... *Sobraffia* sp. This specimen is without flowers. It may be *S. macrantha* Lindl. or *S. xantholeuca* Williams. If the former the flowers would be rose-purple, if the latter, the flowers would be cream-white or yellow. Perhaps Dr. Calderon can ascertain what the flower color was reported to be. Or, if complete specimens are available later, it will be simple to identify the material.

Yours faithfully,

Robert C. Chas.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

August 24, 1923.

Mr. Oakes Ames,
North Easton, Massachusetts.

Dear Mr. Ames:

Under separate cover we are forwarding five specimens of orchids included in a large collection of plants just received from Dr. Calderón. We should greatly appreciate having your identifications of them when convenient. The specimens, of course, are not to be returned to us.

At least two of the specimen, I note, represent new records for Salvador, and probably two genera not known previously from that country. Dr. Calderón has not been in any good orchid country recently, but he has been doing wonderfully well at collecting trees, of which he has gotten many interesting species and some new ones.

Sincerely yours,

Paul C. Standley
Paul C. Standley,
Associate Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

August 30, 1923.

Mr. Oakes Ames,
North Easton, Massachusetts.

Dear Mr. Ames:

We are forwarding by mail a package containing 23 specimens of orchids collected in Nicaragua. These specimens we should like to have returned to us, if you will be so kind as to name them, for we are asked to return them to the sender, Dr. Schallert of Winston-Salem, North Carolina. If any of the specimens can be divided, however, you are at liberty to keep portions of them.

These specimens form a part of a small collection of Nicaraguan plants that we have just received for identification. I was naturally interested in seeing them, for of course we have practically nothing from that country, especially from the north coast, and even the commonest plants from that region are very welcome. Perhaps you may find some new records among the orchids, poor as the specimens undoubtedly are. I am writing to Dr. Schallert to see if it is not possible to get in touch with the Moravian missionaries who have collected the specimens, for perhaps with a little encouragement we may get something worth while from them.

Mr. Maxon may have seen you on his way north recently, and if so he doubtless told you that I am planning to go to Panama and Costa Rica for four months or so this coming winter. The Department of Agriculture, I hope, may take care of my expenses in Panama, and the Costa Rican trip will not be an expensive one, part of the money for which I shall furnish myself. Arranging matters thus, it will be possible to devote my time to covering as much ground as possible, without the necessity of collecting numerous duplicates, as I had to do last time. As soon as my plans mature, I shall write you about them. I am hoping to have the opportunity of spending a couple of weeks on the Volcano of Turrialba, where scarcely any collecting has been done previously. For that matter, I suppose it is impossible to collect anywhere in Costa Rica without finding plenty of new things, judging by the collections that have come to us in recent years.

Sincerely yours,

Paul C. Standley
Paul C. Standley,
Associate Curator,
Division of Plants.

August 31st, 1923.

My dear Dr. Standley:

Your letter of the 30th is just here. When the Nicaraguan orchids arrive I will give them prompt attention.

I have already written to Mr. Maxon about the Costa Rican trip which you have in view. Although you are sufficiently supplied with funds to carry out your program, I hope you will not be averse to any additional aid that will make your plans of work wider. I realize the difficulties of making sets. They are sufficient to make one dread field work. But in the case of the orchids it would be a distinct advantage to you if you could by getting everything in duplicate have an extra helper. It seems to me that this Costa Rican expedition will be of great value to us in the work on a Central American flora. There are wonderful opportunities for filling perplexing gaps in the orchid family. I am sure that something "to go and come on" will be welcome. So keep me in touch with your needs, hopes and prospects.

Yours faithfully,

Massachusetts Men's League for Woman Suffrage

585 BOYLSTON STREET, BOSTON, MASS.

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SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

September 5, 1923.

Mr. Oakes Ames,
North Easton, Massachusetts.

Dear Mr. Ames:

As usual, I did not make my meaning very clear in the letter with regard to the proposed Central American trip. Of course I have no intention of slighting the orchids or of failing to get specimens of them for you. What I did mean to indicate was that I hoped that it would not be necessary to make complete duplicate sets of everything I collect. That is hard work and it does take so much time that, so far as general results are concerned, could better be devoted to efforts in other directions. Anyone is bound to take duplicate specimens whenever he comes across something of special interest, but making three or four extra specimens of every common plant is drudgery or worse. Not having to make such duplicate sets, I hope it will be possible to make a good collection of orchids, especially in Costa Rica, where they say you can not escape them.

Things have now advanced so that it is possible to make some definite plans. I was informed yesterday that the Secretary of Agriculture had approved the allotment of money to cover my expenses in Panama, and I shall have ample funds for that part of the trip. I shall, of course, get all the orchids there that I can. I want to leave here about the middle of November, and spend December and January in the Canal Zone. I do not expect to get far away from the Zone, for the primary purpose of the trip there is the securing of data for a flora of the Zone and the adjacent country.

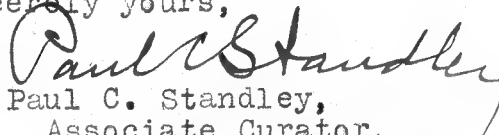
About the first of February I want to go to Costa Rica to spend a couple of months there, or more if Mr. Maxon has no objections. In the case of a trip to Central America, the greatest expense is steamer transportation, and it costs comparatively little to remain there, so that it seems a pity not to spend as much time as possible after you once get there. Mr. Jiménez and Prof. Tristán expect to make a trip of two weeks to a finca high up on the Volcano of Turrialba, and have asked me to accompany them. That ought to be a good region for orchids; It is likely that I may also go to the Peninsula of Nicoya on the Pacific Coast, which will not be so good for that particular group, probably. Besides I want to go to other places up in the mountains. The particular localities will have to be settled after I get there, depending upon the accommodations that are available. I am sure that Mr. Jiménez will do everything that he can, and no

doubt there will be plenty of fincas up in the mountains where it will be possible to find accommodations. I expect to be able to get a good lot of material, for no doubt it is there, and I can easily get the specimens if I get to the places where the plants are. Mr. Maxon intimates that right in the neighborhood of Cartago is about as good a place for orchids as there is, for he says they grow on every tree.

The Department of Agriculture will pay my transportation to and from Panama -- I expect to return there from Costa Rica. For traveling expenses to and from Costa Rica from Cristobal, and for expenses in Costa Rica for two months, including the hiring of a native assistant, I suppose about four hundred dollars will be necessary. A part of this I am glad to contribute personally, and for the rest I shall be glad to receive any contribution that you may care to make. You have certainly been very generous to us previously, and your kindness is deeply appreciated. It is impossible for me to make any definite promises as to what I can secure, but it is certain that I shall make a very special effort to get all the orchids that I possibly can, and I shall try to visit the localities that are best suited for them, which, incidentally, are best for almost all other plants as well. In the case of living plants, I suppose it might not be a bad idea to do as Mr. Maxon did in Nicaragua, take them down to Mr. Powell for cultivation, in case he is willing to take care of them.

I shall be very glad to hear from you as to what you may think of the plans I have outlined.

Sincerely yours,


Paul C. Standley,
Associate Curator,
Division of Plants.

I have just received from Dr. Schallert, from whom we received the Nicaraguan plants, a long list of the Moravian missionaries on the north coast of Nicaragua. He suggests that we write to all of them, and I am going to do so at once. He states that there are probably several of them who could be induced to collect plants. Most of the specimens, I believe, were collected by Rev. Fr. E. Schramm, c/o Mr. Wm. H. Seat, Cabo Gracias a Dios, Nicaragua. In the last report of the Berlin Garden, it seems to me that there was a statement that he had forwarded some specimens there. Perhaps you will write to him to see if he can not get some orchids. It is always more satisfactory to the collector to have some definite group to work upon, and almost everyone is interested in orchids./

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NORTH EASTON, MASS.

September 8th, 1923.

My dear Mr. Standley:

You may count on me for two hundred dollars, or more if you need it, to help the Costa Rican project. I am deeply interested. The only conditions are the following: 1. Orchids. 2. Notification of the time when you want a check.

I would like to have a set of your papers on the Trees and Shrubs of Mexico to bind up for my library of economic botany. Have you a spare set.

Schlechter has written that his Costa Rican orchid paper will appear on September 30th. I am already trembling. I fear this paper will put me in the same category with the frog in the well. The only difference is that in my case I begin to see the bottom of the well where Schlechter is concerned and really believe that future jumps upward will not be accompanied by disheartening drops below the last jumping off place. And now for a real exploration!

While you are in Panama I wish you would take Powell's native collector on some of your expeditions. It would help wonderfully if you could give him a little training in field work.

Yours faithfully,

Oakes Ames

Paul C. Standley.
Washington, D.C.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

September 12, 1923.

Mr. Oakes Ames,
North Easton, Massachusetts.

Dear Mr. Ames:

Thank you very much for your kind letter of September 8 which contains so substantial an offer of assistance for the proposed Costa Rican trip. I shall certainly make every possible effort to get as large a collection of orchids as possible, and I hope that it may be possible to obtain something of real interest. I should be glad to have some instructions with regard to the preparation of alcoholic material in case it is desirable to obtain it. Transportation facilities in Panama are so favorable that there should be no difficulty in taking care of specimens preserved in liquid.

I hope that Schlechter may be about at the end of his work upon Costa Rican orchids. It is remarkable that he is able to get together so much material for study. For some reason or other the Germans seem to be particularly active at present in the field of tropical American plants, and they have published recently a good many new species from Mexico. I should judge that they are not getting any new material at present, but are merely working over collections that accumulated before the war.

When in Panama I shall be glad to have the opportunity of going out with Mr. Powell's collector, and doing anything possible to make his work successful. Mr. Powell has kindly offered to assist in any way possible in my work while in the country, and I presume that he will send out his collector to accompany me on some of the trips.

Mr. Oakes Ames-2.

I have asked the Museum to forward a copy of Volume 23 of the Contributions and trust that you will receive it promptly. The fourth part of the volume has been submitted for printing. The fifth part will conclude the volume. The last part is now complete except for two genera of Composites which are to be contributed by Doctor Robinson and Doctor Greenman.

Sincerely yours,

Paul Standley
Paul C. Standley
Associate Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

October 18, 1923.

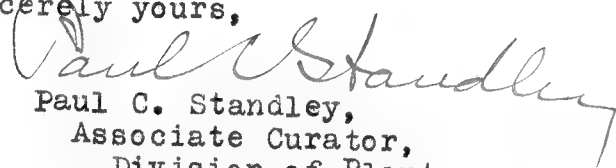
Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Inclosed is an orchid specimen just received from Dr. Calderón of which we should appreciate having your determination when it may be convenient to supply it. I believe you have two or three other orchids collected by Dr. Calderón for which you have not supplied the names, but there is, of course, no need for any special haste in their identification.

I have made a reservation upon the boat which leaves New York for Panama November 15, and everything is proceeding favorably for the proposed collecting trip. I am getting anxious to get out into the field again, especially in Costa Rica. The plants which Mr. Maxon got there this year are certainly a fine lot, and I have noted a number of new things among them, although so far I have had no opportunity to examine the greater part of the collection critically.

Sincerely yours,


Paul C. Standley,
Associate Curator,
Division of Plants.

The specimen need not be returned to us. It represents all the material received.

October 23, 1923.

My dear Mr. Standley:

Choussy 51 from Salvador is Habenaria alata Hook. I thought I had reported on all specimens from Salvador. I will look over my material and check up.

I have nearly finished the determinations on Mr. Maxon's Costa Rican specimens. I believe two new species are in press now. I fear that Mr. Maxon has made some mistake in his field labels as Costa Rica orchids are usually black when dry, rarely have stems and roots and yield flowers that are wonderful fungus gardens, (very few of them have flowers in my experience). If Mr. Maxon did obtain his specimens in Costa Rica, then there is a rare opportunity ahead of you, because on the basis of what he did in a few weeks you ought to make a notable collection in February and March. Please tell Mr. Maxon that it has been a pleasure to work up his specimens and that the big Malaxis from Nicaragua is being published as M. Maxonii.

Please let me know when you will need a check. I am deeply interested in your Costa Rican venture and I think we should take pains not to underestimate your financial needs. Yours faithfully

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

October 30, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding by mail a package containing eight specimens of orchids collected in Mexico by Dr. Blas P. Reko. We should greatly appreciate having your identifications of these when it may be convenient to supply them. The specimens, of course, are not to be returned. Perhaps you would like to write directly to Dr. Reko concerning them. His address is Apartado 370, Guadalajara, Mexico.

Sincerely yours,

Paul Standley
Associate Curator, Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

October 30, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Thank you for the name of the Salvadorean orchid collected by Mr. Choussy. The Salvadorean specimens to which I had reference, as not having been named, were Dr. Calderón's numbers 1722, 1724, 1736, and 1753. These were in one of his most recent sendings, and all, I thought, were new for the country. They were all terrestrial species, if I remember correctly, one of them a Microstylis, or whatever it is called now. I had in mind also the Nicaraguan specimens, collected by the Moravian missionaries, which were sent to North Easton about the same time.

With regard to the Nicaraguan specimens, there is no reason why you should not keep them, if you so wish, for Dr. Scallert stated that it would be better to keep any of the Nicaraguan material that might be useful where it would do the most good. In case you do keep them, it would probably be best for you to write directly to him, Dr. P. O. Schallert, 1820 South Main St., Winston-Salem, North Carolina.

Mr. Maxon was much pleased with your remarks regarding his Costa Rican orchids. I hope that I can do as well while I am down there, and there is no apparent reason why I should not. You may be sure that if I get into a region where there are orchids, they will not be neglected, and according to all reports there is an abundance of them anywhere in the higher portions of Costa Rica.

It is about time for me to be getting my things together, and in fact I already have all my outfit and it is only a matter of packing it. I suppose I shall leave for New York two weeks from today, to sail November 15. Your check I shall be glad to receive at any time now, if it is convenient to send it. It had better be made out to me personally and not to the Smithsonian Institution as formerly, at least so the disbursing officer of the Smithsonian tells me.

From Mr. Powell I have had some very kind and much appreciated offers of assistance in work in the Canal Zone. I do not suppose I shall be in a very good orchid region there, but I hope it may be possible to get something. Do you know whether Mr. Powell has a copy of Constantin's Atlas des Orchidées Cultivées? I have an extra copy that I think I shall take along with me, for it will doubtless prove interesting to someone. I have already sent several copies to friends in Central America.

Sincerely yours,

Paul Standley

355 Commonwealth Avenue, Boston, Mass.

October 30th, 1923.

My dear Mr. Standley:

I enclose check for three hundred dollars to be used on your expedition to Costa Rica. Mr. Maxon will hand to you a small sum left in his hands from the Nicaraguan trip. This you may use for any purpose whatever that will help your work. If you feel that you can use more money let me know. My chief interest is in the success of your Costa Rican venture. It would be a shame to let this fall short of possibilities for want of a few dollars.

I am counting on you to put flowers in alcohol. I find that for drawings and for descriptions wet material is invaluable.

I imagine you will be able to make use of natives for helpers. It seems to me that the more help we can use the better the results will be. If you are planning economy in this direction I shall be disappointed.

I have located the specimens from Salvador, these arrived just at the time when I was moving to the city. I will get at them right away.

Yours faithfully,

Walter D. Koenig

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM

WASHINGTON, D. C.

November 3, 1923.

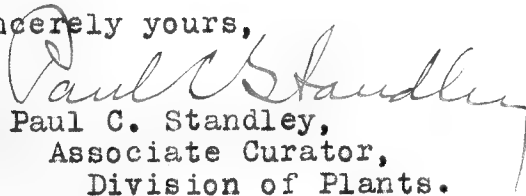
Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding by mail a package containing 13 specimens of orchids collected in Costa Rica by Prof. H. E. Stork the past summer. We should appreciate having your identifications when it may be convenient to supply them. Some of the specimens are probably not in good enough condition for determination, but one or two look rather interesting. The specimens, of course, are not to be returned to us.

Professor Stork has sent us a collection of several hundred specimens, from western Panama and central Costa Rica, and there are a good many interesting things included, notably several new species of trees.

Sincerely yours,


Paul C. Standley,
Associate Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

November 3, 1923.

Mr. Oakes Ames,
Boston, Massachusetts.

Dear Mr. Ames:

Your letter of October 30 and enclosure were received yesterday, and I wish to thank you for the very generous check. I shall certainly try to make good use of it, and I hope I can bring back something that will be really worth while.

The idea of using native assistance is a very good one, as I found while in Central America last time. By that method one's activities can easily be doubled, and particularly if it is possible to train someone to attend to drying of specimens, which can be done in a very short time, it is possible to give all one's attention to collecting. I have not found it practicable to send out a native to get plants, although if there were time for training such a person the plan would be practicable. I shall follow your suggestions with regard to alcoholic material.

This morning I received a fine letter of introduction from Mr. Cutter addressed to the Costa Rican manager, and I may find it advisable to spend a short time somewhere along the coast in the United Fruit Company's properties. After arriving in Central America, I shall let you know how the work is progressing, particularly the gathering of orchids.

Sincerely yours,

Paul C. Standley
Paul C. Standley,

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

November 9, 1923.

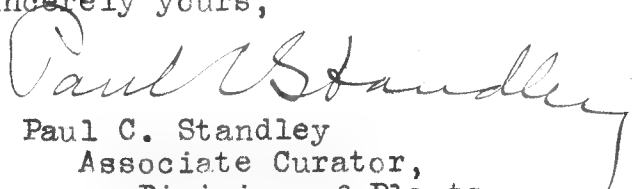
Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Thank you very much for the list of identifications of the Schallert orchids and of those collected in Salvador by Dr. Calderón. The Salvadorean ones are of particular interest to me personally, because they represent additions to our previous list. Doctor Calderón is expecting to make one or more excursions this winter into remote parts of the country, and I hope that it will be possible for him to get something good in the way of orchids.

I now have my baggage all packed, ready for leaving Washington, and expect to go to New York next Tuesday. I already have a useful letter of introduction from Mr. Cutter, addressed to the Manager of the United Fruit Company's business in Costa Rica. I shall be deeply indebted to you for any further favors which you may secure from him to aid in the prosecution of our botanical work in Costa Rica.

Sincerely yours,


Paul C. Standley
Associate Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

November 12, 1923.

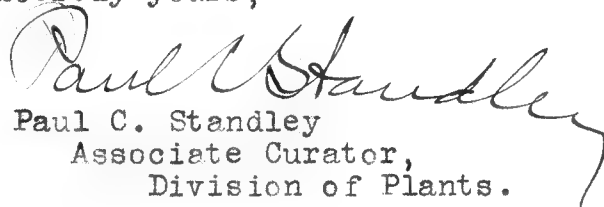
Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Thank you very much for the determinations of the orchids collected by Dr. Reko and by Professor Stork. In the case of the Stork collection we sent you all the specimens received from him. I am writing to him, however, to ask if he cannot supply you with further material of the numbers in which you are particularly interested.

The book for Mr. Lankester arrived safely Saturday and I shall take great pleasure in presenting it to him. I am expecting to get away from Washington some time tomorrow.

Sincerely yours,


Paul C. Standley
Associate Curator,
Division of Plants.

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355 Commonwealth Avenue, Boston.
December 19th, 1923.

My dear Dr. Standley:

Lankester has informed me that Brenes has a large number of specimens of orchids that might be purchased. When you meet Brenes, as I suppose you will, would it burden you too much to examine what he has and to act as my agent in the purchase of the specimens? You might communicate with me by cable. If the price is reasonable I could send you money by telegraph, or by check if you arrive at a settlement in time for a letter to reach you.

Schlechter has added 7 new genera and about 249 species to the Costa Rican orchid flora. His publication is dreadfully careless and I am afraid he has pushed ahead without any regard to accuracy.

I have been making a careful bibliographical enumeration of the Central American orchids in preparation for final treatment in your proposed flora. The task ahead is a heart-breaking one.

Yours with best wishes,

Charles D. C. Standley

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM

WASHINGTON, D. C.

Balboa, Canal Zone, January 10, 1924.

Mr. Oakes Ames,
Boston, Massachusetts.

Dear Mr. Ames:

Your letter with regard to the Brenes collection of Costa Rican orchids was received by one of the recent boats. I shall be very glad indeed to look up Mr. Brenes while I am in San José, and take every step toward securing the collection for you.

Schlechter's paper upon Costa Rican orchids is certainly a remarkable one, and I was sorry to see that so large an amount of material had fallen into his hands. It must complicate enormously your own work upon the group. When I get up there, I hope that it may be possible for me to collect something that will help toward an understanding of the orchid flora of that country, and I am looking forward with a great deal of pleasure to the visit. Just now, I understand, the railroad up to the Capital is out of commission, on account of heavy rains, but I expect to be leaving Panama in a couple of weeks.

Work here has been far more satisfactory than I had anticipated. The flora is very rich, although somewhat ordinary, and facilities for transportation are exceptionally good. The season likewise is a good one, neither too wet nor too dry. At the present time I have collected 5300 numbers, a record for 46 days that I shall probably have difficulty in equalling upon another *collection. occasion.*

As far as orchids are concerned, results have not been so favorable, but I have gotten all that I could. There seem to be very few of them in flower, but I suspect that that would be true at any other season. There are a few species that are abundant here, and that can be collected repeatedly, but to get any great variety is difficult. Nearly all that I have gotten, Mr. Powell has been able to name offhand, and he states that they are common, but from the names, I am curious to see how many of them are represented in our herbarium. I dare say they are common in his garden, but I doubt that they are noticeably plentiful in any herbarium anywhere.

I have been spending a great deal of time at Mr. Powell's and have found him most helpful in the work, and a delightful man to be with. Orchids are the only thing in which he takes any interest, and I do not believe they are ever out of his mind. A great many people are said to be mildly insane regarding certain subjects, and in his case it is not difficult to see the subject of his affection. There certainly could be no one more devoted to any one particular subject, and I think he is doing everything that he can toward getting orchids from Panama. Of course, he is what might be described as "set" in his methods, and it is hard to get him to accept any suggestions, although I think he would like any that would improve his efficiency. I can see some methods by which such an improvement might be made, but I can not see that any suggestions I may have made are likely to have much effect. Naturally, a man of his age does not change his habits easily. The men who are

working for him seem to be bringing in some good material. I have been out with them, and I think that they must be pretty good. I wish that I could find somewhere the quantity and variety of orchids that they do, but to do that you have to devote your attention to orchids alone. For some time after arriving here, I told Mr. Powell that I did not believe there were any orchids left anywhere around the Zone, but when you once begin to find them, it is not so difficult.

Yesterday over on the Atlantic side I did find a *Polystachya* that Mr. Powell does not have in his garden, the first such plant that I have secured here. My work has necessarily to be confined to the vicinity of the Zone, and if I could get up into the hills I could undoubtedly find something more interesting. As it is, I have gotten a large quantity of good material in other groups.

Mr. Powell is looking forward to the trip that he expects to make to Veraguas next month with Mr. Hunter. Mrs. Foster does not wish him to go, and it is certain that the trip will be too difficult for him, for he is not in very robust health at the present time. I have done everything I could to encourage him to go to Costa Rica when I go, but he is determined upon Veraguas. Of course, Mr. Hunter will take good care of him, but he will not be able to restrain him except by force. I should much like to be going up there myself, for it is an unknown region botanically.

As soon as I can get located in Costa Rica, I shall let you know how things are progressing. Unless I have been greatly misinformed, it will be easy to make a good collection of orchids, and I am very anxious to have some experience once in a region where that family is really well represented.

Sincerely yours,
Paul Standley



Costa Rica.
Puente
Jesus Maria

San José, Costa Rica, February 16, 1924.

Dear Mr. Ames -

It is now nearly three weeks since I arrived in Costa Rica, and I like it better every day. It has quite fulfilled the expectations I had upon arriving, and they were high ones. It is a beautiful country, with fine people, who have been more than kind and hospitable. I am overwhelmed with opportunities for trips, and there will be many places to which I want to go but shall not have time to visit.

Mr. Swift warned that I should be disappointed in Costa Rican orchids, but such is not the case. There are plenty of them here, easily accessible, and all that is needed is time for hunting them. Really, you do not need to search far for them for they thrust themselves upon you. The only difficulty here is transportation, but that is rather easily overcome.

Already I have had several interesting excursions. I am working in the Museum here in San José, in most convenient quarters. It is difficult to make from here a trip of more than two days, for with a longer time most of the plants other than orchids spoil. I now have 2400 numbers of plants, nearly all dried, and there are well over 400 nos. of prelude. If I can continue at the same rate, I ought to get something worth while.

In the case of orchids I have been taking everything I find, good, bad, and indifferent. What is useless, it will be easy to destroy. Lots of the plants are in flower now, but more are not. A good many are in fruit, and I have taken all of them. Among so many specimens there can hardly help being a few good ones. I should like to be here for a whole year; then it would be possible to get almost everything in flower. However, I hope it may be possible to come back again, and probably it is better ~~to~~ not to be absent from Washington longer this year. I should be delighted to remain longer if Mason had no objections. I have been giving first attention to orchids, but of course I have collected lots of other plants, especially ferns, and I have been in some localities where there were few orchids.

One day I went with Ojate Jiménez to La Palma, a classic but inexhaustible region, where all the trees - small ones, like apple trees - are loaded with masses, ferns, orchids, beautiful Ericaceae and Bromeliads, and other epiphytes. There I got 101 nos. of orchids, scarcely so many species of course. We had nearly six hours there, but the variety of vegetation was so bewildering that it was possible only to grab a few things, and hurry on. I am planning to go back there for a week or so.

Two days I spent with Prof. Torres, at Navarros in the mountains south of Cartago. Wide stretches of

primeval forest there. They were felling trees, as if in preparation for our arrival. I brought back 150 nos. of orchids, nearly all different from those of La Vallina. Day before yesterday we were at ~~Navarro~~ La Carpintera, between here and Cartago, and we got 83 orchids more - numbers, that is, for I have not hesitated to repeat numbers; there are plenty of them for all the plants I shall ever be able to collect! By Washington, at least, we shall be glad to have more than a single sheet of a species, as is generally the case now when we have any representation at all, and no doubt you have the same attitude.

Also, I have made other short trips with satisfactory results. The most common orchid about San José, and one of the most common of all plants, is Ep. Toudouzi, which, probably, is not represented in Washington. I have found many things that were interesting to me. Mr. P. will have sent you a Stenorrhynchus-like plant one specimen, with red inflorescence, from Chiriquí. He was quite excited about it, but the same plant, or a close ally, is common at Navarro. His Epid. brevifolium (for which, if I remember correctly, you suggested a new name) is common around San José. But I haven't time to write more.

This afternoon we are to go to Alfajuela, to ascend Poás by moonlight - it will be cold - and I hope to spend a couple of days collecting. I believe that, we are to go next week to Turrialba

Valerio. The week after, I expect to go with Valerio to Guanacaste, for two or three weeks. He has a finca up in the mountains, and says there are lots of orchids. He knows, for he has already collected some, which I shall take to the States. The region is unknown botanically. After that I have other good trips planned.

So far, I have not been able to see Brenes, but I hope his collection can be secured. They say he is very eccentric, and difficult to deal with, but not impossible.

I am hoping to get some other people interested in orchids, also. Prof. Juvenal Valerio is a young man, teacher in a public school in Guanacaste. He has been given leave by the Minister of Education to accompany me as long as I am in the country. He is deeply interested in plants - it is his chief interest - capable, and enthusiastic. I think he can be encouraged to give more attention to orchids, especially if encouraged financially to a very slight extent. He would also appreciate publications. His address is Tigarán, Guanacaste, C.R., but in case you send him publications - or any mail - while I am here, it would be well to direct to Luis Jase, in my care.

(his name is Torres)
Prof. Rubén Torres Rojas, Cartago, is another botanical enthusiast, who has been extremely kind to me. He is a young man, with a family, teacher in the Cartago schools, and presumably poor - the middle class people in Central America always are. His special interest is in ferns, but I hope to interest him also in orchids. If he could be paid for the specimens, it would help and encourage his

work. Mail can go to him at the above address. He would greatly appreciate any publications, and he has a remarkably good general library, one of the best I have ever seen in C. Amer. He is hoping to prepare a flora of Cartago, in which I am to assist him.

Otón Jiménez, has been extremely good to me in every way. I don't know whether you have ever sent him any of your publications or not. He doesn't need any pecuniary assistance, anyway! Don Anastasio Alfaro, director of the Museo Nacional here in S. José, has been more than kind. Almost every day he brings me a few orchids. Also D. Ramiro Aguilar, here in the Museum. And so it goes.

I must not forget Mr. Lanfester. I have been at his house twice. He is to go to Guayacaste with you, and has offered to take me to several localities. He has some fine orchids in flower now, but mostly foreign.

But I mustn't write any more, much as I should like to do so. I expect to be here until about April 15. Have reserved passage on a boat sailing from Panama April 19.

With best regards, sincerely yours,
Paul Standley

To Mr. Otón Jiménez,
San José, C.R.

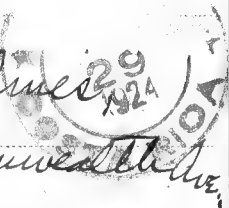


9-28-24. Just back from a
two-day trip to Cayago. Went
out and spy with binoculars.
Bought traps about 100 quail
and some hot night to be part
down to go with wild nest under to
birds. Saw rather dark that way
about the Guarnagay trip, it's
not much better whether we go
or not for there is plenty
here to keep me busy.

HLLU

Mr. Oakes Ames
355 Commonwealth Ave.
Boston,
Massachusetts.

E. E. W. G.





Costa Rica - Forest

Mr. Charles Ames,
355 Commonwealth Ave.,
Boston,
Massachusetts,

E. E. U. A.

3-5-25 I just took young a 3rd day
bapt to the Standard & had him
with much pain, but got 196 mos.
I suppose; many of the signs of eggs,
but I don't know how to say whether
I was or say to go with my child to
him. He had the coughing now then
same had got the cough. Starts to cough
much of the night, but if you want
quincy I will say, I will say he
has to say, I will say he has to
be the same, but there is no good
to have every other week
I hope to say for you
E. E. U. A.



Erupción del Poás

COSTA RIC

Union postale Universelle — Unió
TARJETA POSTAL (CARTE

Sauter & Co. (Librería Lehmann) San José de Costa Rica.



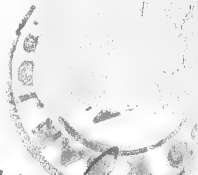
3/17/24. Have been out on
3 good trips lately, too little
of time to write. Letter comes.
I suppose from here in
just back from here in
the morning of the night of
and for a long time I had
been in the office. There are more
and more people here and more
here, and it is all going on.
So much stuff of the kind to
take care of. I get it in my
mind.

Mr. Charles Ames,
355 Commonwealth Ave.,
Boston,
Massachusetts,
E. U. S. A.



COSTA RICA

Union postale Universelle — Unión postal U
TARIFA POSTAL (CARTE POSTA)



Mr. James Ames,

355 Commonwealth Ave.

Boston,

Massachusetts.

U.S.A.

Sarter & Co. (Libreria Lehmann) San José de Costa Rica.

4/9/24. Very busy for the
last few days packing up.
Hope to label S. material
after tomorrow's stein packing
the 13th. You & Margaret please
for Mr. P. E. & get some
Benny's ink for you tomorrow.
We have some paper from Otis &
a few of my spade. Some seem
to know what you will say
about them. We have plenty
any kind. P.E.S.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

May 13, 1924.

Mr. Oakes Ames,
Boston, Massachusetts.

Dear Mr. Ames:

It is now a couple of weeks since I returned to Washington from Central America. I have delayed writing to you because of the fact that there were so many things that I wanted to mention that I dreaded the task; but I might as well begin now as later. I should like very much to have the opportunity of talking to you personally, for it would be so much easier, but it is not probable that I shall be in Boston in the near future. I should like to have seen the orchid exhibition there last week. Mrs. Walcott was speaking to me about it today, and Mr. Powell was discussing it when I was in Panama last.

The Central American trip was most successful in every respect, at least so far as I am concerned. The collections are now all here in Washington, which is always a relief, since there is sufficient danger of losing them in shipment. I hope to have the labels printed in about a couple of weeks, and then I shall prepare immediately the orchids for shipment to you, at least those from Costa Rica. There are not very many from Panama, and I do not believe they are of any importance, so I may not make a special effort to separate them immediately.

Of the Costa Rican orchids there are about 1500 numbers. As I stated before, there are good, bad, and indifferent, but I hope there may be something of value among them. Among so many, it seems that there must be. I presume that there are always plenty of orchids in flower in Costa Rica, and many of them must have definite blooming periods. Some of the most abundant ones I never found with either flowers or fruit. I visited La Palma several times, and always found there something new in flower.

La Palma is probably the best region that I visited, and I do not believe that it would be possible to exhaust the orchids there in a good many years. Their variety is bewildering, and every tree is loaded with them. La Palma has the advantage of being within easy reach of San José, and it is remarkable that it has not been more thoroughly collected. Among the other plants I found many interesting things there, and some of the plants with most showy flowers seem to represent undescribed species. It is hard to see how earlier collectors could have missed them.

Another locality which is fully as good, and perhaps better, since it has not been visited, or scarcely so,

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by other collectors, is La Hondura, down the Atlantic slope from La Palma, and at a considerably lower altitude. The flora there is extremely rich, especially in orchids. La Hondura also is easy of access, but not particularly agreeable to visit, since it is raining there nearly all the time.

Another excellent locality is Navarro, south of Cartago. I collected also at Orosi, near by, and at Estrella, in the mountains south of Cartago, where I went one day with Lankester. La Carpintera, a mountain halfway between San José and Cartago, and therefore easily reached, is another interesting orchid region. Two plants in other groups which have been described as new the past year are common there, so I do not believe the flora is very well known. As a matter of fact, I imagine that there is a great deal to be done in the Cordillera of Escasú or Candelaria, which rises to the south of San José, and furnishes the best collecting in the vicinity of the capital. It is so near that the botanists of that city have naturally neglected it, preferring to expend their energy in reaching some distant region.

There is still plenty to be done in Costa Rica in collecting plants, and nothing would suit me better than to go back, preferably at a different season, to the same localities that I visited this year. There were a great many places that I could have reached easily that I did not have time to visit. Two visits to the United Fruit properties on the Atlantic Coast were most profitable. There is plenty of virgin forest there, and little work has been done in the region, largely, I suppose, because of fear of malaria, of which I am not especially afraid when there are available as good quarters as those of the Fruit Company. I did get rather a good collection of orchids in the coast, although, of course, they are not so plentiful as at higher altitudes, nor is it so easy to collect those that do occur. About the only practical mode of collecting orchids there, where the trees are so large, is to hunt for a place where they are cutting the trees. I was fortunate in finding such conditions at various places in Costa Rica. In such places as La Palma it is not necessary even to climb the trees, for the orchids grow all over the trunks, and the trees are never very large.

Conditions in the coast are similar to those existing in Panama. Here I must state, at Mr. Powell's direction, that I can find more orchids almost anywhere in Costa Rica, even in the immediate vicinity of the capital, in a single day than anywhere about the Canal Zone in a month. The latter region seems to me to be a very poor one for locating and collecting orchids. They are not very numerous at best, and when located are likely to be in such a position that it is almost impossible to secure them. I am surprised that Mr. Powell's men do as well as they do about the Zone. It is unfortunate that they can not get out into some of the more distant parts of Panama, but of course traveling in such places is extremely difficult. Mr. Powell seems to think that about all the Panaman orchids have been collected, but that I do not believe,

3

although I have not been in any of those remote regions. Practically all the plants obtained by Mr. Pittier in Chiriquí were new species. As a matter of fact, scarcely anything is known of the flora of Panama except in the vicinity of the Zone, and I dare say the orchids are not known much better than the rest of the flora. Toward the Colombian border there are some high mountains that have never been visited by a botanist, and I suppose are not likely to be for some time to come. Goldman was there collecting mammals, but unfortunately he did not make a collection of plants.

The poorest localities that I found for orchids were the high mountains, above, say, 7500 feet. Moisture conditions there would seem to be well adapted to their growth, but probably the temperature is too low. The flora of the Volcano of Turrialba proved to be a rich one, particularly in ferns, but I did not find more than half a dozen orchids. I suppose there are more there, but individuals are extremely scarce, and the number of species can not be very great. Anywhere between 4000 and 7000 feet, where there is plenty of moisture, orchids are found in the greatest abundance, but above that altitude they diminish rapidly. At lower altitudes they are still plentiful where there is plenty of moisture, and even down on the dry Pacific slope individuals are extremely numerous, although there did not seem to be a great variety of species. The altitude of La Palma is about 6000 feet, and there is rain almost every day in the year. The trees with their thick covering of mosses are like great wet sponges, and everything seems ideal for orchid growth. I also visited Las Nubes or Cascajal, only a few miles away and on the same slope, where every condition except temperature and elevation seems to be the same. The altitude there, however, is somewhat greater, about 7500 feet I suppose, and the excess was great enough to make a decided decrease in the orchid flora. It seems probable, therefore, that it is a waste of time to visit the higher peaks or slopes in search solely of orchids, although it is a different matter in the case of some other plants, notably the ferns.

When collecting orchids I took everything that might be of any value. How many of those collected with fruit alone can be named I do not know, but I shall know more about that next time. Some of the smaller plants must be duplicated many times from the same locality, but I knew that it was impossible to be certain about them without the most careful comparison. Where I was, at least, it was difficult to find any considerable quantity of a given plant, ~~unat least to be certain that~~ that all the specimens belonged to a single species, and consequently it was necessary to assign different numbers to specimens that one with a good knowledge of orchids would probably have recognized immediately as belonging to a single species. But it is better to have too much material than not enough--sometimes.

In a few days I hope to send you a box containing various specimens obtained by others than myself. There are a few mounted specimens collected by Juvenal Valerio,

4

about whom I believe I have already written you. His collection was made in the Province of Guanacaste, a region where practically no collecting has been done.. It was planned that I should go there, accompanied by Valerio. He was designated by the Minister of Education to accompany me all the time I was in Costa Rica, and was excused from his work in the schools--he is a teacher--for that purpose. I do not know what to make of him. Sometimes I think I understand the Central Americans very well, and at others I think that I know nothing about them. He did accompany me upon three short excursions. He also agreed to go to various other places, but when the appointed time came, he did not appear. I understand he is rather temperamental, although I should not suspect as much on seeing him. At any rate, I did not get to Guanacaste, but I was just as well satisfied to spend my time elsewhere. Valerio is now in Guanacaste, and he wrote me that he was busy collecting plants. We shall see what will come of it. He deserves every encouragement anyway, for he is deeply interested in botanical work. He asked the superintendent of schools a couple of years ago to send him to a small school in the mountains of Guanacaste, when he could have had a much better position elsewhere, solely because he wished to be in an interesting region for natural history study.

The box will contain eighty-two, if I remember correctly, specimens of orchids collected by Otón Jiménez, chiefly during a trip that he made last year with Lankester. There ought to be some good things in the lot, since it is from a little visited region. Please acknowledge these specimens in a letter to Otón. His address is simply San José, Costa Rica. He has other specimens of orchids, besides, but did not have time to prepare them. It is a pity that he does not have time to devote to botanical work, for he has more interest in such matters, probably, than anyone who has lived in Costa Rica, unless it be Tonduz. As it is, he has to work all day long, often also on Sundays, in the retail and wholesale drug establishment belonging to his family.

I believe that in a previous letter I wrote something about some of the other botanists in Costa Rica. I should like to be able to take up all of them in some detail, but there is not time at present. Nothing more is to be expected of Wercklé. I saw him several times. He has reached the stage, all are agreed, where he is absolutely sin vergüenza, than which no one can fall lower in a Latin country. ~~They say that~~ Tonduz, in spite of his more or less similar failings, never fell to that state. Only a short time ago Wercklé one night, while he was mildly intoxicated, fell asleep upon a bench on top of a bridge near the railroad station, and fell down about twenty feet and broke one of his legs. He is now able to hobble about and beg for money for further drinks. The first time that he came to see me, he concluded his visit by saying "Give me a Colón," which I did, and he departed. He can talk lucidly

5

at times, and is very interesting, for he knows the botanical features of Costa Rica better than anyone now living there.

The Sunday before leaving I saw Alfredo Brade. I do not think that he is any longer interested in orchids, at least in collecting them. I imagine it was his brother, now in Brazil, who did most of the collecting. He grows flowers for sale, but has only two or three orchids growing on his place. He is a German I believe, or probably Swiss or Alsatian, since nearly all the Germans found in Central America nowadays come from one of these two districts, and he speaks a form of Spanish as atrocious as that usually spoken by Italians.

Not very much remains of the orchid garden of Doña Amparo Zeledón. Most of her collection, of course, was gotten together by Wercklé. They say that when he was in need of money, he used to remove a plant from her garden through the back gate, bring it to her and resell it. It is further stated that he used to carry off plants from her garden and sell them to other collectors, which is not at all unlikely. All of the scandal--what I have just related is of the mildest--that was given me with regard to present and past scientists in Costa Rica, if formed into a book, would make extremely interesting reading, but I doubt if it would be permitted a wide circulation, in this country at least.

I saw an interesting letter written by Schlechter to Doña Amparo, in which he stated that he had ready for publication drawings of all his new species of Costa Rican orchids, and that he would publish it if she would send him a hundred dollars to defray costs of engraving. He has been writing to everyone, apparently, in Costa Rica, asking for specimens and funds. Otón has become quite impatient with him--a mild way of stating the facts, and not a very accurate word--and says that Schlechter is too much inclined to commercialize his scientific work. I was informed that he had made offers of naming new species and genera in honor of contributors, but how accurate this may be, I do not know.

The last Sunday I spent in Costa Rica I made a visit with Otón to Father Benavides in Heredia. He is a fine old man, between sixty and seventy I suppose, very well informed on a wide variety of subjects, and he has traveled in both the States and Europe, if I remember correctly. His house is one of the best in Heredia, and the two large patios are filled with orchids. I noticed in his library several books relating to this group of plants. He has no scientific knowledge of them, but he does have a fine collection, chiefly of the showy species. Whether he would be worth cultivating, I do not know. His house is full of theological students, and he might put one of them at work making specimens! He would, I am sure, and in fact he said so, be interested in getting hold of any literature upon orchids. His address is Sr. Presbítero Benavides, Heredia, Costa Rica.

Lankester told me that Father Benavides' collection

6

of orchids was the finest in Costa Rica, but evidently he underestimates his own, which is vastly superior. Lankester is, I believe, the only one of the Costa Rican botanists about whom there is no scandal to relate--no, I should also except Alfaro and Torres. I liked him very much, and was sorry only that I could make so few excursions with him. As a matter of fact, most of my trips were arranged for me by Otón, and after he had made the arrangements I could not well refuse to go. Indeed, I could certainly not have done so well by myself. As it was, Lankester would have made more trips with me if it had not been for the earthquakes. He was not willing, naturally, to leave Mrs. Lankester alone at night, and for that reason long trips were impracticable.

I must confess that it was very difficult to understand some things about Lankester. People there in Costa Rica are divided in opinion as to the amount of his property. Some of his remarks would incline one to believe that he was practically bankrupt, but he is commonly considered a well-to-do man, and is regarded highly by the Costa Ricans. He intimated to me that he would be glad to make a few trips into parts of Costa Rica where he had not been, in search of plants, if his expenses could be paid. Certainly there is no one who knows the orchids so well or where to find them. I do not see how he ever gets his specimens dried. I have not seen his orchid specimens, but those of other groups are good enough. I should not want to make a collecting trip again without artificial heat for drying plants. It certainly worked well for me this year, and I should not have been able to get any such quantity of material without it.

Anastasio Alfaro is a delightful man, and a very agreeable companion. He is interested in about all phases of Costa Rican natural history. He does not pretend to have any knowledge of botany, but he knows the plants pretty well. He brought me, at one time and another, a fine lot of orchids, some of the best that I have, probably.

Now as to the further contents of the box that I am preparing to send. It will contain a collection of about 300 orchids that I got from Alfredo Brenes just before leaving. The Sunday before I went with Otón to Heredia to see him--I had not been able to see him before, because, as I understood it, of his own peculiarities, but of this I am not now so certain. The day before I left San José I had to hire an automobile--it was in the afternoon, after all my baggage had been sent off--and go over to Heredia to get the specimens. I carried them as hand baggage down to Limón, and there put them in a trunk.

(Before I forget it, I should state that the Otón Jiménez orchids are a gift from him to yourself).

It is about Alberto Brenes that I should particularly like to talk to you. I could write a small volume about what little I have seen and heard of him, and probably shall before I finish this letter. He is a very peculiar and eccentric man--botanists are not infrequently that way. He is sensitive to an unusual degree, and perhaps most of his

7

peculiarities result from that. These specimens of his I will deposit upon your doorstep, with my best wishes, and wish you good luck of them. As a matter of fact, I think there need be no special difficulty with regard to them, and I suspect that Don Alberto has been more or less misjudged by his associates, who have little patience with him. From what I had been told, I had expected when I met him to see someone verging upon lunacy, and I was agreeably surprised.

He is a small man, very shy, and apparently quick to take offense. I suppose he is about fifty, but perhaps much older. Whether he is now engaged in teaching, I am not certain, but I believe not. For the past two or three years he has been employed nominally as curator of the herbarium in the National Museum, and it certainly needs curating, but he never appeared at the museum. He was paid a regular salary of course, but recently the Minister of Education, in view of the fact that he was never seen about the Museum, has decided to withdraw the salary, and I suspect that Don Alberto will be hard put to it for funds. He talked to us upon the subject and seemed more pained than indignant. He stated that he had been devoting all his time to making collections for the Museum, of which collections these orchids are the principal part.

When I first went to San José I spoke to Don Anastasio about getting in touch with Brenes, stating that if possible I wished to secure a set of the orchids. The former took up the matter with the Minister, who suggested that Don Alberto be ordered to turn over a set of them, since they were property of the Museum--you will see how many little complications are attached to this set before I finish. As a matter of fact, Don Anastasio said that there was no objection to Don Alberto's disposing of the specimens as he wished, providing one set of them was deposited in the Museum. Such a set is still in Heredia, waiting only for the names.

The specimens going to you were collected in one or two years, I do not remember which. They were all that there was time to prepare, but Don Alberto has a still larger lot that he will send you. The specimens seem to be in reasonably good condition, and there must be a lot of good things among them, for he knows the plants well.

Here I should state that Don Alberto promised to write you a long letter explaining all the circumstances connected with this sending, and I hope he has already done so. He was to give it to me for transmission to me, but he did not have time to prepare it before I left. I suggested that he should express himself with all frankness, so that there should be as full an understanding between you as possible.

The labels I am afraid you may have some difficulty in deciphering, but the collector will, I know, be glad to help in understanding them. The original notes were in Spanish, but, upon being asked, I stated that I did not know whether you read Spanish or not, but was sure that

you did read French, which he writes as easily as Spanish. The numbers in red ink are the only ones to be taken into consideration.

Brenes has some remarkable notebooks treating of these collections, of which he is ready to send you a copy if not the originals. The flowers are described with the most minute detail, and there are many drawings of flowers and their details. He did not have time, during that single week--four days in fact--to copy the notes. He has been telling people in Costa Rica that he did not wish to send his collections abroad, since he wished to work them up himself. For that reason, in case there are new species represented, if you should be willing to describe them jointly with him, I am sure he would be greatly pleased. His notes, if you can secure them, must be exceptionally useful.

As to the value to be placed upon the collection, I was quite unable to obtain any statement from Don Alberto. He stated that he was willing to leave that to you. This, naturally, was most unsatisfactory to me, and I tried repeatedly to obtain some idea of any price that he might have in mind, without any success. I also questioned Otón, who refused to be ensnared. Don Alberto asked me to explain to you the conditions under which the collection was made, and said that you would then be able to judge of what it was worth. I do not think he is holding back the larger collection of the past year on this account, but believe he is ready to send it on at any time.

He stated that he had received a small salary from the Museum, and nothing for expenses. That he was interested only in his botanical work, and principally in orchids: All of the work of collecting had been carried on without any encouragement other than the salary, which scarcely more than paid his ordinary living expenses. That he was anxious to continue with this work, provided that he could have sufficient means for his support. Of course, a native of Costa Rica, of modest demands, can live there very cheaply. Otón suggested that with fifty or sixty dollars a month a collector could do very well there.

It is not possible for me, apparently, to give an altogether adequate statement of Don Alberto's circumstances, but perhaps I have mentioned the most important points. As nearly as I could judge, he is a competent and intelligent man, timid and too little self assertive, very eager to continue his botanical work. All that he needs, probably, is considerate treatment and encouragement, something that he has not received from his associates in Costa Rica. I do not know how to make any suggestions as to dealing with him, but you are competent to judge for yourself from such data as I have given. If there is any further information that I can give, I shall be very glad to supply it. There are probably some things that I wished to say that I have forgotten, but

9

this is certainly quite enough for the present time. It is almost certain that later I shall remember various matters that I have forgotten to mention. I know there are a few, about which I shall write you later. I should like to devote a whole letter to Mr. Powell. He is almost pathetically devoted to his orchid work, in fact, I do not believe it is ever out of his mind. I have never seen anyone so enthusiastic. There never arrives a mail from the States that he does not speak in advance of the fact that he expects to receive a letter from you, and usually predicts what he thinks it will contain. There is nothing that pleases him so much as the record of an orchid new for Panama. It is too bad that he is not thirty years younger, so that he could go out into the jungles and do some real collecting. He is not able to do that now, although he still believes that he is. I wonder what will become of his collection of living plants when he has finished with it. It would be too bad to see it lost, and still I wonder if there is a place where it could be used as a unit.

With best regards, sincerely yours,

Paul Standley.

In the case of making payment to Brenes, it would be best to send the money to Oton Jineinez, who will see that it is delivered to him, and thus there will be no danger of loss.

14. SCLERIA Berg, Kongl. Acad. Svensk. Handl. 26: 142. 1765.

Annuals or perennials, with leafy culms; spikelets small, clustered, spicate or paniculate; flowers monoecious, the staminate and pistillate in the same or separate clusters; pistillate spikelets 1-flowered, the staminate many-flowered, the scales spirally imbricate; perianth none; style 3-cleft, deciduous; achene globose or ovoid, obtuse, hard and bonelike, usually subtended at base by a disk. --About 200 species, widely distributed in temperate and tropical regions.

Spikelets not all unisexual, some of the pistillate ones with
staminate flowers.

Spikelets in a simple spike 1. S. hirtella.

Spikelets paniculate.

Achene very rugose 2. S. liebmanni.

Achene smooth.

Inflorescence long-exserted; achenes 1.5 mm. long and as
broad, nearly truncate at apex. . 3. S. purdiei.

Inflorescence little exserted; achenes 2.5 mm. long, much
longer than broad, rounded at apex.

4. S. lithosperma.

Spikelets all unisexual.

Margin of the disk (beneath the achene) laciniate or ciliate.

Margin of disk laciniate.

Achenes tuberculate 5. S. panicoides.

Achenes smooth.

Achenes white 6. S. latifolia.

Achenes purplish 7. S. arundinacea.

Margin of the disk ciliate.

Achenes 5 to 6 mm. long; leaves 1.5 to 5 cm. wide.

8. S. paludosa.

Achenes less than 3 mm. long; leaves 0.5 to 2 cm. wide.

Disk long-ciliate with very numerous dark hairs; style
base black or nearly so. . . 9. S. mitis.

Disk short-ciliate with few whitish hairs; style base
light brown. 10. S. microcarpa.

Margin of disk neither laciniate nor ciliate.

Achenes tuberculate or reticulate.

Plants with fibrous roots; achenes glabrous.

11. S. setacea.

Plants with rootstocks; achenes pubescent.

12. S. bracteata.

Achenes smooth.

Achenes 3 to 5 mm. long.

Branches of the inflorescence hirsute. 13. S. reflexa.

Branches of the inflorescence scaberulous. 14. S. lacustris.

Disk subentire, the margin reflexed.

Disk 3-lobate, the margin not reflexed.

15. S. setuloso-ciliata.

Achenes 2.5 mm. long or less.

Achenes white. 16. S. pterota.

Achenes chestnut or purple. 17. S. melaleuca.

1. *Scleria hirtella* Swartz, Prodr. Veg. Ind. Occ. 19. 1788.

Guatemala; Costa Rica; Panama; in meadows and on open hill-sides, ascending to 1,300 meters. Widely distributed in tropical America; Africa.

Plants pubescent, with slender rhizomes, the culms slender, 20 to 60 cm. long or more; leaves 2 to 4 mm. wide; spikes 5 to 20 cm. long, the spikelets hispidulous, in remote clusters; achene 1 mm. long, smooth, white, contracted below.

Clarke[✓] reported a collection of *S. distans* Poir. from Costa

[✓] Contr. U. S. Nat. Herb. 10: 466. 1908.

Rica, but the fragmentary specimen of the number cited which is in the National Herbarium seems to belong rather to *S. hirtella*.

2. *Scleria liebmanni* Steud. Syn. Pl. Glum. 2: 179. 1855.

Scleria costaricensis Boeckl. Allgem. Bot. Zeitschr. 2: 157. 1896.

Hypoporum micrococum Liebm. Dansk. Vid. Selsk. Skrivt. V. 2: 255. 1851.

Scleria micrococca Steud. Syn. Pl. Glum. 2: 179. 1855.

Costa Rica; Panama; in swamps and savannas, at low altitudes. Cuba; South America; type from Mexico.

Plants annual, pubescent below, very slender, the culms 20 to 30 cm. long; leaves 1 to 2 mm. wide; panicles about 10 cm. long, the spikelets in small sessile clusters, the bracts shorter than the spikelets; achenes 1 mm. long, white.

This species was reported from Panama by Nees[✓] as *Hypoporum*

[✓] In Seem. Bot. Voy. Herald 223. 1854.

verticillatum, and by Hemsley as Scleria verticillata Muhl.

3. *Scleria purdiei* C. B. Clarke, Kew Bull. Add. Ser. 8: 57. 1908.

Scleria hitchcockii Standl. Contr. U. S. Nat. Herb. 18: 88.

1916.

Panama (El Boquete, on grassy hillside, alt. 1,000 meters).

Colombia and Venezuela; type from Colombia.

Plants slender, 50 to 70 cm. high; leaves 12 to 18 cm. long, 2 to 4 mm. wide, nearly glabrous; panicles about 10 cm. long, the branches very slender; spikelets sessile in small dense clusters; achene globose, 1.2 mm. in diameter, white, glabrous, the disk fused with the achene as a short stipe.

4. *Scleria lithosperma* (L.) Swartz, Prodr. Veg. Ind. Occ. 18.

1788.

Scirpus lithospermus L. Sp. Pl. 51. 1753.

Costa Rica; Panama; in moist soil, ascending to about 1,000 meters. Tropical regions of both hemispheres; type from India.

Plants glabrous or nearly so, with stout rootstocks, the culms 30 to 90 cm. long; leaves 10 to 30 cm. long, 3 to 6 mm. wide; panicles sparsely branched, the spikelets in distant sessile clusters; achenes smooth, white, glabrous, the disk fused with the base and nearly obsolete.

5. *Scleria panicoides* Kunth, Enum. Pl. 2: 348. 1837.

Panama (Empire Station, Hemsley). South America; type from Brazil.

Culms 30 to 60 cm. high, scabrous on the angles; leaves about

30 cm. long and 2.5 cm. wide, pubescent beneath; panicle branches hirtous; bracts elongate; achene globose, hirtellous.

It is probable that the oldest name for this species is Scleria faveolata Cav., ✓ which was based upon specimens from

✓ Icon. Pl. 5: 35. 1799.

flats near Ancón Hill, Canal Zone, Panama.

6. Scleria latifolia Swartz, Prodr. Veg. Ind. Occ. 16. 1788.

Guatemala (Cobán, border of forest, alt. 1,290 meters).
Lesser Antilles; Venezuela.

Plants stout, 1 meter high or more; leaves 40 to 60 cm. long, 3 to 5 cm. wide, the sheaths broadly 3-winged; panicles 40 cm. long or less; achene globose, 3 mm. in diameter, the disk 3-lobate.

7. Scleria arundinacea Kunth, Enum. Pl. 2: 347. 1837.

Guatemala; Costa Rica; Panama. Lesser Antilles; South America.

Plants large and coarse, 1 to 2 meters high; leaves 2.5 to 5 cm. wide, glabrous, scabrous on the margins, the sheaths broadly 3-winged; panicles large and much branched, puberulent; achenes 3 mm. in diameter, globose, smooth. "Navajuela" (Costa Rica); "cortadera" (Venezuela).

Probably not distinct from S. latifolia.

8. Scleria paludosa Kunth, Enum. Pl. 2: 344. 1837.

Ophryoscleria saperrima Liebm. Dansk. Vid. Selsk. Skrivt.

V. 2: 261. 1851.

Scleria asperima Kunth, Syn. Fl. Glum. 2: 170. 1855.

Scleria macrocarpa Salzm. Linnaea 38: 521. 1874.

Guatemala; Nicaragua; Costa Rica; Panama; along streams near sea level. Cuba; South America; type from Peru.

Plants stout, coarse, 1 to 2 meters high, glabrous outside the inflorescence, with stout rhizomes; leaves 20 to 40 cm. long, the sheaths 3-winged; panicles 20 to 40 cm. long, much branched; achenes ovoid, white or yellowish, smooth, the disk shallowly 3-lobate.

9. Scleria mitis Berg, Aot. Holm. 1765: 145. pl. 5. 1765.

Guatemala; Panama; in wet soil near sea level. West Indies; South America.

Plants stout and coarse, 1 to 2 meters high, nearly glabrous; leaves 30 to 50 cm. long, the sheaths 3-winged; panicles narrow, 50 cm. long or less, much branched; achenes globose-ovoid, white, the disk truncate. "Cortadera" (Cuba).

10. Scleria microcarpa Nees, Linnaea 9: 302. 1834.

Guatemala; Panama; in wet soil, ascending to 350 meters. West Indies and South America.

Plants stout, with horizontal rhizomes, about 1 meter high; leaves 20 to 30 cm. long, 8 to 11 mm. wide, the sheaths narrowly 3-winged; panicles narrow, 20 to 50 cm. long; achenes 1 to 2 mm. long, ellipsoid or ovoid, smooth, white, the disk subentire. "Cortadera" (Cuba, Porto Rico).

11. *Scleria setacea* Poir. in Lam. Encycl. 7: 4. 1806.

Scleria hemitaphra Steud. Syn. Pl. Glum. 2: 169. 1855.

Guatemala (Cobán, alt. 1,350 meters).

Southeastern United States, Mexico, and West Indies.

Plants with fibrous roots, glabrous or nearly so, 30 to 80 cm. high, slender; leaves 2 to 4 mm. wide, the sheaths very narrowly winged; panicles small, axillary, with elongate bracts; achenes 1.5 to 2 mm. long, subglobose, the disk with 3 small lobes.

12. *Scleria bracteata* Cav. Icon. Pl. 5: 34. pl. 451. 1799.

Guatemala; Costa Rica; Panama; in wet soil, at ~~altitudes of~~ 650 meters or less; type collected near Ancón, Panama. Southern Mexico; South America.

Plants about 1 meter high, coarse, with stout rhizomes, copiously pubescent; leaves about 1 cm. wide, with very scabrous margins, the sheaths scarcely winged; panicles axillary and terminal, the upper ones staminate, usually brownish, conspicuously bracteate; achenes 2 mm. long, globose, often purplish, the disk 3-lobate. "Navajuela" (Costa Rica).

13. *Scleria reflexa* H. B. K. Nov. Gen. & Sp. 1: 232. 1815.

Guatemala; Costa Rica; Panama; in wet soil, ascending to 700 meters. Southern Mexico (?), West Indies, and South America; type from Venezuela.

Plants perennial, the culms long and weak, often reclining on shrubs; leaves 4 to 7 mm. wide, stiff, very scabrous on the margins; panicles small, terminal and axillary, conspicuously

bracteate, purplish or castaneous; achene smooth, white, subglobose, the disk subentire. "Navajuela" (Costa Rica).

14. *Scleria lacustris* C. Wright in Sawalle, Fl. Cub. 185. 1873.

Scleria tonduzii Boeckel. Allgem. Bot. Zeitschr. 2: 160.

1896.

Costa Rica (Río Tuis, alt 650 meters). South America; Cuba (type locality).

Plants large and coarse, nearly glabrous; leaves 60 cm. long and 11 mm. wide or smaller, the sheaths winged; panicles large, much branched, rigid, dense, purplish; achenes 3 mm. long, white or purplish, smooth.

15. *Scleria setuloso-ciliata* Boeckel. Flora 65: 30. 1888.

Guatemala; type from Mazatenango. Chiapas.

Plants stout, 0.5 to 1 meter high, tufted; leaves about 1 cm. wide, scabrous on the margins, the sheaths narrowly winged; panicles small, dense, with elongate bracts; achenes ovoid, smooth, whitish.

16. *Scleria pterota* Presl in Oken, Isis 21: 268. 1828.

Scleria pratensis Nees in Mart. Fl. Bras. 24: 179. 1843.

Scleria pittieri Boeckel. Allgem. Bot. Zeitschr. 2: 159.

1896.

Guatemala; Costa Rica; Panama; in forests and thickets, alt 500 meters or less. Mexico, West Indies, and South America.

Plants with short rhizomes, 30 to 80 cm. high, rather stout, nearly glabrous; leaves 30 cm. long and 1 cm. wide or smaller; panicles axillary, small, sparsely branched, green or brownish,

the bracts inconspicuous; achene 2 mm. long, subglobose, the disk 3-lobate.

17. *Scleria melaleuca* Schlecht. & Cham. *Linnaea* 6: 29. 1831.

Guatemala; Honduras; Nicaragua (Hemsley); Costa Rica; Panama; in forests or wet soil, at 900 meters or less. Southern Mexico, the type from Hacienda de la Laguna, Veracruz; West Indies and Central America.

Plants 30 to 80 cm. high, glabrous or nearly so, with rhizomes; leaves 20 to 30 cm. long, 1 cm. wide or less, the sheaths narrowly winged; panicles small, axillary, rigid, sparsely branched, purplish; achene 1.5 to 2 mm. long, subglobose, smooth, shining, the disk 3-lobate.

DOUBTFUL SPECIES.

Scleria coriacea Liebm. *Dansk. Vid. Selsk. Skrivt. V. 2: 259. 1851.* Type from Guanacaste, Costa Rica.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

May 23, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We have just completed a general distribution of material into the herbarium, and Mr. Killip, who has been distributing the orchids, has laid aside some material from Central America which you have not seen and also a few undetermined orchids from Colombia, chiefly from the Lehmann collection. Whenever you wish to see these, we shall be glad to send them on. Mr. Killip states that there are about two pigeon-holes full of the material, and so there are probably about 150 sheets.

Very truly yours,

Paul C. Standley
Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

May 24, 1923.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

We are forwarding, by mail, a package containing a specimen of orchid collected in Sinaloa by Mr. Ortega (no. 5,000). We should much appreciate having your identification of this when convenient. The specimen need not be returned to us.

Very truly yours,

Paul C. Standley
Paul C. Standley
Assistant Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM

WASHINGTON, D. C.

June 12, 1924.

Mr. Oakes Ames,
Boston, Massachusetts.

Dear Mr. Ames:

Long before this I should have answered your letter with regard to the Costa Rican photographs. I have delayed doing so partly because I have been more than ordinarily busy, but chiefly because I did not have the photographs requested. This year I had with me two cameras and a large quantity of films, but most of the latter were brought back unused. I was so busy collecting specimens that I simply did not have time for photographic work, which does require a great deal of time. In Costa Rica I got nothing at all. While in Panama I did take a number of views in Mr. Powell's garden, part of which I believe he sent you. If you would be interested in those, I shall be glad to send them.

In Costa Rica I bought a few photographs of orchids, some very fine ones of Cattleya skinneri and C. dowiana, to be used for illustrations. If you should be interested in having lantern slides of them, I believe it would be possible to have them made in San José. They show cultivated plants, of course. Mr. Powell has some negatives of cultivated orchid plants.

For the next volume of the Smithsonian reports I am trying to prepare some sort of a popular article upon Central American orchids. In this I hope it may be possible to give an account of Mr. Powell's collection, for he is very anxious to have it advertised as much as possible.

A few days ago I received the labels for the Central American plants. Some time ago I separated the orchids from the other specimens, and I am now writing the labels for them. It is slower work than I had anticipated, but I hope to have them ready to send in the near future.

I presume you received the shipment of Brenes orchids in good condition, and I hope there may be something worth while among them. Did he send you the letter that he promised? Recently I had a letter from Don Anastasio Alfaro in which he stated that he had secured a number of additional orchids, and I hope we may receive specimens soon. Incidentally he inclosed a photograph of an orchid whose name he is anxious to learn. I hope that you may be able to name it offhand, but if not, I have specimens of it somewhere. It is a species with brownish flowers that is common about San José.

There is one orchid whose name I am particularly anxious to learn. It is the commonest representative of the family about San José and Cartago, occurring upon

nearly every tree. Lankester does not know its name--why he has not sent you specimens, I do not know. In the herbarium in San José there is a specimen labeled Epidendrum tonduzii Schlechter, but I understand that name has not been published. That herbarium, incidentally, has been almost completely ruined by insects. The orchid specimens were all sent to Europe some years ago. In San José I was told that they had been lost in a fire, but Mr. Pittier, who is in Washington just now, says that Schlechter probably has them! It is just as well if he has, for they would have been ruined there.

Sincerely yours,

Paul C. Standley
Paul C. Standley,
Associate Curator,
Division of Plants.

Please return these photographs, except the duplicates. I think it would be possible to get slides made from the negatives by Sr. Gómez Miralles.

Cremata Barksi
looks like this

Dr. Lewis Sullivan

R.T.D. # 2

Brandon, VT

North Easton, Mass. June 22, 1924.

My dear Mr. Standley:

The orchid with hanging racemes for which you wish a name, is a species of *Acineta* and probably represents *A. Parkeri*. This species has not come from Costa Rica so far as my records go, but it may well be a native. There are two species known to be natives of Costa Rica which may be represented by your photograph, consequently, I should be averse to using it without material to clarify it.

The orchid to which you refer as the commonest representative of the family about San Jose and Cartago I cannot tell much about, until I see material. Lankester has a most exasperating way of avoiding the common species even though he may not know what they are.

The story of *Epidendrum Toduzii* is rather involved. I believe I wrote about this in one of my letters to Mr. Maxon a year or more ago. If you want more information about it I can dig it up for you on my next trip to Boston.

Brease has written a long letter about the orchids you brought home with you. These orchids arrived safely, but I have not had time to give them more than a casual examination. As a matter of fact, I am buried with material.

Yours truly,

Robert C. ...

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM

WASHINGTON, D. C.

July 8, 1924.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Today we started to you by express a box containing the orchid collection that I obtained in Costa Rica this year. The material forwarded consists of two lots: (1) the numbers of which there was sufficient material for division, and (2) those which it did not seem possible to divide. The packages of the latter are marked "unicates" and will be easily recognized.

In the case of the unicates, you are, of course, at liberty to dispose of them as may seem desirable, retaining all or any part of them. There must be among these a good many species repeated, and in case there should be more than you require for your own herbarium, we should be very glad to have them here.

The specimens in our own set of these orchids are much the same as those we are now forwarding, although in some instances we have retained only fragmentary material. In case you should wish to examine any or all of our portion of the collection, we shall be glad to forward it for study, although I believe that in most cases it would not help greatly in the identification. Our material has not been mounted yet, for it seems better to hold some of the specimens until we find whether they are in condition for determination.

I am very anxious to learn what your impressions will be after examination of the collection. Please do not hesitate to give your frankest opinion of it, for I should like to have your views for use in case I have an opportunity to make further collections of orchids. There are some quite sterile specimens that were preserved because their foliage seemed especially distinctive. In a few cases I find color notes with regard to the flowers, when I have not been able to locate the flowers themselves among the dried material.

If it is convenient for you to furnish the determinations of the more common species in advance of a full report, we should appreciate having them, so that our set may be placed in the herbarium. I should like, also, to use the names of some of the species in various publications that I have in mind.

Today I began labeling the collection of plants from Panama, and the orchids will be forwarded when available. They are not numerous, however, and it is not likely that there is anything of interest among them, at least Mr. Powell did not seem to think that there was.

In the near future I hope to be able to begin preparation of a semi-popular report upon the flora of the Canal Zone. It is probable that I may make another visit to the Zone, probably about a year from now, in order to fill gaps in the data. If

I should do so, I should like to make a visit also to some other part of Panama, perhaps to Bocas del Toro, or to Costa Rica. It is too soon, however, to be making definite plans.

A couple of weeks ago money was offered me for a trip to British Honduras, if I could make it during the present calendar year. If Mr. Maxon were not planning to go to Central America next winter, I should have accepted at once, but it is not practicable for the two of us to be absent at the same time. In case I do not go again to the Canal Zone, which is about the poorest and least interesting part of Central America, unless one goes there for some special purpose, I hope to visit next either some part of Honduras, or some part of Guatemala, particularly the region of Alta Verapaz.

Yesterday I had a letter from Valerio in which he stated that he had more Guanacaste plants ready to send. He is now located in that part of Costa Rica, and perhaps will continue with his collecting.

In a letter recently received from Lankester, he states that he has received three visits from Alberto Brenes. Upon one occasion he became rather excited, and said that there were people in Costa Rica conspiring against him. Lankester was at first unable to understand, but finally learned that Brenes had read an article about the collections I made in Costa Rica, the article consisting of excerpts from letters that I had sent to Dr. Calderón. Brenes stated that it was impossible for one person to make so many specimens in so short a time, and demanded to know who had given them to me! I am glad to say that all Central Americans are not like that, although I do believe that Brenes is really a very good man. It is disheartening, though, to see the opportunities that the local botanists have in Central America, and how little advantage they take of them. Dr. Calderón is the only exception. He does do the very best that he can, and is certainly improving all the time. The difficulty is that it is necessary for him to devote the larger part of his time to other matters.

With best regards, sincerely yours,

Paul C. Standley
Paul C. Standley,
Associate Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

September 9, 1924.

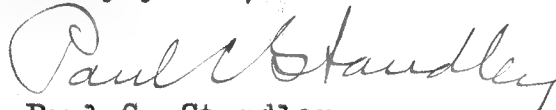
Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Inclosed is a specimen of an orchid (no. 73) included in a collection of Nicaraguan plants received recently from Brother Artemio. We should much appreciate having your identification of this specimen when convenient. The material need not be returned to us.

A few days ago I returned from about a month spent in botanical work in southeastern New Mexico. I did not see any orchids there, but did find many other things of interest. I am interested in learning whether you have yet had time to take up the Costa Rican orchids and what you have made of them. Recently we have received several good sized packages of orchids from Alfaro in Costa Rica, and I hope to have these ready to send to you before long. He seems very enthusiastic in his study of this group and must have obtained some good things.

Sincerely yours,



Paul C. Standley
Associate Curator
Division of Plants.

(Enclosure)

Platanthallis aff. *P. nicaraguensis* Reichb. f. + *P. Lyra*
glossa Schltdl. - No good flowers

Bro. Artemio 73. from Managua, Nicaragua.

Omnia Building Room 90.

Omnia Stone & Tool Co.
October 7, 1924 at 10 AM

1923

Bank Balance

State St. Trust

\$ 575.40 9/27.

Bro. Artemio 73.

Managua? Nicaragua

= *Plumaloballomnicaragensis* R. f.

or *P. longilobum* Schl.

Specimens sterile

SMITHSONIAN INSTITUTION

UNITED STATES NATIONAL MUSEUM

WASHINGTON, D. C.

October 13, 1924.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Recently I completed a short article upon orchid collecting in Central America which is to be published in the next Annual Report of the Smithsonian Institution. I wish to use the figures given by Schlechter in his enumeration of the Central American orchids, but strangely enough I have been unable to locate the article, although I have had it previously. It is remarkable that the article is not indexed in the Department of Agriculture catalogue. Will you be kind enough to tell me where it appeared? I should also be greatly obliged if you would give me the total number of species which Schlechter reports from each of the Central American countries. If you have any better data with regard to the orchid flora of these countries I should be very glad to use your figures. I should like also to know what statement Schlechter makes with regard to the total number of Costa Rican species in his more recent paper. This also apparently is not in the Department of Agriculture Library, and we do not have a copy of it in our own library.

Is *Epidendrum pachycarpum* Sch. a valid species? We have a photograph of this which I should like to use for illustration purposes.

Recently Alfaro has been forwarding a lot of orchid specimens and I hope to get them ready to send you in the near future. He has certainly been collecting very diligently, and I hope that he may have turned up some new things. In case there should be some undescribed species in his collection, I hope that you will name some of them for him, for I am sure that he would appreciate the distinction.

Sincerely yours,

Paul C. Standley

Paul C. Standley
Associate Curator,
Division of Plants.

My conclusions have led me to believe that

E. pachycarpum is a synonym of *E. ionaphlebrium* Reich. f.

Bull. Bot.

Centr. Bot. Band xxxvi

(1918) Abteilg. II

Trade Rept. Sp. nov.

Bull. Bot. Band XIX

||

Sp. nov. 7.

Sp. nov. 249

Ven. nov. 5

Comb. nov. 19.

355 Commonwealth Avenue, Boston, Mass.

October 17th 1924.

My dear Dr. Standley:

I am back on the job after a most unproductive summer and a very trying autumn. To-day I am giving my attention to your Costa Rican orchids. I shall have some news for you in a few days.

Bro. Artemin #73. Nicaragua, sent for determination is a sterile Pleurothallis allied to if not identical with *P. nicaraguensis* Reichb. f. It also has some resemblance to *P. lyroglossa* Schltr.

Schlechter's paper on Central American orchids appeared as follows: Beihefte z. Bot. Centralbl. Band XXXVI Abteil'g II (1918).

Costa Rican paper: Fedde Repert, Sp. nov. Beihefte, Band XIX. This according to a census on the inside, of my making, results as follows: Gen. nov. 7; sp. nov. 249; var. nov. 5; comb. nov. 14.

If you do not find these works I can give you any information you desire. In the meantime I shall take for granted that you will be able to find the works in question. Schlechter's census in the Cent. Am. flora is way out of date. If you wish to have a rough estimate made on the basis of new work, let me know that you do, and I shall dig out what I am able to.

Yours faithfully,

P.S. I have suspected for some time that *Epidendrum polycarpum* Schltr. is a synonym with *E. somphobium* Rehb. f. being - some flowers within of the *Ruberbachian* type. If you photograph shows small flowers it may represent Schltr. sp. in my type & was pointing - first settlement of its identity (A).

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

October 22, 1924.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

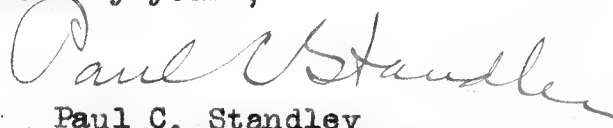
Dear Mr. Ames:

We are forwarding, by mail, as an exchange, a package containing 40 specimens of orchids which I collected in Panama last year. As I already have written you, I did not obtain very many orchids in Panama, but there are about as many more numbers probably, of which only a single specimen was collected. When these have been mounted we shall be glad to send them on to you for examination, although I do not think it is likely that there is anything of interest among them. A good many of the specimens now being forwarded to you are very scrappy, and it will, perhaps, not be possible to identify all of them, but we should appreciate having your determinations whenever it may be convenient to supply them.

Thank you very much for the data with regard to Schlechter's papers. If you could supply a rough estimate of the number of orchids occurring in each one of the six Central American countries (except Salvador) I should greatly appreciate having it. The information is for use in a popular article upon Central American orchids and for this reason it would not be worth while to make any special effort toward obtaining the figures, but in case they should be easily available, it would be interesting to use them.

I shall look forward with great interest to the results of your work upon the Costa Rican orchids. I do hope there may be something worth while among them. At this time of the year, when it begins to grow cold, I should be very glad to be starting again for Central America, and I hope that it may be possible to return there next year. It seems likely that it will be necessary to make another visit to Panama to obtain additional data for the flora of that region which we are working upon. If I do go to the Canal Zone again I hope it will be possible to make at the same time a visit to some more interesting part of Panama, either Chiriqui^{or} Bocas del Toro, or else to some new part of Costa Rica.

Sincerely yours,


Paul C. Standley
Associate Curator,
Division of Plants.

October 30, 1924.

Dr. Paul C. Standley,
U. S. National Museum,
Washington, D.C.

Dear Sir:-

Under separate cover I am forwarding to you a bundle of Cryptogams and Phanerogams which came to us together with some orchids with directions to send the former classes to you. They come from Mr. C H. Lankester, of Las Concevas, Cartago, Costa Rica.

Except for fumigation they are in just the condition in which they arrived. The enclosed labels came with the plants.

Yours very truly,

Assistant to Prof. Oakes Ames.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

October 30, 1924.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

The Museum is forwarding, by express as a loan, a box containing 112 specimens of orchids from Costa Rica. This is the material which Mr. Alfaro has been sending, and I trust that there may be something of interest in it. We have already sent you some of the duplicates.

Sincerely yours,

Paul C. Standley
Paul C. Standley
Associate Curator,
Division of Plants.

Ⓐ

355 Commonwealth Avenue, Boston, NORTH EASTON, MASS.

November 9th, 1924.

My dear Dr. Standley: Excluding Mexico, I find that the Central American orchid flora consists at this date of some 145 genera and 1,359 species. Do you want a list of the genera and the distribution of the species?

I have had one hell of an autumn! It would seem that I have to be business man and scientist all at one time. And then, last week, my poor sister practically received her death warrant and had to have my assistance in making the disposition of her property. She may live out the year. In late September my co-trustee committed suicide and the entire burden of numerous trusts falls on my roomy shoulders. Add to these complications the duty of Curator of the Botanical Museum and the job of teaching a class in economic botany, and you have a messy picture. My work on the Central American orchids is going ahead. The bibliographical enumeration of the species has resulted in a great catalogue. I found it necessary to make a complete bibliographical survey and this has been in progress for over a year. A big thing that ought to be published some day after it has served its chief purpose, as the basis of youⁿ orchid section in the Central American Flora.

Yours faithfully,

Charles C. Andrews

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

January 7, 1925.

Mr. Oakes Ames,
Boston, Massachusetts.

Dear Mr. Ames:

Yesterday I had a rather interesting letter from Anastasio Alfaro, in which, among other things, there appears the following:

"If you can obtain some publication by Mr. Ames upon the orchids of Costa Rica, I should appreciate it very much, for I wish to be able to recognize other genera than the ornamental plants that are treated in the manuals of the European gardeners."

He already has the work of Constatin, which I sent him, and I should think that would take up most of the genera. Probably what he wants is something upon the species. If there is anything besides your own publications that would be useful to him, I should be glad to know of it, and will make an effort to send it to him. Incidentally, I have made good use of Constatin's book, and have sent a number of copies, half a dozen or more, to Central America. Mr. Powell was much pleased with it. If Schlechter's book were not written in German (which few people in Central America read) it would be useful, but if I have been correctly informed, it is rather expensive.

Don Anastasio says further:

"Don Alberto (Brenes) has continued sending orchids to Berlin, and Dr. Schlechter recently has sent here a plant collector, Mr. Sydow, who is waiting here for Don Alberto to take him to San Ramón, which seems to be an inexhaustible mine from the standpoint of plants. If Mr. Ames delays publication upon our orchids the Germans will get priority."

Dr. Arthur, when he was here the other day, told me that Sydow was going to Costa Rica to collect rusts. He seemed to be quite worried about it, but he said that he was unable to understand why he should go to Costa Rica, whose rust flora is comparatively well known, when there are so many other unexplored regions equally accessible.

Alfaro has been sending on several other packages of orchids, and I must get them ready to send to you. He is certainly taking a great interest in the matter, and deserves encouragement. He is one of the finest men that I have ever met in Central America. In a recent letter he stated that Werckle had died a few days before. The latter was a comparatively young man, but like most of the other Swiss who went to Costa Rica, he was a victim of

his passion for strong drink.

Now I have something troublesome upon which to ask you for advice and assistance. Some time ago I began work upon a sort of a flora of the Canal Zone and vicinity. It has no very definite geographic limits. I have taken in all the Zone and places near by in Panama that are easily and ordinarily reached by the automobile roads, launches, etc. At first it was intended only to publish a popular bulletin--a volume of the Contributions--giving notes upon the interesting and conspicuous plants of the Zone, but it seemed desirable to make some record of the species occurring there. As now being prepared, there is a key to the genera of each family; under each genus a rather full key to the species; and after the species key there are popular notes upon the species, giving vernacular names, local uses, and anything that may be of general interest. Since most of the common tropical American plants occur about the Zone, such a work will be rather widely useful, and we have a great many calls for such a publication. Half-tones will be used for illustration.

Prof. Hitchcock is going to do the grasses, and Mr. Maxon will probably furnish an account of the ferns, although the latter may be omitted. The palms are a bad group, since most of those occurring about the Zone seem to lack names, but it may be that Mr. Cook will write them up. If not, I shall have to do them myself. What would you suggest with regard to the orchids? I suppose there are not more than about a hundred of them, although I can see that it would be difficult to know what to include, especially from Mr. Powell's collections. If you could find it practicable to prepare an account of the family, I should greatly appreciate it. I can understand, however, how little interest there would be in such a piece of work. Perhaps it would be possible to extract the information from what you have already prepared for the flora of Central America. This I have been able to do, so far as I have written up the flora. I have prepared about a third of it, I suppose, and it is certainly very useful when collections come in for determination. Please let me hear your views with regard to this matter. I shall be glad to send on some samples as to style, etc.

With regard to the Flora of Central America, I do not feel in any hurry about publishing it, as long as we can continue exploration down there. Prof. Hitchcock has begun work recently upon the grasses, and when he completes them, I think the first part of the flora will be turned in for publication. I still have one part of the Mexican Trees and Shrubs to publish, but that is all ready for the printer, and will probably be turned in next spring.

I expect to get back to Central America for a few months this year, but so far I am not sure as to where I shall go. Mr. Coville wants me to go to the Zone again, and I should rather like to do so, to make this local flora

as complete as possible. However, I have sufficient data already to make the flora reasonably comprehensive. Mr. Coville, the last time I talked with him upon the subject, seemed to doubt whether the Department of Agriculture would be able to finance a trip to the Zone this year, and I do not care to use personal funds for such a trip--to the Zone--nor do I care to ask them from outside sources, since that is about the least productive and interesting part of Central America. In case I do go to the Zone, I shall try to make a trip also to Bocas del Toro, as I believe I have already written you.

If the Department will not bear the expenses of the Zone trip, I think I shall try to go to Honduras, from which country we have nothing worth mentioning. I am sure the United Fruit Company will be as generous as always there, and the small amount necessary for the trip it will be easy to secure.

I should like very much to make a trip to the Alta Verapaz region of Guatemala. I suppose that next to Costa Rica that is the richest part of Central America, and there must be lots of good plants still awaiting discovery. I certainly wish to go there within the next few years. The only difficulty is that the region is not too accessible, and I do not have any acquaintances there, although I think it would be possible to establish connections of some sort. Most of the planters over there are Germans and I do not know exactly how to get in touch with them, although I have no doubt they would do everything they could if I had the proper letters to them.

Nothing would please me better than to go back to Costa Rica again. The only Costa Rican plants I have worked up so far, of my collection, are the Rubiaceae, and I found a lot of very distinct new things among them--about eight new Psychotrias, and half a dozen Hoffmannias. Also I got a lot of material of a plant common everywhere in the mountain forests. I did not recognize it in the field, nor here either, until it turned out to be a genus described by Oersted. Only the original specimen was known, and the genus had always been held a doubtful one--that seems rather amusing after getting acquainted with the plant. How all the other collectors could have missed it I do not know, since it is a plant about three feet high with large clusters of bright red flowers!

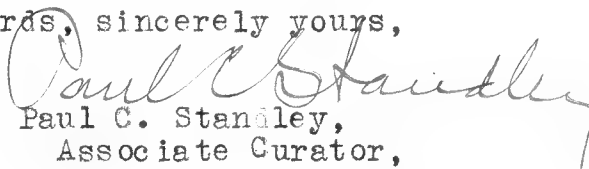
As far as orchids are concerned, there are only two places that are likely to give much in the way of returns, Costa Rica and the mountains of Guatemala. How anxious you are to obtain more orchids from those regions I do not know; yes, I do know that you are anxious to obtain them, but whether there is any urgency in the matter, is the question. If there is, I should be glad to consider going to Costa Rica or Guatemala this year, if you think it desirable. Otherwise I shall try to get to Honduras, if the Panama trip does not materialize, and if the revolutionists are not too rampant next winter.

Prof. Record offered me money for a trip to British

Honduras last year, if I would go before December first, and he was very insistent that I should go, but I could not very well leave so soon for another trip, especially as I expected that Maxon would be away this winter. I am anxious to go to British Honduras, but would not care to spend more than two months there, at the most. The flora is practically unknown. Of course it can not be very good for orchids, even up in the mountains, and I understand it is practically impossible to get into the mountains.

Please pardon this long and exceedingly verbose letter. I was anxious, however, to let you know what I hoped to do this year in the way of collecting. With regard to orchids I should like to do whatever I can, and it is especially important to get as many of them as possible when there is someone, as yourself, actively engaged with them. I am very curious to know how those I got in Costa Rica have turned out. I should be glad to learn that they really are of some interest, for if not I am afraid that I shall never be a success as an orchid collector. I don't believe it will ever be possible to find a better place than the Costa Rican highlands for hunting them.

With best regards, sincerely yours,


Paul C. Stanley,
Associate Curator,
Division of Plants.

355 Commonwealth Avenue, Boston.

January 10th, 1925.

My dear Dr. Standley: Your good letter of the seventh was most welcome. It is always a pleasure to learn from you regarding your plans for tropical exploration.

I have had a most unsatisfactory winter from a botanical point of view, because numerous burdens have been added to an already oppressive load of duties. I have had to depend on my staff of assistants for the routine work of tentative determinations. At this time I have about fifty Central American novelties ready for the press. I intend to push these into print before the end of the coming week. The Alfaro collection is worked up and I have made progress with your Costa Rican material. It is too early to tell you about your results, but at present it would seem that you duplicated species more often than you found new ones. This has advantages.

Send sample pages of your Panama Flora. I think I can help you to get what you want.

The Guatemalan programme meets with my approval. I hope, however, that you will finally decide to make another campaign in Costa Rica. When your plans are matured let me know what you need from me. I am, as you know by this time, a very willing contributor to your war-chest.

Last summer I received a long letter from Brenes. I answered his letter with a great deal of tact and suggested that a montly payment for his services could be arranged. I believe I offered fifty dollars as a monthly allowance with additions for field work and transportation. I have not heard from Brenes, and from your letter of the seventh January, it would seem that he has maintained his position toward Schlechter. This is too bad and at the same time most incomprehensible. I have had in mind another letter to Brenes, but my time has been so taken up with diversions in the detestable business field, that letters have had to be few. Do you suppose it would be diplomatic for you to write to Brenes and explain matters at the same time telling him that I am ready to make advantageous arrangements with him? You know him and he would probably be frank with you. If you do write, please refer to the sudden turn of events that carried me from the realm of orchidology into the realm of finance. Parenthetically I am glad to tell you that I have made progress in my work and that in another month I expect to be back again in the orchid game.

I have sent a complete set of Shed. Orch. to Alfaro.

Best wishes for the New Year. And pass along this same wish to Mr. Maxon.

Yours faithfully,

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

January 16, 1925.

Mr. Oakes Ames,
Boston, Massachusetts.

Dear Mr. Ames:

With this I am sending manuscript of various families as treated in the proposed flora of the Canal Zone. These will probably show all the forms that are likely to be used. There are no hard and fast rules with regard to the matter to be included, and anything of interest in the way of notes etc. is very desirable. Aside from the keys, which are technical, since no one but a botanist is likely to use them, the text is supposed to be of as popular a nature as possible. Everything in the way of critical and technical notes I am leaving for the flora of Central America, whose plan is altogether different.

Just what are the geographical limits of this flora, probably no one besides myself will ever know. They are, however, rather elastic. The area includes all of the Canal Zone, and a good deal of the nearby Province of Panama, as far as Chepo and the Bayano River. On the Atlantic coast I have not included Porto Bello, since the flora there seems to be somewhat different. Outlying stations to be included are Taboga Island, Alhajuela, and El Vigía. In the orchids you will have to use your own judgement, especially since many of Mr. Powell's localities are so indefinite. I suppose nearly all the lowland Panama orchids are likely to be found somewhere around the Zone.

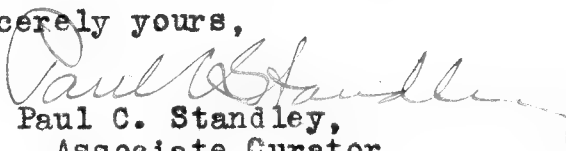
It seems rather probable that some species of plants have disappeared from the region, as a result of the building the canal. Fendler collected a good many things that no one has found recently, but this may well be because the vicinity of the mouth of the Chagres, where he did his work, has not been much visited by recent collectors. But Seemann found a good many things about Panama City, that I feel sure recent visitors would have found if the plants were still growing there.

We are expecting to use some halftones for illustration of this report, and other forms of illustration also will be welcomed. We have just gotten a fine photograph of the Holy Ghost orchid, that flowered at the Department of Agriculture. I wished to use it in the article in the Smithsonian Report, but could not get the photograph in time.

As soon as I can come to a definite conclusion with regard to plans for this year I will let you know of them. I hope to discuss the matter soon with Mr. Coville.

I shall try to prepare a letter to Brenes. It may do some good, and will scarcely do any harm. I will ask Lankester also to take the matter up with him, in case he has the opportunity. Alfaro or Otón Jiménez might act as intermediaries, were it not for the fact that Brenes is not very friendly toward either of them. Otón took me first to see Brenes, but he told me that he was not a very good padriño, and took me only because Brenes was less unfriendly to him than to anyone else who was available to present me! I believe that Lankester and Brenes are on very good terms, probably because of the fact that Central Americans generally have a great deal of confidence in Americans and Englishmen, at least as to their frankness and fair dealing.

Sincerely yours,


Paul C. Standley,
Associate Curator,
Division of Plants.

355 Commonwealth Avenue,

Boston, Mass., May 2d, 1925.

My dear Mr. Standley:

As I intend to devote the greater part of my vacation this summer to a study of the genus *Stelis*, I set out for the mounter the whole of your Costa Rican collection, yesterday forenoon. I have never before handled such a well preserved set of *Stelis* specimens. It will be a pure joy to work on your material, and through its unexampled fullness, to clarify some of the dim spots in the Central American representation of the genus. To you it may seem that the same species is too frequently represented, but for my purposes it is essential that there should be numerous examples of everything. Up to the present time we have had to depend too much on single specimens, in studies of the Central American orchid flora.

When you receive the kist of numbers you will be surprised at the small number of specimens that cannot be given a name. But I must warn you that fruiting material in the orchids is next to valueless until one is becoming very familiar with a special flora. In vegetative habit, numerous species of *Stelis* and *Pleurothallis* simply repeat a pattern, while florally they are extraordinarily distinct through great differences. To determine the plants that are sterile, one must have a large and almost complete

over

representation of the genera of a region, and laboriously compare the fruiting specimen with every one of its allies. This, as you know, is a time consuming task and as a rule is hardly worth while. For this reason, I usually warn collectors against fruiting specimens.

Your Costa Rican collection is the largest one received all at one time that I have ever handled. The clerical work connected with such a collection, for a small private laboratory, is of overwhelming proportions. I am delighted to see the end of the work coming quickly into view!

By this time you must know whether another expedition to Costa Rica is an indicated necessity. If your thoughts are turning toward another expedition, I am ready to help pretty substantially with contributions to the war-chest. In my opinion, it would be well to take the field at a different season of the year. A month earlier than last time would catch many of the specimens in flower that you found in fruit.

What is cocobola? When I was in San José I picked up a cane made of the wood. I want to know what the plant is that yields the wood.

I sent to Brenes, \$150.00, to pay for his collection. He is as dumb as a turtle and has responded in a similar way to stimulation.

Yours faithfully,

Arthur Cronquist

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM

WASHINGTON, D. C.

April 3, 1926.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

It is uncertain to me whether you have yet returned to Boston from your West Indian trip, but I judge from your letter of the last of February, addressed to Maxon, that probably you have. I hope you may have had an agreeable and beneficial trip. There can surely be nothing more restful than a sea voyage, for one's activities are decidedly restricted.

I returned to Washington last Sunday, March 28, leaving Costa Rica March 19, and coming by way of Puerto Castilla, Honduras, Havana, and New Orleans. I wanted to return via New York, the most convenient port, but at this season of the year it is almost impossible to secure accommodations upon the larger steamers.

As it is, I am glad that I came back the way I did, for I got to see two places new to me. I liked very much the looks of Puerto Castilla, and I think it likely that the next trip I attempt to Central America, probably at the end of 1927, will be to that region. One can go now eighty miles into the interior by railroad. At the end of the line is a desert. Deserts are not common in Central America, the only other one being that of Zacapa in Guatemala. Since no collecting has ever been done in this one, it seems likely that there are a lot of endemic species to be found there. At any rate, we need the plants from Honduras, for there is no other country of Central America from which we have so few.

The trip to Costa Rica resulted satisfactorily in nearly every respect. The collections are now safe here in Washington. They total over 11,700 numbers, nearly all from Costa Rica. The other time I brought eight thousand numbers from Costa Rica, but also about 7000 from Panama. I think I should perhaps rather have this year's collection that that of the other trip. Certainly it is likely to contain a much larger number of new species.

Of orchids I have about 2060 numbers, considerably more than last time. For the first two months I was in Costa Rica I did not do so very well with orchids, but during the last six weeks, spent in the central part of the country, they accumulated rapidly. There were lots of them in flower, also. If I had spent all of the time in central Costa Rica, I should probably have about 3500 orchid numbers, but I am not altogether sorry that I spent some of the time that I did in outlying places. You can never tell what a region is like until you go and investigate

it yourself. I should never have been contented if I had not gone to some of the places that I visited this year, for otherwise I should always have believed that I had probably overlooked a rich opportunity.

I made two major trips far from the Meseta Central. The first was to Santa María de Dota, about 35 miles from San José, and south of Cartago. The mountains immediately at the south of Cartago are perhaps the richest region of all Costa Rica, and I had supposed that the mountains of Dota would be a continuation of them, with respect to flora. In this I was sadly mistaken. The region is comparatively dry, and the forests almost wholly of oaks. Orchids are few and far between. Still, I did get some of them. It was very remarkable to find here great quantities of orchids that are normally epiphytic, growing in colonies upon the ground in the oak forest. The plants in many cases were evidently many years old, and they occurred in such profusion as to indicate that their occurrence was not accidental. The reason for such a habit I do not know. Possibly they are plants that fell on the ground years ago when trees were cut for lumber or fuel, although I rather doubt this. I have never seen anything like it elsewhere. Ordinarily, when trees are cut the small orchids die almost at once, and soon after the large ones. I have never seen even the large ones persisting on the ground upon such occasions. Of course, high up in the wet mountain forests you often do find epiphytic orchids on wet mossy banks, but the conditions there are similar to those existing on the moss-covered tree trunks.

This case was quite different, for conditions in these oak forests were almost xerophytic. I think I have *Orchidotypus* again, from this region; perhaps I am mistaken. At least it is a plant equally small.

I should not have stayed so long--over three weeks--in Santa María, but I was always hoping to find something better somewhere. The most interesting place in the region that I saw was the Cerro de las Vueltas, to which we made two trips. It has an altitude of 16,000 feet, and is exactly like the paramos of the Andes. The plants are of Andean types and genera, and I suspect a good proportion of them belong to new species. One was a *Rumex* about 15 feet high! Up there I found, if I remember correctly, only three orchids. Two were *Telipogons*, and I shall be disappointed if they do not turn out to be new species.

From Santa María we went directly to Guanacaste, where we spent nearly a month. I like Guanacaste much better when I am somewhere else. Under other conditions I might like it better, but I shall be surprised if I ever want to go back there. Still, I have a very good collection from the region, not as many plants as I ought to have, by any means. No one had ever collected there before, and I suppose I must have a good many new things. There are not so many as I had hoped for, for the vegetation is strikingly like that of central Costa Rica; it ought to be different.

The altitude of the mountains near Tilarán is only

about 2700 feet, but on account of peculiar local conditions the climate and flora is much like that found in central Costa Rica at four to eight thousand feet.

I must confess that I did find a good many orchids in the Tilarán region. Since no one has collected there before, there ought to be a lot of new ones, but I rather doubt it. I imagine the species are much like those about San Ramón, where Brenes has collected so much.

April 6. I did not get as far along with this letter the other night as I had anticipated, but I shall try to end it now.

I was rather successful this season in finding terrestrial orchids, and there ought to be some good things among them. They are rather hard to find, that is, there is not much use in hunting for them, but you stumble on them from time to time--if you have good luck. I also found some of the smallest orchids that I have ever seen.

Around Tilarán there is a remarkable abundance of Trichopilias, and I saw as handsome plants in flower in the woods as I have ever seen in cultivation. There were also a few Oncidiums. I do not know why it is, but I never seem to be where Oncidiums are when they are in flower. Also, I have never seen a Miltonia in blossom in the forest, although I do not believe they are rare.

I wish that I might devise some plan by which it might be possible to utilize native collectors, but I have never had any success in that direction. Mr. Powell claims to have succeeded, but judging from his accounts, his outlay was out of proportion to what he obtained. Over at Santa María I had several boys bringing in orchid plants, but I managed to accumulate a fine lot of "lirio del valle" (*Osmoglossum*), and little else.

After we returned from Guanacaste to San José I made short trips out on all sides from that place, returning to dry the specimens in the Museum. In six weeks spent there I got about twice as many numbers of orchids as in the previous two months. There are lots of things that I did not see upon the trip of two years ago.

I revisited only one locality at which I collected two years ago, El Muñeco. I believe that is the richest region of all Costa Rica--perhaps not in orchids. I looked for *Stenorhynchus standleyi*, but couldn't find it.

We made one trip down to the Atlantic coast, to Cairo, altitude about 75 feet. On the old cacao trees there there was a great variety of orchids, although I imagine they are chiefly common things. Mr. Nevermann, with whom we stayed, has several species of Vanilla in cultivation. I have specimens of one species named for him by Schlechter, but I do not find the name in our card index of new species, fortunately perhaps.

One trip I made with Prof. Torres to Fraijanes, on the slopes of the Volcano of Poás. It is a good region, wetter than the other parts of the volcano that I know. Valerio and I made three trips to the hills of Zurquí, the same

general region as La Palma, but really a part of the Volcano of Barba. That is where we got the greatest quantity of orchids. The trees are all loaded with them, and in great variety. If you could only visit a locality like that once a month for a year, it would be possible to make a rich haul.

The labels for the collection I had printed while in San José--printing there costs about a third what it does in the States, and the work is just as good. Of course, I found a good deal of work waiting for me here when I returned, but I am getting it out of the way. I hope that it will not be long before I can go over the lot and take out the orchids to send you. You can then judge for yourself of what I have gotten this year. I hope the collection may be richer in new species than was the one of two years ago, but perhaps we are getting toward the end of good new species of Costa Rican orchids. To hear Brenes talk, one would believe there were as many new ones there as ever, but I suspect he has a Schlechterian idea of what constitutes a species.

The first important piece of work that I have to take up is the completion of the flora of the Canal Zone. The manuscript is already practically complete, but I have to write the introduction, and write up one or two groups that I have tried, unsuccessfully, to have done elsewhere. You will remember that you were kind enough to offer to furnish the orchid part for this volume, and if you can let me have the manuscript about the first of July, I should appreciate it very much. I trust the Zone orchids are not very numerous, but I can understand the diffiduly you will have in separating them. This subject, however, we have discusses previously.

While in Costa Rica this year I assumed one more project. The scientific people there are anxious that I prepare for publication a list of the plants of Costa Rica, similar to the list of Salvadorean plants by Dr. Calderón and myself. It will be a check list only, without keys, but preferably with localities for the rarer plants, and with altitudes, etc. If you can prepare such a list of the Costa Rican orchids within the next year or so, I should like greatly to have it for publication. Of course, it is understodd that this list will not be a final one, and it may be necessary to make the treatment more or less conventional in some cases, listing perhaps the species described from Costa Rica, and leaving their final status to await more careful monographic work.

It is expected that the list will be published in Spanish in San José, and probably at the expense of the Costa Rican government. It may be necessary to obtain some outside assistance in its publication, but I feel sure that this can be managed.

I had a very agreeable visit with Mr. Powell for three weeks in Panama. I shall not write more about this at present for it is possible that you may have seen him upon your trip.

Three times I was at Lankester's, a delightful place at which to be. He has some handsome orchids now, and new ones coming on all the time. If he would only devote himself seriously to orchids, and leave along the butterflies and some other things, he could do wonders. It is wonderful to see the number of orchids that he has discovered on his finca, which I consider about as poor a place for them as any locality that I know in Costa Rica. He does know the orchids, at least some of them, but I know that he passes up a good many things that do not interest him, or that he takes to be common species. They are common species where he knows them, but they may not be so plentiful in herbaria.

Don Anastasio is as fine as ever. There is no one in Central America that I like better, or in whom I have more trust. He has quite a collection of living plants at his home. He has little room for them as a matter of fact, but when the plants bloom he usually gives them away to his friends, after making specimens, and brings in new plants for cultivation. He was greatly pleased with your list of determinations. I hope you may have gotten some new species out of his sendings. The people down there esteem very highly species that are named after them, and that is about the only reward they get out of their work of collecting plants.

I spent about two hours one day talking to Alberto Brenes. He is a difficult problem, and I do not know whether it is worth while bothering with him or not. He has promised to send me some of his collections of other groups, but I do not know whether anything will come of it or not. When Schlechter died, Don Alberto wrote to Berlin and asked them to return his unnamed orchids, but they wrote stating that another man was to take up Schlechter's work, and that he would send him the determinations. I do not remember who the man is, but probably you know of him.

Presumably you know that Don Alberto has not cashed the check you sent him. He tells me now that since he is paid for his work as botanist of the Museum in San José, it would be improper for him to receive any other remuneration. That is quite different from what he told me when I was there before, for then he was very anxious to obtain the money. Alfaro told him that if he did not wish to receive the money personally, he should cash the check and use the money for his field expenses. I have very little patience with Brenes. He must have some good qualities, but it is difficult to discover what they are. The other scientists in Costa Rica are always ready to take his part, although admitting his eccentricities--a very mild term for them--but they certainly do endure a lot from him.

Don Alberto told me this time that he was quite willing to continue sending orchids here if he could receive only determinations for them. I do not think I shall bother much with him myself. As a matter of fact, he does not collect a very large amount of material. He does absolutely nothing else except work with plants, yet I doubt that in the course

of a year he gets four hundred numbers. He is not waht might be considered a rapid worker. He pleased me greatly by appearing one day at the Museum while I was absent and telling the boy who worked for me that it was impossible to make good specimens by drying them with artificial heat. I do not know how you man do much with orchids any other way.

Almost all the time I was in Costa Rica I had with me Juvenal Valerio, a young man of about 25, inspector of schools in Guanacaste, a position for which older men usually are employed. He is a pupil of Alberto Brenes, and Otón Jiménez admits that he has acquired some of Don Alberto's characteristics, but at that he is a very good fellow. He was certainly a congenial companion and a most useful one. I lost my patience with him a good many times, but that was probably a good deal more my fault than his. There is no use in expecting Central American people, even the best of them, to do things as we are accustomed to having them done, and very often it results that they obtain just as good results as we do, doing things in their own way.

Valerio is a very competent and capable fellow, with a good education. He is an untiring reader and well informed on a great variety of subjects. He is more interested in botany than in any other subject, and I believe that we can expect something worth while from him. He has certainly had some tutoring in botanical methods, and he knows now how to collect and prepare specimens. I left with him most of the outfit that I used this year.

At present he is located in Guanacaste, and he is expecting to do some collecting there this year. He knows what and where to collect. When it comes to collecting orchids he is particularly good, and he has more patience with them than I have. Of those that I brought back this year, I think he collected about half. If there are any new species in the collection, I hope you will keep him in mind in naming them. Also, if you can send him any publications, I know he will appreciate them highly, particularly those relating to Central America. He has quite a large library, and takes great pride in it. His address is Prof. Juvenal Valerio, Tilarán, Guanacaste, Costa Rica.

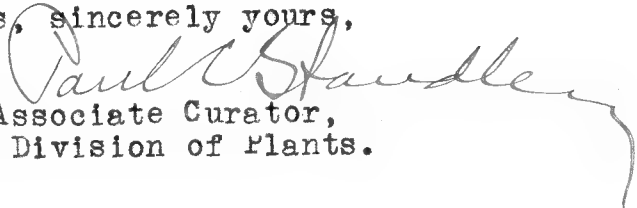
Valerio would like very much to come to the States to spend a year in study, and I hope it may be arranged somehow. He is hoping to get a grant of a hundred dollars a month from the government, for study for a year. It would be a good thing for him, and incidentally for the United States. Very few Costa Ricans come to the States to study, except physicians and dentists. Most of them go to Europe. In Salvador, on the other hand, nearly all the students come to this country.

I am sure that already I have written enough to try your patience in reading it, and it is probable that I have omitted some of the most important things that I wished to mention. You have seen, I believe, most of the notes that

I sent to Maxon, giving the details of my trip.

I hope it will not be long until I can get the specimens off to you. I have a small collection of flowers of *Stelis* and *Pleurothallis* in alcohol, that I hope may be of some use to you. It is hard to find at one time enough of any one species of *Pleurothallis* to make alcoholic specimens, but some of the *Stelis* you can find in ample quantity. It is very seldom in Costa Rica that you find a large quantity of an orchid at one time, perhaps excepting *Epidendrum radicans*.

With best regards, sincerely yours,


Associate Curator,
Division of Plants.

355 Commonwealth Avenue,
Boston, Mass., April 8th, 1926.

My dear Dr. Standley: Your good and welcome letter of the third April, came in this morning and was delightful reading. I am so glad that you are back again and that your collections have come safely to port. Will you hold it up against me if I say that your experiences as described made me envious!

My expedition was a lazy cruise de luxe. I had to content myself with market-botany and binocular observations from the steamer's deck. But I got what I went after, a long rest and a return to health.

There is an article in the Evening Transcript which headlines me in connection with your expedition. I sometimes think that the news papers go out of the way to make privacy a crime.

Work on Central American orchids has gone forward and I have about twenty-five new species to describe and about as many more to reduce. As material has accumulated, it has become very evident that lines have been drawn to delicately in the recognition of species. My only consolation is that more of Schlechter's recently published species than of mine, go down to troublesome synonymy.

I have set aside the genus *Stelis* for summer work. I hope to be able to finish the monograph of the Central American and Mexican species for publication in the fall. As I have continued to have every species drawn, the plates will make this work a most useful one for the fellow who struggles with *Stelis* in the future. Surely some of the bottled material you have secured will make possible some corrections among species that have had to be drawn from dried specimens.

I stopped work on the comprehensive bibliography of C.A. orchids last October, but I have such a wonderful beginning that I can give you a list of the Costa Rican things without any trouble at all; complete bibliography, if you want it, and a pretty good record of distribution. It is my intention to take up the work of finishing the bibliography for publication. It will be a distinct contribution if I ever have the courage and the funds to publish it.

It will be necessary to limit the Panama list to the species that are known to come actually from the Zone. Otherwise, I fear the task of compilation will be too great, and overburden your text. When I made a list of the Zone products and of those species that might come from just outside, I found the cards accumulating in a tall pile. Too many!

I am anxious to begin work on the new collection. If you will send the specimens to me as soon as they are freed from the non-orchidaceous ones, I shall begin the determinations right away and get the new species published at the earliest possible time.

We have been checking up on Schlechter pretty carefully this winter. From Mrs. Schlechter I received a set of tracings from Schlechter's drawings and types together with flowers where they could be spared. This material has made possible some critical work that does not do credit to my late friend. He made his descriptions of floral parts from his free hand drawings rather than from the flowers themselves. He was not careful in making his drawings and if two plants differed in the drawings, although they were the same, he made two species.

What you say about some Berlin botanist continuing Dr. S's work, alarms me. Anyway, it will take some time for a new man to man to learn the game.

With the best of good wishes,

Yours faithfully,

Robert Oakes

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

April 29, 1926.

Mr. Oakes Ames,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Ames:

Today I am sending by express the collection of Costa Rican orchids of this year. I hope the box will reach you in good condition and promptly.

With this letter I am sending a list of the numbers represented, to help you in reporting on the collection. There are doubtless some mistakes in this list, since it was made hurriedly. Some of the generic names entered, in particular, are not to be taken too seriously.

There are included in the box the vials of flowers in alcohol that I collected, about seventy of them, I believe. All this material now sent, both dry and alcoholic, is to be retained by yourself, of course. A good many specimens are unicates, but it is only fair that you should have them.

You will find in the lot material of all sorts. I always dislike to pass any orchid for fear that I may miss something worth collecting. In case any of this material is too difficult or valueless, as I feel sure some of it is, I would suggest that you discard it, and not bother about making an identification of it. The plants when fresh often look much better than when dry, else some of these I should never have collected.

With some of the plants that I collected in Guanacaste, I had some difficulty with moisture, and a few of them have molded. In order to protect the packages of supposedly dry plants from the rain, that came rather freely into the room I had, I placed them in chests, forgetting that moisture would be conserved and condensed in the chests. Shortly before leaving I discovered that the packages were damp, and had them out in the sun. Fortunately the specimens were not injured as much as I had feared they might be.

There are so many of the Costa Rican orchids that I have never seen in flower. I should like to go down there once in the rainy season, in the middle of our summer. I think it ought to be possible then to get a wholly new lot of orchids. I have hopes that Valerio will turn up some different ones over in Guanacaste this summer. I believe that he will do some serious collecting there, but only time will tell.

I hope you will remember what I believe I mentioned in my earlier letter about naming some of the new species, in case there are any. Valerio collected a large proportion of the orchids, and some of the best ones. He will esteem very highly the honor of having any new species named for him.

I have told Maxon that after I once have a species named for me in any genus, I lose interest in collecting the genus further! I have been pretty fortunate in the case of the orchids. I am sorry that I can not have one of these Telipogons named for me, for the two from Cerro de las Vueltas are exceptionally handsome things. I have supposed that the one from Laguna de la Escuadra is a known species, but I shall be disappointed if those from las Vueltas are not new; they ought to be.

It is a pity that Telipogons are not more plentiful as to individuals. Lankester tells me he has seen them in abundance. Perhaps he has told you of how he once went to Pacayas and was astonished to find that the great Cryptomeria trees there had burst into flower. On closer inspection he found they were covered with blossoming Telipogon plants. The genus is one interests me, but I have found the plants only by accident.

I have never seen a *Miltonia* in flower, that is, in the forest. In San José this year I had an opportunity one day to buy some handsome flowering plants, but it was the day I was leaving for Guanacaste, and I had no way of drying them, else I should not have delayed long in buying the plants.

In case any of the plants collected by Torres and myself turn out to be new, I should be glad if you would name one or two for him. I should be glad also to have any of the new species named for Alfaro, if he has not some new ones of his own collecting, but I imagine he has.

The article in the Transcript I did not see, but I saw one published here which may have been its inspiration. I did not have anything to do with it, and it was in fact prepared before I returned to Washington. I am not sure who was responsible for it, but I should not myself have made public such information, unless I felt sure you wished it done--I had no such belief.

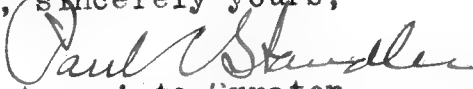
In the near future I hope to be able to get to work on some of the other parts of the Costa Rican collection. I have a fine collection of *Eupatorium* and *Mikania* for Dr. Robinson. A year ago I sent him about fifteen sheets of these groups that I had collected on the other trip--they were plants that I had not been able to determine here readily. It resulted that they represented six new species, and another described from Ecuador but never found before elsewhere. I think I have some more new ones this time.

The *Epidendrum* in alcohol I hope may be something new. I do not believe I ever collected it before. The flowers are quite handsome. I am curious to see if I am right about the *Orchidotypus*. I have not looked up our specimens here for comparison, and perhaps I am altogether mistaken. At any rate, the plant from La Cima is a curious thing, growing out on the ultimate and smallest branchlets of the oak trees, where one would never look for orchids.

The orchids from Guanacaste do not seem to me very in-

teresting for the most part, but I hope I may be mistaken. The whole flora there was not so distinctive as I had hoped. Ordinarily in Costa Rica two places only a few miles apart, even if at about the same altitude, have widely different floras. Since no one had ever collected any plants at all anywhere near this part of Guanacaste, I expected to find a large number of very distinct new species there, but the flora on the whole, although not composed of weedy plants by any means, seemed to consist pretty largely of plants that are common in the mountains of central Costa Rica. I should rather expect to find in Guanacaste some of the species that Brenes has turned up about San Ramón, for the latter locality is not so far away, and midway between San José and Guanacaste.

With best regards, sincerely yours,


Associate Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

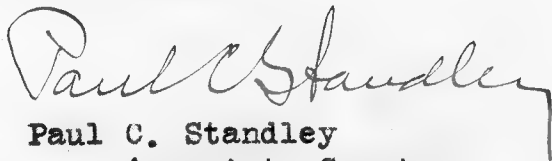
May 5, 1926.

Mr. Charles Schweinfurth,
Ames Botanical Laboratory,
355 Commonwealth Avenue,
Boston, Massachusetts.

Dear Mr. Schweinfurth:

Thank you very much for the two specimens of Costa Rican plants forwarded with your letter of April 28. Your interest in sending on these specimens collected by Sr. Don Anastasio Alfaro is much appreciated.

Very truly yours,



Paul C. Standley
Associate Curator,
Division of Plants.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

August 5, 1926.

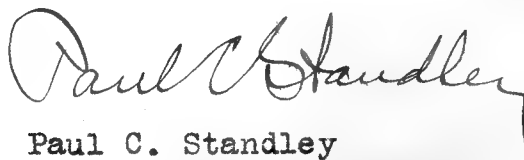
Mr. Oakes Ames,
North Easton, Massachusetts.

Dear Mr. Ames:

The Museum is forwarding, by mail, as an exchange, to the Museum in Cambridge a package containing 9 specimens of Orchids from Costa Rica. These specimens are a part of a recent sending received from Alfaro. As soon as our material has been mounted it will be forwarded to you for study.

Blake and I are expecting to leave here Saturday morning and we shall be glad to take advantage of your kind invitation one of the days that we are in Stoughton.

Very truly yours,



Paul C. Standley
Associate Curator,
Division of Plants.

July 7th, 1927.

Dr. Paul C. Standley,
U.S. National Herbarium,
Smithsonian Building,
Washington, D. C.

Dear Sir:

At Professor Ames' request, I am herewith sending a list
of the Yucatan Orchids recently sent from the Field Museum at Chicago.

Brassavola Digbyana Lindl. (*Laelia Digbyana* Benth.)

G. F. Gaumer s. n. Izamal & vicinity, 1904.

" 23147, State, June.

G. F. Gaumer & Sons, 23357, Libre Union, May, 1916.

G. F. Gaumer, 667, Port Silam.

" 667, bis. Port Silam.

" 667, tris. " "

Brassavola Digbyana Ldl? (no flowers).

G. F. Gaumer & Sons, 23752, Lake Chichankanab, April 1917.

Oncidium sphacelatum Lindl.

G. F. Gaumer & Sons, 23664, Lake Chichankanab, April 1917.

"
" 23664, bis. Lake Chichankanab, April 1917.

Oncidium carthaginensæ (Jacq.) Sw.

G. F. Gaumer & Sons, 23813, Cenote of Hobo, April 1917.

"
" 23814, Hobo, April 1917.

Dr. P. C. Standley.....Page 2.....July 6th, 1927.

G. F. Gaumer, 23202, Libr^e Union, October 1916.

" , 401, Izamal - December - May.

Witmer Stone, s. n. 1890.
Yucatan-Heilprin,

G.F.Gaumer, 428[?] bis, Pucché.

" , 1536, Chichankanab.

Notylia multiflora Hook. (called *N. sagittifera*).

G.F.Gaumer, 1095, Yaxcodi, 9 mi. E. of Izamal, March.

Brassavola cucullata (L.) R. Br.

Geo. J. Gaumer 1, Citilcum, Sept. 15, 1916.

G.F.Gaumer 798, Buena Vista, 1899.

" 798, Fort Silam, 1895.

Oncidium ascendens Lindl.

G.F.Gaumer & Sons, 23688, Lake Chichankanab, April 1917.

C.F.Millsbaugh 1617. Pisté, February 27, 1899.

G.F.Gaumer, s. n. Izamal, 1888.

Witmer Stone 250, Yucatan-Heilprin, Xcholac, 1890.

Oncidium cebolleta (Jacq.) Sw.

G.F.Gaumer, 429, Izamal (Putzché in ink on ticket).

Epidendrum Xipheres Reichb.f. (*E.Yucatanense* Schltr.)

G.F.Gaumer, 588. Izamal.

" 1860, Chichankanab.

Witmer Stone 249, Yucatan-Heilprin, Xcholac, 1890, on Crescent^c Gujete

Dr. P. C. Standley.....Page 3.....July 6th, 1927.

C.F. Millspaugh, 1640, Chichen Itza, Feb. 27-28, 1899.

J.M. Greenman 445, Izamal (Cult. in Gaumer's garden) Feb. 22, 1906.

Caec. & Ed. Seler. 3989, Wald bei Pisté, 18.3.1903.

Odontoglossum biconiense Lindl. aff. (sketch & flower fragments).

Witmer Stone, Yucatan-Heilprin. 1890.

Catasetum maculatum Kunth.

G.F. Gaumer 23178, Izamal, Sept. on old trees.

G.F. Gaumer & Sons, 23815, 1917.

G.F. Gaumer 847, Izamal.

" 847 bis, "

Vanilla fragrans (Salisb.) Ames (*V. planifolia* Andrews).

G.F. Gaumer & Sons. 23352, Forests of Xbac, April 1916.

" " " 23909, Izamal, April 1917.

Vanilla fragrans (Salisb.) Ames

G.F. Gaumer, s.n. (Sisbie., June 4, 1899.
(Sisbie(?)).

Arthur Schott 215, Sisbie, 1866.

Harrisella porrecta (Rehb. f.) Fawc. & Rendle.

(*Campylocentrum porrectum* (Rehb. f.) Rolfe).

G.F. Gaumer 660, Port Silam.

G.F. Gaumer & Sons, 23359, Forests of Suitum (blooms in Feb.) May 1916.

Cyrtopodium punctatum Lindl.

G.F. Gaumer 1357, Chichankanab.

Witmer Stone 281, Yucatan-Heilprin, Ruins of Labna, Mar. 15, 1890.

Dr. P. C. Standley.....Page 4.....July 6th, 1927.

Oncidium pusillum (L.) Rehb.f. (*O. ^{viridifolium} erodifolium* H.B.K.)

G.F. Gaumer s.n. Izamal.

" 529(?), 1895.

Epidendrum alatum Batem.

G.F. Gaumer & Sons 23812, Izamal, 1917.

" " 23812 bis. " "

G.F. Gaumer 988, Silam.

" 988 bis. "

" 988 tris. "

J.M. Greenman 451, Izamal (Cult. in Gaumer's Garden) Feb. 22, 1906

Epidendrum alatum Batem. probably - (small form)

G.F. Gaumer & Sons 23916, South East Kancabconot, May 1917.

Schomburgkia tibicinis Batem.

These 2 numbers (Geo. J. Gaumer 23333, San Filipe, (Telchac in typewriting) May 1916.
the same as

G.F. Gaumer & Sons (" " " 23356, Progreso (Silani " ") " "

Schomburgkia tibicinis Batem.

G.F. Gaumer 431, Xchloc^{e 2} & Silam.

" 431 bis " "

" 1768, Chichenkanab.

Arthur Schott 270, Progreso, V. 4. 1865

Stenorrhynchus orchicoides (Sw.) L.C. Rich.

Arthur Schott 396, Merida V. 26. 1865.

G.F. Gaumer 874, Vicinity of Izamal, 1904.

Dr. P. C. Standley.....Page 5.....July 6th, 1927.

G.F.Gaumer 24082, 1917-1921.

G.F.Gaumer & Sons 23298, Forests of Suitun, May 1916.

Leochilus sp.? (no fl.)

G.F.Gaumer & Sons 23358, Forests of Suitun, May 1916 (blooms
in March).

Ionopsis utricularioides Lindl.

G.F.Gaumer & Sons 23305, Forests of Suitun, May 1916.

G.F.Gaumer 672, Port Silam.

" 672 bis. Silam.

Oncidium carthaginense (Jacq.) Sw. (no fls.) so named & likely correct.

Arthur Schott, s.n., Cerro de Nojpat, 1865.

Epidendrum Stamfordianum Batem.

G.F.Gaumer, s.n. Izamal, 1888.

" 23175, Around the Cenotes, Izamal, May,

" 23196 over " " 1916

G.F.Gaumer & Sons 23511, Kancabonot, Jan. 1917.

" " 23511 bis " " "

Leochilus ? (No fl.)

G.F.Gaumer 660 bis, Port Silam.

Ionopsis sp. (fruiting).

A. Schott 529, Labeah, VII.31, 1865.

Cyrtopodium punctatum Lindl.

(A. Schott 705, Najocacab, 1865.

so named,
only leaves present { " " 806, Noticacab XI, 24. 1865.

Dr. P. C. Standley.....Page 6.....July 6th, 1927.

Laelia rubescens Lindl.? (no flower).

A. Schott 798, Ruins of Notipat, KI. 24. 1865.

Oncidium ascendens Lindl. fide Schltr. (no specimen on sheet).

Label says - Yucatan, Caec. & Ed. Seler. 3990.

Brassavola Digbyana Lindl. probably - (fl. poor).

G. F. Gaumer 24078, 1917-1921.

In comparison with the list which you sent, you will note the absence among these specimens, of *Spiranthes acaulis* (Smith) Cogn. (= *Sarcoglottis picta* Kl.), *Triphora yucatanensis* Ames, of which we have a record in our herbarium, and *Spiranthes Galeottiana* A. Rich., subsequently collected in Yucatan by Professor Ames.

Not knowing how much data you desired on each species, I send most of everything that appears on the labels. Some of the localities are written indistinctly in ink, but they are the best I could make out. I shall return this bundle of specimens to the Field Museum as soon as I hear from you.

The three following species were collected in Yucatan by Professor Ames:-

Spiranthes Galeottiana A. Rich, Oakes & Blance Ames 102.

Sayil, among stones in front of temple, Feb. 10, 1923.

Oncidium ascendens Lindl.

Oakes Ames 104, Trail between Dzita and Chichen Itza,
Feb. 14, 1923.

Epidendrum imatophyllum Lindl.

Oakes Ames 106.

Yours respectfully,

CS:FS

Assistant to Prof. Ames.

Washington, D. C. , April 11, 1928.

Prof. Oakes Ames,
Botanical Museum of Harvard University,
Cambridge, Massachusetts.

Dear Prof. Ames:

Your letter reached me a day or two ago, and naturally it was very interesting to me. It is difficult to decide just what I should say in reply to it. Naturally I appreciate the advantages that would be associated with a position at the Arnold Arboretum, and I am sure that I should like to work there. To have a field limited to woody plants would suit me perfectly. The woody plants are almost always the most interesting ones, at least in the tropics, and working with them alone one would avoid some of the difficult and often not very interesting groups of herbaceous plants.

The only thing that makes me disinclined to consider a position at the Arnold Arboretum is the fact that I feel compromised to go to the Field Museum the first of June. I have given them a promise to that effect, and they have gone ahead and done various things with the understanding that I would be there in the near future. I doubt that it would be possible to refrain honorably from going there, unless something altogether new should arise. Dr. Dahlgren has certainly done everything that he could this winter in the way of preparation for the work that I am to do at the Museum. In his last letter he informed me that they had just received a copy of Martius' *Flora Brasiliensis*, which I had stated would be essential for work upon tropical American plants.

From what I saw at the Field Museum last fall, I believe that I shall like the work there. There are some conditions there that I do not like, but that is likely to be the case anywhere. It may be that after I have worked for a while in Chicago I shall find that I do not like the position there, but that I rather doubt. It seems to me that, as matters are at present, the best thing that I can do is to go to Chicago, as I have planned, about the middle of May. In case I should decide later that I should like to make a change, I shall let you know about it, and perhaps then we may come to some agreement. Of course, I am not making this suggestion with the expectation that you will keep open a position at the Arnold Arboretum that you have decided to fill.

At the Field Museum I am to receive forty-six hundred dollars, and I have the promise of five thousand later.

I am sufficiently sorry that matters have turned out as they have, for if the Arnold Arboretum position had been available first, I have little doubt that I should have preferred it. The people at the Field Museum, however, have been very agreeable in their dealings with me.

The first of last week I returned to Washington after a quite satisfactory four months in Honduras. I do not have as large a collection as I had hoped, chiefly on account of the unfavorable weather. I had always wished to see a rainy season in Central America, and this year my wishes were more than satisfied. At the beginning of January we had twelve days of almost continuous rain, fourteen inches of it the first day. I lost a great deal of time on account of the bad weather. The flora of the Honduran coast is not so interesting as I had hoped, and does not compare favorably with that of the same region in Costa Rica.

Most of my time was devoted to exploration of the Lancetilla Valley at Tela, for Popenoe wished me to prepare a flora of the valley, and I believe that will be a worth-while piece of work. I spent three weeks in the interior, collecting in the pine forests about Siguatepeque, where I found a large number of interesting plants--Liquidambar, Cappinus, oaks, royal and cinnamon ferns, etc.

Of orchids I have rather more than I had expected, but probably nothing remarkable. Epidendrum radicans was growing about Siguatepeque, just as in central Costa Rica, and looked very familiar. Of woody plants I have a good collection, although not so many numbers as I had hoped to get. I know that there are many good things among them. Incidentally, Frederick Coville, who is now the photographer at Lancetilla--he is a son of Frederick V. Coville--made over a hundred plant photographs for use in the Lancetilla flora.

I have all the specimens here now, and expect to make them into sets shortly. Probably there will not be time to prepare the labels until I get to Chicago, but I shall send on the Arboretum set soon, arranged in such a way that it will be an easy matter to insert the labels. I prefer to place the labels myself, and should do so were it not for the fact that I am leaving here before they will be ready.

I certainly appreciate the letter which I have just received from you, and I regret that it is not possible for me to make a more satisfactory reply.

With best regards, sincerely yours,

Paul C. Standley

None of these MSS need be returned to me.
P.S.

CAPPARIDACEAE. Caper Family.

Fruit a capsule; plants herbaceous. Leaves palmately compound.

Filaments united below with the gynophore; flowers rose-purple, showy. 1. Cynandropsis.

Filaments free from the gynophore; flowers greenish white or pinkish, inconspicuous. 2. Cleome.

Fruit baccate; plants shrubs or trees.

Leaves composed of 3 leaflets. 3. Crataeva.

Leaves simple, entire. 4. Capparis.

The genus Steriphoma is represented in Panama. The plants ^{of the family} have alternate leaves. The perfect flowers are axillary or in terminal corymbs or racemes, and have 4 to 8 sepals, 4 petals, and few or many stamens. The ovary is sessile or borne upon a long stalk or gynophore. The fruit is many-seeded, dry or fleshy.

1. GYNANDROPSIS DC.

The only Central American species, G. speciosa (H. B. K.) DC., has been collected at Gatuncillo. It is a large annual with long leafy racemes of showy flowers. The name "alefia" is given to it in Salvador and Honduras; in Salvador it is called "alhelp," "barba del rey," "volantines," and "flor de mayo."

2. CLEOME L.

Plants armed with spines. Leaflets 5. 1. C. houstoni R. Br.

Plants unarmed.

Leaflets 5 to 9. 2. C. pilosa Benth.

Leaflets 3. 3. C. serrata Jacq.

Other species occur in Panama. The fruit in this genus, as in Gynandropsis, is a long slender pod. None of the species ~~is~~ ^{are} common ~~in this region.~~ ^{about the zone.}

3. CRATAEVA L.

The only Central American species, C. tapia L., has been collected at ^hAlajuela. It is a small tree with oblong-elliptic glabrous leaflets and green or purplish flowers in corymbose racemes. The globose or ovoid, green fruit is 2 to 5 cm. in diameter. It is said to be known in Panama as "palo de guaco"; in Nicaragua it is called "manzand de playa"; in Venezuela "toco"; in Honduras "cachimbo"; in Salvador "anonillo" and "granadillo macho." The roots are aorid, and the juice upon the skin is reported to cause blisters.

4. CAPPARIS L.

Leaves covered beneath with brownish scales, glabrous on the upper surface.

Fruit stalked; leaves acute or acuminate.

1. C. isthmensis Eichl.

Fruit sessile; leaves obtuse or rounded at apex and

apiculate. . . . 2. C. odoratissima Jacq.

Leaves glabrous beneath or with simple hairs. Fruit long-stalked.

Leaves rounded or emarginate at apex, rounded at base, glabrous. Fruit smooth. . . 3. C. flexuosa L.

Leaves acute or acuminate.

Fruit smooth; leaves 10 to 30 cm. long; plants glabrous; stamens about as long as the sepals.

4. C. baduoca L.

Fruit tuberculate; leaves 4 to 8.5 cm. long; plants more or less pubescent; stamens much longer than the sepals. . . . 5. C. verrucosa Jacq.

Other species are known from Panama. The species are shrubs or small trees with white flowers. C. spinosa L., of the Mediterranean region, produces the capers ("alcaparras") of commerce. These are the flower buds and young fruits preserved with vinegar and salt. C. isthmensis is known only from Panama, and about the Zone has been found only at ^hAlajuela and near the Tecumen River. C. odoratissima is known locally only from Taboga Island. In Mexico it is called "naranjillo." C. flexuosa (this has usually been called C. cynophallophora L., a name now applied to a different species) is said by Hemsley to have been collected by Seemann near Panama City, but it has not been found here recently. C. baduoca is the most common species. In Colombia it is known as "tinto," "naranjuelo," and "fruta

de burro"; in Porto Rico^o as "palo de burro" and "sapo"; and
in Venezuela as "ajito." C. verrucosa has been collected
at Alajuela. It is called "naranjillo" in Guatemala;
"limoncillo" and "coquito" in Mexico; "ajito" in Venezuela;
and "palo de burro" in Porto Rico.

Not to be returned.

MELIACEAE. Chinaberry Family.

Leaves bipinnate, the leaflets toothed; fruit a drupe. Introduced tree. 1. Melia.

Leaves once pinnate, sometimes with only one leaflet, the leaflets entire; fruit a capsule. Native trees or shrubs.

Filaments free. Fruit about 3 cm. long; seeds winged.

2. Cedrela.

Filaments united at least to the middle.

Anthers borne on the apex of the stamen tube or of its lobes. Capsule about 1 cm. long; seeds not winged; leaflets 1 or numerous. 3. Trichilia.

Anthers borne inside the apex of the stamen tube; leaflets numerous.

Ovules 1 or 2 in each cell; seeds not winged; fruit usually about 3 cm. in diameter. 4. Gusrea.

Ovules 12 in each cell; seeds winged; fruit about 15 cm. long. 5. Swietenia.

The plants are trees or shrubs, the leaves compound, alternate, without stipules. The perfect regular flowers have a 4 or 5-lobed calyx, 4 or 5 petals, and 5, 8, or 10 stamens.

1. MELIA L. Chinaberry.

Melia azedarach L., the chinaberry, china-tree, or umbrella-tree, native of southeastern Asia, is planted for

ornament. It is a small tree with low dense crown and panicles of handsome sweet-scented purplish flowers which somewhat suggest lilacs. The fruit is a translucent 4-seeded drupe. This tree is commonly planted in the southern United States. The wood is soft and weak and the branches easily broken. The fruit is generally reputed poisonous to human beings. The bark is reported to be used in some regions for stupefying fish. About the Zone the tree is called "jacinto"; elsewhere in Central America and in Mexico it is called "paraíso," and "lila."

2. CEDRELA L. Spanish cedar.

Leaflets glabrous or nearly so. . . 1. C. mexicana Roem.

Leaflets densely pubescent beneath. . . 2. C. fissilis Vell.

The plants are large or medium-sized trees. The deciduous even-pinnate leaves have several pairs of large, oblong, acute or acuminate leaflets. The small greenish flowers are paniced. The oval capsules open to the base by 5 valves.

C. mexicana has been planted about the Zone as a shade tree and probably occurs wild, since it is known from nearby regions. C. fissilis is common, at least on the Pacific slope. The trees are known everywhere in Central America by the name "cedro." C. fissilis is called "cedro macho" in in Salvador.

Spanish cedar is a reddish wood, soft, easy to work,

durable, and fragrant. In Central America it is highly esteemed because of the fact that it is not attacked by insects, and is employed for all sorts of building purposes and for furniture. Large amounts are used in the United States for cigar boxes, it being the only wood that is considered satisfactory for the purpose. About 10,000,000 board feet are consumed each year in the United States, but very little of this comes from Panama.

3. TRICHILIA L.

Leaves mostly with 1 leaflet; flowers clustered in the leaf axils. Capsule pilose. 1. T. unifolia ^{det} Blake & Steudl.

Leaves usually with 5 or more leaflets; flowers in elongate panicles.

Filaments united into a tube. Leaflets 5 or 7.

2. T. tuberculata (Triana & Planch.) C. DC.

Filaments distinct to or below the middle.

Leaflets 7 to 9, usually over 4 cm. wide.

3. T. acutantha C. DC.

Leaflets 9 to 21, usually less than 3 cm. wide.

4. T. hirta L.

The capsule is commonly subglobose, 3-valved, and 3-seeded, the seeds surrounded by a fleshy, usually red aril.

T. unifolia ^{det}, an endemic species, is a common shrub or small tree in thickets near the pacific coast. T. tuberculata

also is endemic. At Chepo it is called "alfaje." T.

acutanthera has been found near Chepo. T. hirta is a small tree, occasional on the Pacific watershed. This species is known in Salvador as "cedrillo," "jocotillo," and "cola de pavo"; in Nicaragua as "mata-piojo"; in Mexico as "garbancillo" and "cabo de hacha."

4. GUAREA Allen.

The only species known from this area is G. guara (Jacq.) P. Wilson (G. parva C. DC. is a synonym), which is a frequent tree of good size in the forests. The leaves have 8 to 20 opposite oblong leaflets, 10 to 20 cm. long. The capsule is globose-obovoid and usually 4-valved. The wood is hard, reddish brown, moderately heavy, strong, and durable, and is used locally for many purposes.

5. SWIETENIA Jacq. Mahogany.

Swietenia macrophylla King is the only mahogany known from Panama. It is reported as occurring sparingly along the upper Chagres and in the valley of the Bayano River. This species is planted for shade about the Zone. It is a large tree, the leaves with 8 to 12 lanceolate unequal acuminate leaflets, the small whitish flowers in axillary panicles. The capsule is ovoid and pointed, containing numerous broadly winged seeds. The current name for mahogany over most of its range is "caoba."

Five species of mahogany are known: This, which ranges from southern Mexico to Colombia, and perhaps into Ecuador;

S. mahagoni (L.) Jacq., of the West Indies and southern Florida;
S. humilis Zucc., ranging from western Mexico to Salvador;
S. cirrhata Blake, of the same region; and S. candollei
Pittier, of Venezuela. All species furnish commercial
mahogany, but little of which has been exported from Panama.

The wood is the one most highly esteemed for cabinet
work, and is a standard for the comparison of other woods.
In Central America it is valued for construction purposes.

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

July 10, 1930.

Dear Professor Ames:

We are getting anxious to see that Macbride's Flora of Peru gets into print as soon as possible. The German botanists are getting out a flora of the Andes--how soon it is to appear, I do not know, but the first parts are likely to make their appearance in the not remote future. We have large quantities of material that they will not see, and I judge they do not intend to cover the Amazonian valley of Peru, from which we have huge recent collections. Perhaps there will not be so much competition between the two works.

Macbride has been in Berlin almost a year now, and probably will not return to Chicago until December. As soon as he does return, I hope that we can submit for printing the first part of the flora. We have our own printing presses in the Museum, and the print shop is able to take up papers promptly, except when the Annual Report is under way.

Macbride is rather dilatory in some respects, and needs pressure, as he well knows. Dr. Dahlgren wants me to help him out on the flora, so that it may get into print as quickly as possible. I am not eager to work on it, but I shall try to work out some of the missing families of the Monocotyledons, so that the first part may be as extensive as possible.

Now to come to the main point of this letter. What are the possibilities with regard to the Orchidaceae? I know how many cares you already have (I don't know, but I know that you must have plenty of them), but I hope that it will be possible for you to prepare an account of the Peruvian orchids for this flora. I have understood that the orchid man at Berlin--I don't recall his name--has signified his willingness to prepare an account of them. I don't mention this to influence you in any respect, but I should certainly much prefer to see you prepare the treatment of the Peruvian species.

The recent collections that we have received do not contain much material in this family. I suppose Killip must have got a good number of orchids on his trip, but we have none of them. We have a collection of 300 orchids to arrive from Schunke; that is, we ordered them when he offered them to us, but he may have sold them previously. If we do get them, they should be interesting.

You have, I believe, most of our Peruvian specimens, but there are still others here. There is, of course, Schlechter's list, which probably contains most of the species reported from the country.

In the parts of Macbride's flora thus far prepared there is a key to the genera of each family, a short description of each genus, no key to the species, but under each species there is a brief description based on the salient characters, with synonymy, and an enumeration of the specimens examined, by provinces.

I hope that at the first of the coming year active work may be started on the flora, and the first families may be submitted promptly for printing. The Gramineae and Cyperaceae will form a good-sized pamphlet, and most of the succeeding families can be prepared rapidly--in fact, Macbride has worked them over already at Berlin.

It would be very desirable, I think, to have the Orchidaceae about one year from now., They could be published without delay upon receipt of the manuscript. So far as I know, no illustrations have been prepared for the flora, but if you wish to use line drawings of any of the orchids, they can be used easily, and would make a desirable addition.

I believe I have mentioned most of the essential points in the matter. Please let me know your inclinations with regard to the subject, and what the possibilities may be. If we can get the first part of the book in print--and the first part need not include the orchids--there will be less need for haste, but it would be desirable to know that we could count on the orchid manuscript at some given time.

I am still hoping that I may get to Ecuador within the next few months, but I do not care to go until Macbride returns, and if I take up some of the Peruvian plants, perhaps I may be delayed still further.

Sincerely yours,



Paul C. Standley.

July 18, 1930.

My dear Mr. Standley:

With regard to the Peruvian orchids, I am planning to push through the determinations at the end of the summer vacation. I don't imagine that this will be a very difficult job and once it is begun the chief difficulty will be to prepare the manuscript. I would work on the collection this summer, but I have just begun to have a little pleasure working for myself and I have my nose deep in my enumeration of the Honduran orchids that you and I have collected. I want to make this a creditable bit of work and I have in mind to publish it as vol. 8 of ORCHIDACEAE. I am hoping to include the colored field drawings that Mrs. Ames made when she was in Honduras with me in 1923. This ought to be a very well worth while contribution and I think it might be a courteous thing to do to dedicate the volume to Cutter. Have you any Honduran specimens of *Stenorrhynchus* in your herbarium; or any other Honduran things. And do you happen to know anything about the collectors who have done work in Honduras within recent times? I would be glad to pay for the time of someone who could run through your collections at the Field Museum and pull out all Honduran labels.

One thing I realize very keenly: I am giving too much time to administrative work with the result that my research among the orchids is falling behind. It seems to me that as useless as this orchid work may seem to be, at least it is the best thing I can do and about the only thing I like to do as a steady diet.

With regard to the Berlin botanists and my friend Mansfeld who is trying to take over the orchids: It seems to me that we must do our own work and do this at any cost. Of course, one man cannot handle all the material that is coming in, but I believe it can be supervised and carried to the point of critical determination by assistants. As much as I liked Schlechter as a man, it is a relief to have have an end of the sort of thing he was doing just before his death. Rather than have the Germans take the field again, I think we should go to extremes in taking measures to assemble and identify the plants of the Americas.

I have just sent to press the accumulations of new species from Central America. This will constitute the tenth number of *Schedulae Orchidaceae*. It will, unfortunately be a fat number. I have also just completed in cooperation with Eduardo Quisumbing a long paper on Philippine orchids for the Philippine Journal of Science. I may be able to finish my monograph of the Central American species of *Stelis* by the end of the autumn. Then there are several other papers that must see the light soon, or die.

Any help you can give me regarding Honduras will be most welcome just now when the fever is running high and an enthusiasm that seemed to be dead is gaining in intensity day by day.

Withifally yours.

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

October 1, 1930.

Dear Professor Ames:

The Museum is sending you on loan about 150 mounted specimens of Peruvian orchids. This includes all the Peruvian material remaining here. I trust you will find the Weberbauer collection recently purchased of some interest. You are, of course, at liberty to take fragments of any of the divisible specimens. Of many of those now forwarded you already have duplicates.

We have received recently a shipment of plants from Mr. Schunke, but so far there have not arrived some 300 orchid specimens that he offered, and that we ordered. I don't know whether we are going to get them or not. I hope they may come later, and they will be sent you as soon as they are mounted.

According to the most recent letters received from Macbride, he expects to send on the first part of the Flora of Peru in November, but I expect it will be later, for he should wait for a large sending of specimens now going to him. The first part will go at least up to the palms, and if that group is written up in time, as I hope, the part will continue on to the orchids. There is every reason for believing it will be printed promptly, for the Museum printing office works very efficiently of late-- I have four longish papers, one a whole volume, now in process of printing.

It will be possible, then, to print the orchid part, and following families, just as soon as the manuscript is ready. There will not be such a great hurry for it, for once the first part of the flora is out, there will not be so much need for haste, for the ground will be cinched.

I do not have here any samples to show the style of the flora, although as soon as I write up the grasses, which I trust may be within the next two or three weeks--it is a mere matter of compilation, chiefly--I can send you some. On the whole, the style of Britton's Flora of Porto Rico is to be followed. All synonyms relating to Peru are to be cited, and others if desirable. I think we shall run them in a solid paragraph, but if each is on a separate line, it will be easy to run them together. The form of citation is to be as in that work, with volume numbers in arabic numerals.

There are to be descriptions of family, genus, and species as in the Flora of Porto Rico, and keys to genera and species. After each species the specimens examined are to be cited, arranged by departments, with full data, except that it is not worth while to give date in case of numbered specimens.

Any miscellaneous notes and comments naturally will add greatly to the interest of the book.

Macbride writes that Mansfeld tells him there are many species of orchids at Berlin not there when Schlechter published his enumeration. Macbride thinks that Mansfeld would be willing, perhaps, to have him list them--heaven knows they are formal enough at Berlin, and have more red tape than in Washington bureaus--if that will help in your work. He suggests, however,

that you write directly to Mansfeld upon the subject.

The Berlin people, for the most part, have been active in forwarding Macbride's work of photographing types, and the project has succeeded beyond our expectations. Macbride will, I know, be glad to make for you any special photographs for which you may ask him.

If there is any assistance that I can give in connection with the orchid work, please let me know. As soon as Macbride returns from Europe, whenever that may be, I hope to go to Ecuador for a rather extended collecting trip. I am hoping that Williams also may go there, and work along the eastern side of the Andes and in southern Ecuador.

Sincerely yours,

Paul C. Standley

Paul C. Standley.

FIELD MUSEUM OF NATURAL HISTORY
ROOSEVELT ROAD AND LAKE MICHIGAN
CHICAGO

October 10, 1930.

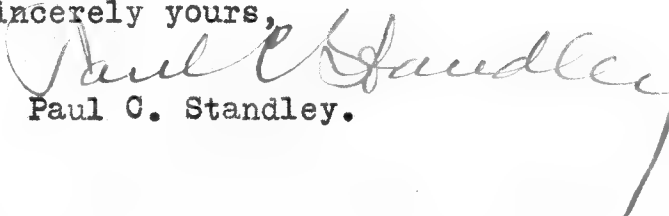
Dear Professor Ames:

I wish to thank you for Schedulae Orchidiana No. 10 that you were kind enough to remember me with. I find it highly interesting reading, and it makes me wish that I were back in the tropics again. Still, perhaps I may be before the end of this year. I want to go to Ecuador as soon as Macbride comes home, but when that it will be, no one, not even he, knows.

Valerio I know would enjoy receiving a copy of your paper. His address is Prof. Juvenal Valerio, Alajuela, Costa Rica.

Today we received from Schunke 120 specimens of Peruvian orchids. There were to be 200 or 300, I forget which, but he is sending only so many. I suspect he may have sold some to Weigel, for the latter has been offering Schunke plants for sale-- at about twice Schunke's price, as usual. I have not yet opened the package, but I shall try to get the specimens mounted immediately, and send them on to you. I hope the material is ample enough so that we can send you some duplicates.

Sincerely yours,


Paul C. Standley.

October 8, 1930.

My dear Dr. Standley:

I thought of course that Mr. Rehder would be interested in the photographs of South American types. But apparently there is a tendency here to overlook the broad significance of systematic botany. If the Gray Herbarium has taken a set, then there might be some reason for the Arboretum to refuse to duplicate photographic collections. We certainly want a complete set of prints.

I am pushing ahead with work on the Peruvian orchids and I think the determinations will be fairly simple.

I have decided not to fill the place made vacant by the death of Wilson. Do you suppose Record would flirt with the idea of joining a rather independent body of research men, attracted by the advantages offered by the Arnold Arboretum?

Sincerely yours,

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

October 24, 1930.

Dear Professor Ames:

We are shipping off by express another lot of mounted Peruvian orchids that I hope you may find of some interest. We are not expecting any more in the near future, but you never can tell when a new collection will appear on the scene.

When the time came to label the Schunke orchids, I was disappointed to find the specimens so meager. I had expected we could send you a good set of them, but, as you will see, most of them could not be divided. You are, of course, always at liberty to take fragments when they can be removed to advantage.

I have been somewhat surprised that Dr. Rehder does not appear interested in acquiring a set of our prints of Berlin and other type specimens for the herbarium of Arnold Arboretum. He states that work is not being carried on there with South American plants (such as most of these are), but that, I hope, does not indicate that South American plants never will be studied there. We should, of course, be glad to select a set of prints of woody plants only. If the Arboretum should have any considerable number of duplicate books, we are prepared to consider an exchange of prints for them.

In the papers a few days ago I learned of the tragic death of Mr. Wilson. It is must be a severe loss to the Arboretum, and also a great pity that a man should go so young. I had never met Mr. Wilson personally, so far as I remember, but I had greatly admired his writing, and the valuable work he had done in China and elsewhere.

In case should should be considering soon the appointment of a new head of the Arboretum, I wonder whether the name of Professor Record would interest you as a possible candidate. He is very happily located at present, and quite content, I believe. I have heard him speak on various occasions of Arnold Arboretum, and of the superior advantages, in some respects at least, that it would offer for the work in which he is particularly interested. For that reason, I suspect that he would at least be willing to consider an offer from the Arboretum. I understand that he receives a rather ample salary from his present position.

Professor Record has exceptional ability in accomplishing a great amount of work, and he has many other qualities besides a most pleasing personality that would make him a good administrative officer.

This subject came to mind the other day, for no very special reason. If the suggestion seems presumptuous on my part, just throw this letter in the waste basket!

Sincerely yours,



FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

December 3, 1930.

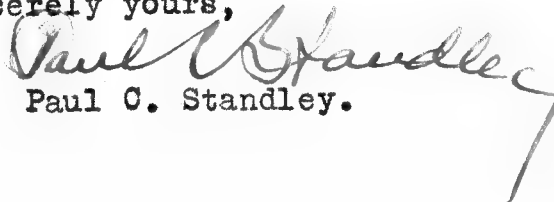
Dear Professor Ames:

Acknowledgement of your last letter has been delayed because of the fact that I was obliged, quite unexpectedly, to spend some time in the hospital for an appendicitis operation. My stay there was quite painless and lasted only eight days, but I did not return to the Museum until a few days ago. I now feel considerably better than I did before the operation, and the doctor says there is nothing else wrong with me, so I should have cause for rejoicing rather than otherwise.

Of course, I do not know the conditions surrounding the research position you suggest for Professor Record, but if it has to do with research work in tropical woods, I feel sure that he would at least be interested. He has, I presume, the greatest familiarity with tropical woods that any one ever has had. The subject is one of the greatest economic importance, and he should be enabled to make the greatest possible use of the experience that he has accumulated. Of course, he has almost a free hand where he is, and rather ample facilities for work, but doubtless they could be bettered.

We are sending you a few more Peruvian orchids that somehow have been overlooked previously. I thought that we already had sent you everything that we had. Personally, I hope that no more Peruvian plants come in in the near future, for we have been almost swamped with them for the past two years. If we ever get all of them mounted, we can take care of some of the collections from other parts of South America, very extensive ones, that have accumulated in the meantime. In orchids I presume it would be possible to use further collections, but in some other groups there is a rather embarrassing quantity of duplicating material.

Sincerely yours,


Paul C. Standley.

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

August 13, 1931.

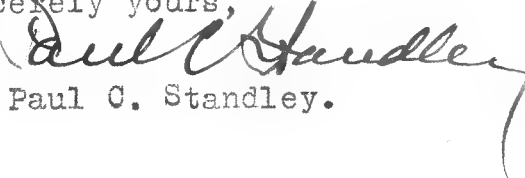
Dear Professor Ames:

While the subject is still fresh in my mind, I had better write you regarding the Flora of Peru. We have received recently from Macbride manuscript for the first part of this volume, or series of volumes, and it is expected that it will be submitted soon to the printer. Part of the introduction still is lacking, and the treatment of two groups, but it is expected that these will be at hand shortly.

The first instalment will run to the orchids--that is, end before the family. Macbride has most of the families worked out, and there is every reason for believing that the printing can continue with little interruption. Dr. Trelease now is preparing the Piperaceae (heaven help us), which, if I remember correctly, follow the orchids. Those two families alone will make a good-sized part, I suspect.

I am sending this information so that you may know that the part treating the orchids can be printed promptly, whenever it is submitted. The first part of the flora should be off the press early in 1932, barring accidents.

Sincerely yours,


Paul C. Standley.

North Boston, Massachusetts. August 18th, 1831.

My dear Mr. Standley:

Your letter of the 13th, regarding the Peruvian orchids, has just reached me here. The critical work on the species has taken much longer than I had expected it would. I have just finished photographing the large collection of Tessmann numbers loaned to me by Berlin and I have still to give this collection careful study before returning it. It is going to be a difficult task to assemble the material I have in hand and to amplify it by adding in species which have been reported from Peru but specimens of which I have not seen from there. I have become so used to having in hand complete representations of genera, that I rather dread facing the dangers of compilation. I think it will be well to begin the preparation of the manuscript in the autumn and to push it along as rapidly as possible to completion. In the meantime it would be well for you to send to me a few sample pages of the form of treatment you wish to have adopted in the direction of uniformity.

How about the Central American Flora?

I have been assembling material for it ever since the beginning and I now have a magnificent collection of specimens. A beginning of the manuscript can be made at any time.

Sincerely yours,

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

September 2, 1931.

Dear Professor Ames:

There are enclosed some sample pages of the flora of Peru, showing the general style of the work. Please pardon their appearance. I find that sheets once used previously have been employed for the carbons, and I can not find any really clean ones in the duplicate copy.

This style admits of some variation, and in case you prefer some other mode of treatment for the orchids, it can be accomodated. Most of Macbride's descriptions of species are shorter than I think they should be. The specimens are listed by departments, the latter arranged alphabetically. In case you should have difficulties with local names, we probably can place them easily, since we have a highly satisfactory geographic dictionary of the country.

We have the first instalment of the flora almost ready for the press, but probably it will not be submitted to the printer for two months. Macbride hoped to see it published by the end of the year, but that is scarcely possible. Our printing is done within the Museum, and ordinarily rather expeditiously. Unfortunately, just now the printing office is some months behind in its work. Short papers can be printed inside a few weeks, but longer ones require much more time.

With regard to the flora of Central America, I hardly, know what to say. If I had here the Central American collections that are in Washington, I should go ahead with the flora. But unfortunately our Central American collections are not extensive enough. Since I have been here the Central American work has been more or less sidetracked, and I don't know what the result will be. I have devoted most of my time here to South American plants. I have been considering the preparation of a flora of British Honduras, but that would be a minor undertaking. I have had in mind also a flora of Costa Rica, but that is almost as elaborate a task as a flora of all Central America. I really should complete the Central American flora, for I have the plants better in mind than perhaps any other person will have them soon. However, when I look now at the pages of the volume on the trees of Mexico, I wonder whether I would have the heart to undertake another piece of work of that extent.

Publication upon the orchids of Central America would make a fine volume in itself, and it would be a simple matter, I think, to find a place for its publication. Of course, they would be glad to take care of it in the National Museum, although their volumes are certainly no works of art. It is quite possible that it would be printed here, too. I hope that you will prepare it.

Sincerely yours,



FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

February 4, 1932.

Dear Mr. Ames:

I am glad to know that you have had such satisfactory relations with Mr. Edwards. I had hoped that we might be able to purchase some collections from him, if he was prepared to supply them, but we are now informed that we are not to buy any collections for the rest of this year, so that is that. You may be sure that I should be glad to name the plants that he may collect for you. He has a complete new field in which to work; no one ever has collected plants in that part of Honduras. I presume, however, that the flora is similar to that of the highlands of Salvador, and to that of the Siguatepeque region, where I collected last.

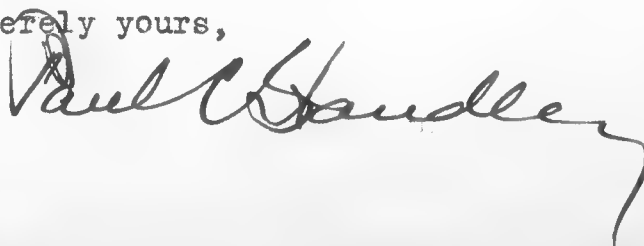
It is perhaps not good diplomacy for me to state that there is now no great hurry about the manuscript of the Peruvian orchids. The first part of the flora, up to the orchids--with the exceptions of the palms, which will be provided when needed--already has been submitted for printing. The printing force of the Museum has been cut in half, and little printing beyond labels, reports, etc. can be done this year. That, too, when we have a plethora of manuscript available--not my own. However, the papers all will be out some day. Naturally we are most interested in the Flora of Peru. The Director has given orders that it be hurried in printing as much as possible, but that means little when the labels must be cared for.

This museum has been affected by current conditions, like most other organizations. A number of people have been dropped from our department, but I have been fortunate thus far. So far as I know, there is no need for me to worry on my own account, but it is impossible to tell what might happen.

At any rate, I have work enough to keep my thoughts in other channels most of the time. The collections received lately for naming have been unusually numerous, especially those from Central America. And the other day there arrived unexpectedly about 1500 sheets of South American Rubiaceae from Paris to be named and returned. Most of them are fifty years old or more.

There are a few Costa Rican orchids just received that I should like to send you for naming. They are rather fragmentary, and scarcely worth the trouble. However, we are pitifully weak in Central American orchids, and practically every named specimen will mean another species for our herbarium. I have named the ones that I could.

Sincerely yours,



FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

February 29, 1932.

Dear Mr. Ames:

A short time ago I received from Wilson Popenoe (12 Calle Oriente No. 1, Guatemala City) a request for a good book upon orchid culture. He is getting together some of the native orchids and wishes to grow them at the experiment station near Guatemala City. If you can suggest a useful book, I know he will appreciate the favor. There is no reason why he should not make up some specimens and send them to you, for he wants names for his plants. I have suggested he get Costatin's Atlas, but it will not be of use beyond the genera.

Lately we have been receiving a large series of plants from Campeche, the first collection of any extent ever made there. It contains more orchids than I had expected. There are duplicates of most of them, and we shall send you on a set of them, as soon as all the specimens arrive.

Sincerely yours,


Paul C. Standley.

Wrote Popenoe Mar. 5, 1932

FTH.

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

December 1, 1932.

Dear Professor Ames:

The Museum is sending you a few British Honduras orchid specimens, for which we should greatly appreciate having your determinations. You are, of course, at perfect liberty to retain a portion of any that are divisible.

I am enclosing now a list of all the British Honduras orchids that I have been able to list. Most of the specimens you have named, but a few names are taken from a list sent me by Schipp, of his specimens named at Berlin recently.

This list is to appear in a report that Professor Record and I are preparing, to be published, presumably, about the middle of next year, at Yale. It will emphasize the trees, and herbaceous plants will merely be listed, since it is necessary to limit the number of pages--to 200 if possible. The present orchid list is rather ridiculous, for its brevity, but the herbaceous plants have been neglected heretofore, and the woody ones are not too well known. If you can add any names to the enclosed list, the favor will be greatly appreciated. Of course, I do not wish that you should spend any great amount of time in making additions, but perhaps you have records that are easily accessible. I remember that there was one British Honduras orchid of which Lankester was anxious to obtain plants, but I can hardly believe that it is any on this list--which reminds me (I am writing at home) that I have not looked in Schlechter's enumeration.*

Sincerely yours,

Paul C. Gaudley

** I have checked the paper this morning, and add the list. P.C.S. 12/2/32*

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

July 14, 1933.

Dear Mr. Ames:

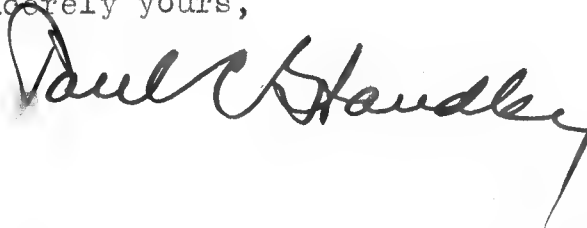
It will be quite feasible to find some young man here to accompany Mrs. Ames' son to the fair, I am sure. Arnold Doubleday, whose home is in Honduras, has lived with me for the past five years, attending Chicago schools most of that time. He has vacation all this summer, and would be glad, I am sure, to serve in this matter. He is twenty-one, a gentleman, knows the city well, and would, I think, be found wholly satisfactory and an agreeable companion. If he for some reason should not be available, some one else can be found without difficulty.

He lives with me at 7016 Clyde Avenue, and may be reached by telephone Midway 8198. During office hours I always can be called by telephone at Wabash 9410, the Museum exchange.

I find that I was in Honduras about four months--slightly less--and collected 4300 numbers, with approximately 13000 specimens. In Costa Rica I have done much better, for the Costa Rican flora is much richer. From one trip to Costa Rica and Panama I brought back fifteen thousand numbers. Such a number as that can be obtained only after considerable experience, and by using the most expeditious methods of collecting and preserving the material. I often am very impatient with the scant quantity of material obtained by some collectors, for it usually seems that they might well have obtained several times as many specimens as they actually bring home. The number of specimens that I usually have obtained, I can say impersonally has been largely the result of rapid activity that comes to me naturally, and for which I deserve no special credit.

However, Mr. Williams, who collected for us in Amazonian Peru, had had no previous experience whatever in collecting, and he certainly made a wonderful collection, with the expenditure of an almost ridiculously small amount of money. He likes the work, and would enjoy returning to South America, particularly Ecuador, to collect wood and herbarium specimens. When conditions improve, as now seems possible, I hope he may undertake a trip there.

Sincerely yours,



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40,000.00

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

April 30, 1934.

Dear Mr. Ames:

Manuel Valerio, the present director of the National Museum in Costa Rica, has been trying for some time to get me to prepare a flora of Costa Rica, to be published by the Costa Rican government. He states that the manuscript can be printed promptly if I will prepare it.

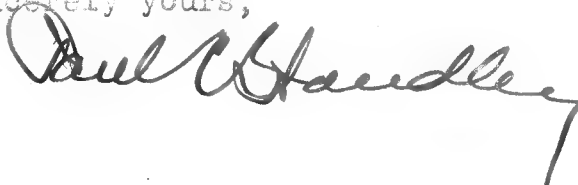
I have finally begun work upon it, my intention being to publish a list of species, with localities or local ranges, giving literature citations for the species first described from the country. What I have planned to do is to list the plants preceding the orchids, and send the manuscript to him for publication as the first part of the flora. I am curious to see how prompt publication will be, and what form it may take. There is no reason why, with the facilities available in Costa Rica, the printing should not be done moderately well.

Now, I am writing to ask whether you would consider preparing in the rather near future such a list of the orchids. I should not start it until we see what happens with the first part of the flora, for I am all too familiar with the nature of some Central American promises--some of my own have not been better, perhaps.

If you are inclined to look favorably upon the project, I will send you later a sample to indicate the general style. I shall also inform you regarding the progress of my own first part. It so happens that I have notes and manuscript from which this first part can be prepared with little trouble. In order to complete the later parts of the list I should have to visit Washington.

The list is to be published in Spanish, but the translation can be provided for. I have not planned to include any keys to genera or species.

Sincerely yours,



May 8, 1934.

My dear Mr. Standley:

An orchid flora of Costa Rica written along the lines you propose would be a purely mechanical job for me now as I have worked on all of the species and have arrived at definite views with regard to synonymy. The trouble is that I cannot promise to work at the manuscript until after the close of the academic season. But I suppose even at that I should be able to meet your desires.

We are very busy with the key to the North American species of *Epidendrum*. I think this will be a welcome product. It certainly has received concentrated attention through a number of years and represents the fruit of prolonged research.

Very sincerely yours,

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

May 16, 1934.

Dear Mr. Ames:

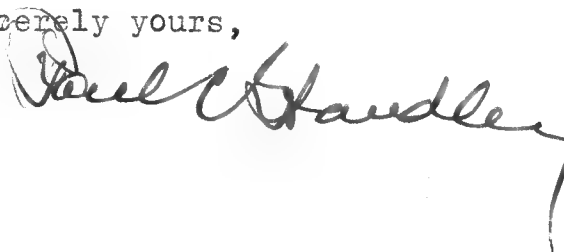
I am very glad indeed to know that you are willing to undertake the preparation of a list of the orchids of Costa Rica. The list will, I suspect, comprise a substantial portion of the completed work, since the family must be by far the largest one in the Costa Rican flora. Certainly the number of names to be considered must be extensive indeed.

Probably it is better not to begin preparation of the account until I notify you that I have been successful in the printing of the first part. I am assured that it will proceed promptly, but of that I shall feel more certain when I see at least the proof.

I expect to have the first portion of the manuscript, covering the families up to the Orchidaceae, completed in the near future, and shall send it to San Jose at once. The work of compilation has been relatively simple, since I already had most of the data in accessible form.

Your work upon the North American Epidendrum species must be exceptionally interesting. It will be most satisfactory to have something useful upon this large and difficult genus.

Sincerely yours,

A handwritten signature in cursive script, reading "Paul C. Standley". The signature is written in dark ink and is positioned below the typed name "Sincerely yours,".

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

October 22, 1934.

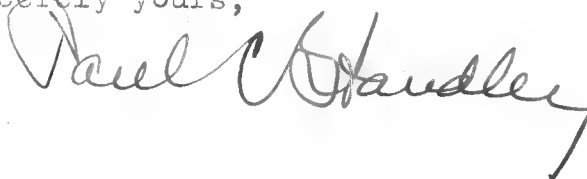
Dear Mr. Ames:

In a letter received today from the Director of the National Museum in Costa Rica, he reports that work has begun with the printing of the Flora of Costa Rica, and that he hopes to send the first proofs next week.

If possible he would like to have the first published part of the Flora larger than is possible with the amount of manuscript now on hand. This is because of present economic conditions, and also of the favorable attitude toward the work of the present government officials.

I have a considerable amount of additional manuscript ready for printing, which can be submitted as soon as the list of the orchids is available--all the families up to the orchids have already been sent for printing. I do not wish to hasten unduly the preparation of the orchid list, for of course you know better than I the circumstances involved. I wonder, however, whether it is practical to give some idea of the time when this will be available for the press, so that I can tell the Director whether it is preferable to hold the publication of the first part for a short time longer. If you can give me some idea of the further time necessary, I shall form my plans accordingly.

Sincerely yours,



FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

May 17, 1935.

Dear Mr. Ames:

You will remember that some time ago I wrote you regarding a possible collecting trip to Paraguay for Dr. Baehni of Geneva, who is here with us for this year. At that time you suggested, and I thought it was a good idea, that Dr. Baehni should talk over the matter with you when he visited Boston, as he has been hoping to do.

As matters are at present, he would prefer not to go to Boston soon, unless it is necessary. He is given leave of absence from the Garden in Geneva, but his expenses he is obliged to pay himself, and I know that his salary is small, and he has difficulty in paying his expenses. He could not do so if it were not for favorable exchange conditions at the present time, and he has been greatly troubled about the possibility of Switzerland's leaving the gold standard, in which case he would have to return home.

In my earlier letter I believe I outlined in some detail his plans for going to Paraguay, but he or I can outline them again in greater detail if you think it advisable.

The object of this letter is to ask whether it is absolutely necessary or highly desirable that he come to Boston this spring or summer--in that case he will, of course, do so. Please write me frankly regarding the matter, so I may know how to advise him. I greatly hope that it may be possible for the Arboretum to provide at least part of the funds that he will need if he goes to South America. I honestly believe it will be money well invested for present and future returns.



FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

July 30, 1935.

Dear Mr. Ames:

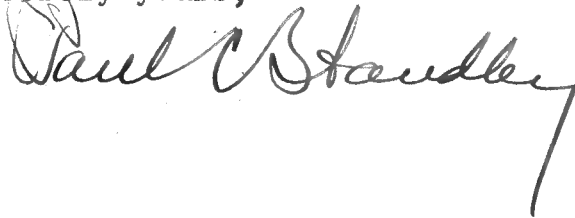
Dr. Baehni is leaving this evening with some friends who are driving to Montreal to take a ship for Europe. He plans to proceed from Montreal to Quebec, and from there by bus or other transportation through New England. If all goes well, he will be in Boston Saturday or Monday, and I hope he may have an opportunity to see you.

I use the first phrase of the last sentence advisedly, because there is some possibility that he may have to return from Detroit because of passport difficulties, but I believe everything will turn out happily.

I hope that while he is in Boston he may have the opportunity of seeing there some of the numerous things that are really worth seeing. Baehni is very sympathetic toward American matters, and he takes a keen and intelligent interest in seeing things new to him, especially those that are typically American. In New England I trust that he will have an opportunity to become acquainted with some things that he may remember more favorably than some of the less admirable features of some parts of Chicago, although I believe he is well pleased with the months he has spent here.

There are few persons who would be so appreciative of assistance given him in seeing Boston and the surrounding country. If there is anyone among the botanists of the various Harvard institutions who is able to help him, I know they will find him a most agreeable companion.

Sincerely yours,



FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

November 8, 1935.

Dear Mr. Ames:

Yesterday the Museum printing office began composition on the first part of Macbride's Flora of Peru, and at the rate at which they have been working recently, they should complete it--the typesetting--in two or three weeks. This first part runs to the beginning of the palms. Dr. Dahlgren is now in Brazil, but as soon as he returns, some time in December, I think he will be able to complete the manuscript of that family in short order.

If he does so, there is no reason, I think, why printing of the flora should not continue, and another part be issued. The purpose of this letter is to inquire regarding the prospects for the orchids. I have no idea of their state, although my recollection is that considerable if not all work upon them has been done. Can you give me some idea of how soon it would be possible to supply the manuscript for them?

About the next family after them--there can be only a few minor groups between--is the Piperaceae, and I groan whenever I think of the manuscript, prepared by Dr. Trelease. There must be at least 250 new species, besides a good many old ones, and I presume I shall have to be the one to translate the English descriptions into Latin. It is planned not to publish descriptions of new species in the flora, but in this case I see no reason for publishing Latin diagnoses in advance, then English descriptions immediately afterward. Anyone who takes any interest in the Piperaceae will always at least know Latin, I suspect, and it would perhaps be preferable if all information about them might be published in Japanese, Maya, Sanskrit, or some equally obscure language!

If the next instalment of the flora can continue at least through the Piperaceae, it will make a very substantial publication, considerably larger than the first one.

Sincerely yours,



There still is delay in publication of the Flora of Costa Rica, and I don't know what the outcome will be. If worst comes to worst, I shall translate it into English, and have it published here.

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

November 20, 1935.

Dear Mr. Ames:

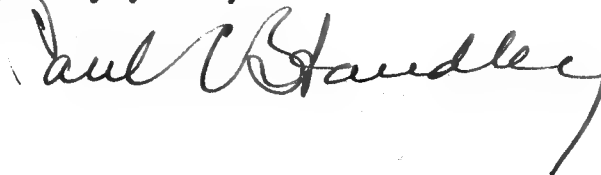
A recent development has caused the Director to ask me to submit as soon as possible for printing as much manuscript as we can get together, especially of the Flora of Peru. More than 50 galleys of this are now in type.

We have ample WPA assistance in printing at present, but it is possible, if not probable, that it may be withdrawn in March, instead of several months later, as originally planned. We are not likely soon to have such another opportunity for printing.

I am going to try to get together the manuscript for the palms, which Dr. Dahlgren really has in good shape, except for combination, trusting that he will approve of this upon his return next month from Brazil. I am hoping to have soon Bromeliaceae and Bomarea, now in the hands of their authors for revision. These groups will provide for everything up to the orchids.

Now of course I do not know the status of the orchid treatment, but if it can be finished, I trust it will be printed just about as soon as received, than is, if it arrives by the first of March or preferably sooner. Please let me know your views upon the subject. The orchids are to be followed by some hundreds of descriptions of Piperaceae, so I don't know whether it would be lamented if publication stopped short of those groups! But I suppose the Pipers will get into print some day anyway.

Sincerely yours,



FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

June 22, 1936.

Dear Mr. Ames:

Today, I have prepared for shipment to you the main portion of the Sessé and Mociño orchids. I know there are at least a few other numbers, scattered here and there through the collection, but this sending comprises the specimens that were segregated in the herbarium as we received it. It will perhaps be some time before the other numbers are available for sending.

It will be best to retain these until the others are sent. I hope that you will prepare the account of the family to be included in the volume that we hope to publish upon the herbarium, and I have not prepared any part of the manuscript that might serve as a model for style of treatment, nor have I considered just what the style should be.

Today also I received notice of the sending from Costa Rica of the first instalment of the long-awaited Brenes collection. This first sending consists of about 500 numbers of orchids, of recent years. I don't know whether the specimens will be ample enough for division or not, but I hope so. At any rate, may we send it to you for determination? Valerio is anxious to have their herbarium in good shape, and properly named, and I suppose the sending of the rest depends in part upon the naming of the first sendings, consequently I hope to make a good impression upon him. I presume the orchid material will be in good shape and also interesting.

Sincerely yours,

Paul W. Standley

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

July 21, 1936.

Dear Mr. Ames:

The matter of *Epidendrum fastigiatum* as used by Sessé and Mociño and by Ruiz and Pavon sounds rather curious. So far as I have examined the former collection, there is nothing to indicate any alien elements in it, except for a very few West Indian plants, labeled in a quite different hand--probably there were none among the orchids. I haven't yet determined where these are from, or their collector, but they have the appearance of being type material, perhaps from Swartz, or possibly from some French botanist. I know of no confusion regarding Sessé and Mociño plants. However, there are in London, perhaps also elsewhere, a good many specimens labeled as collected in Mexico by Pavón. He was never in Mexico, and it is known or believed that the specimens so labeled were collected by Née. Material in the old herbarium at Madrid is often ambiguously labeled, if one may judge from a large lot of duplicates that we received recently from there. The Sessé and Mociño Herbarium has always been kept intact, until the present, except for a few hundred specimens take from the old general herbarium and so labeled.

The additional specimens are very few. I expect to have them ready for you soon. In fact, they are mounted, but I haven't had time to sort the specimens into families. Please retain the specimens you have until I can supply a sample for the treatment to be used in reporting upon the herbarium. I have been so very busy lately that I haven't been able to prepare such a sample, and the specimens were available only a few days ago.

Some time ago Macbride was instructed to photograph all the Sessé and Mociño drawings at Geneva, but I don't know how much he has accomplished. It would be well if you would write him directly about the orchids, which perhaps he could photograph soon.

Sincerely yours,



It is believed that the Sessé and Mociño drawings are still in existence in Spain, but it is not known where they are. If they have not been destroyed, they are under private ownership.

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

August 28, 1936

Dear Mr. Ames:

The Epidendrum monograph came today, and I greatly appreciate your thoughtfulness in sending it. As yet I haven't seen much of it, but it looks very fine, and I know that it represents a great amount of work. What a vast genus that is! And I suppose there are others, like Pleurothallis, that are almost as extensive, perhaps more so, for all I know.

Peruvian orchids keep turning up, and we sent a few just the other day. We have a new collector in Peru who is quite active, but unfortunately he is in a region where orchids are not numerous.

All the Sessé and Mociño orchids are now in your hands. The last small lot will, unfortunately, not help in the genus Epidendrum. I am sending with this letter a sample of the general style to be used in reporting upon the herbarium (the sample need not be returned). It is desirable, I think, to avoid mentioning the unpublished names that appear upon so many of the Sessé and Mociño labels, and I have listed them merely as "Amaranthus sp. nov." etc. I wish it were possible to devise some means of listing them, but in such a matter that they could not be reported in the Index Kewensis and elsewhere, to clutter literature with perhaps 2000 useless synonyms, but if they actually appear in print, I suppose they will be listed, no matter what kind of a warning might be given. Perhaps we might have them copyrighted, but unfortunately the time of a copyright is limited!

Sincerely yours,

Paul C. Standley

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND LAKE MICHIGAN

CHICAGO

June 23, 1937

Dear Mr. Ames:

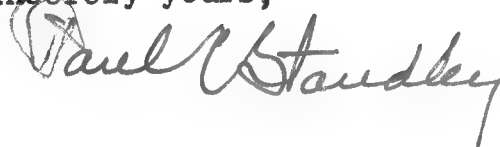
I wish to thank you for the prompt return of the corrected proof of the orchids of Costa Rica. I hope we may be able to send the rest of the family soon, since I have had no proof for several days, during which the typesetters must have accomplished something. The whole part, amounting to perhaps 600 pages, should be issued rather promptly, since there is nothing to hold it up. I expect there will be an appendix at the end of the volume, in which can be noted any additions that accumulate between now and the time that the volume is finished. The first part will end probably with the Myrtaceae. While some of the succeeding families are written up, it is likely to be some time before I can find an opportunity to treat the rest.

The statement regarding authorship as it appeared in the first proof was the result of an oversight of mine. Mr. Schweinfurth had written me some time ago that he had had nothing to do with the preparation of the list.

We now have a new assistant in the herbarium, Dr. Steyermark, who has great energy and ambition. It will now be possible for me to get away for some time if I wish to do so, something that has been impossible since Macbride has been in Europe--where he is likely to remain some time longer, if political conditions there do not interfere. He is now at Paris, and will find there enough to occupy him for some time to come.

It is quite possible that I may be able to go next winter to Central America, health permitting. While I should like nothing so much as another visit to Costa Rica, it is likely that I shall go rather to Guatemala, with idea of preparing a list of plants of that country. If I do go, I hope I can obtain a good quantity of orchids. I should like best of all to go to Ecuador, but I do not know that it will be possible to obtain sufficient funds for the purpose, and I am not certain that I wish to undertake anything quite so strenuous.

Sincerely yours,



FIELD MUSEUM OF NATURAL HISTORY
ROOSEVELT ROAD AND LAKE MICHIGAN
CHICAGO

April 11, 1938

Dear Professor Ames:

We have about 40 mounted specimens of orchids collected this year in the Chiriqui region of Panama by a woman, a new collector there, one, apparently, who deserves some encouragement.

At any rate, her specimens of orchids are much better than the average in that family, and if they are like the material in other families, they should include something of interest. Would you be willing to name them if we send them on? It is quite likely that the collector, whose name I don't recall at the moment, but shall be glad to supply, would be willing to give some special attention to orchids. Those mentioned constitute about 40 per cent of her whole collection, so evidently she already has some interest in the plants.

Sincerely yours,

Paul Standley

FIELD MUSEUM OF NATURAL HISTORY
ROOSEVELT ROAD AND LAKE MICHIGAN
CHICAGO

September 21, 1938

Dear Mr. Ames:

About two weeks from now, I hope to turn in for printing the fourth and final part of the Flora of Costa Rica. I hope especially to be able to read proof on it before leaving--November 16--for Guatemala.

At the end of the part there will be a list of additions and corrections, covering the whole volume. Of course, I have references to the new species you have published recently from Costa Rica. If you have kept and have easily available any other records of additions to the Costa Rican orchids, I should be glad to have them for inclusion. Probably it will be somewhat more than two weeks before the additions are needed, perhaps twice that long, so there is no need for undue haste in preparation of the list.

Sincerely yours,

Paul Standley

FIELD MUSEUM OF NATURAL HISTORY

ROOSEVELT ROAD AND FIELD DRIVE

CHICAGO

June 6, 1939

Dear Mr. Ames:

It is now more than two weeks since I returned from Guatemala, and as usual I have some favors to ask of you. First, will you be so kind as to undertake the naming of a few miscellaneous orchids from Costa Rica and Guatemala? Some are very good specimens, others not so much so. Of some there are duplicates. They have been sent by various collectors, and the guatemalan ones (not my own) should be rather good.

We are planning a flora of Guatemala, to be somewhat more elaborate, or at least more detailed, than anything I have published previously for Central America. It will include full generic and specific descriptions throughout, with pertinent synonymy. It is to be under the joint authorship of Steyermark and myself. For this will you be willing to treat the orchids, one of the most important groups of Guatemalan plants? The flora will be issued in parts. I hope to have the first part ready for the printer before the end of next year, but the first part need not include the orchids.

Steyermark is going to Guatemala for collecting at the end of this summer, and will stay as long as his money holds out. He is energetic and should get a large collection, plus experience that will be useful in later trips to Central America. I don't know yet whether I want to visit Guatemala again or not. I was there for six months and that is a long time to spend in the field. However, everything went off most agreeably, the people as usual were delightful, and I got more than 15,000 numbers of plants.

I collected in all the 22 departments except Petén and Jalapa. The first I have no desire to visit; the second was missed more or less by accident. In most of the departments I collected rather casually. I have no very great collection of orchids--as usual they were not in bloom--but I do have some, and shall send you a set when the collection is labeled.

Almost all parts of Guatemala except Petén are now easily accessible by automobile. If you should have an orchid collector that you could send there, I can tell him where to go--the bocacosta of the departments of Quezaltenango and San Marcos. I have good reason to believe that for orchids it is superior to the Verapaz region, and it has been scarcely at all collected. It would be easy to collect there, and an orchid collector probably could make a "haul." I am referring to the wet mountain forest of the Pacific slope at 3000-6000 feet. For phanerogams it certainly is far superior to the Cobán region, which seems to me to have been greatly overrated. I am

hoping that Steyermark may be able to spend some time in the region.

I was fortunate in having the assistance of Dr. J. R. Johnston, who took me on numerous trips with his car. His enthusiasm is unlimited, especially in regard to orchids. His health is not good at present, and I fear he may not be able to keep up his work much longer. Mrs. Lewis is a delightful woman. With her family of four children, I don't know how she manages to give so much time to orchids, but she certainly knows those she has found, and spends much time hunting for them. Her husband is, I think, almost as interested, although he professes a profound scorn for the subject. The few people residing in Guatemala who have any interest in botanical matters deserve every encouragement, for they have so little to help them in their work, and no local encouragement. There are in the whole country probably not more than five people who have any active interest in botanical work, and the interest of at least one of those is rather superficial. However, considering the status of local scientific work in Central America generally, it is a wonder that there are even these few.

I saw the usual abundance of *Cattleya Skinneri*, and for the first time *Lycaste Skinneri*. The latter is surely plentiful about Coban. In the houses there are many fine specimens, and some gorgeous plants of the albino form, national flower of Guatemala. The Indians bring great loads of the common form of *L. Skinneri* to Coban and sell them at one cent per plant or less. The albino plants range in price from \$2.50 upward, so they must be rather rare. That is a large sum of money in a region where workers on the coffee fincas often receive only six cents a day!

With best regards, sincerely yours,

Paul Standley

June 8, 1939

My dear Dr. Standley:

Your good letter of the sixth June was on my table this morning. I ought to refuse to help you, but I am not inclined to do so. However, do you realize the magnitude of the task you throw my way so lightly, just as if to write full generic and specific descriptions for the huge orchid flora of Guatemala with pertinent synonymy might be performed as an after-thought to one's daily dozen! And with Dr. Williams I am doing the orchids of Mexico--a grand job--and I have promised Dr. Gleason to do the orchids of North America for the N. Y. Bot. Gard. affair if he will find half the salary of a co-worker who will relieve me of the purely clerical work.

I am not inclined to do a mere compilation. Of course, we have a pretty well worked herbarium now and the critical work has been done on a host of puzzles. But whenever I attempt to cover a region I find problem after problem. And then additional material begins to flow in introducing a whole crop of new troubles. And on top of it all I am growing old and take long vacations.

Send on the specimens you wish to have identified. Guatemalan orchids give very little trouble and I enjoy working on them.

You may not have heard of my having done so, but recently I gave my herbarium to Harvard with an endowment sufficient to pay the salary of a curator. I retain all the freedom of private ownership and govern the policies and management for life. I have not advertised this because I always feel reluctant about telling things on myself. What pleases me is the thought that the Authorities realize the magnitude and importance of the gift.

I have helped Mrs. Lewis from time to time to time and take real pleasure in her notes and efforts. Dr. Johnston, on the other hand, has been a disappointment. I suppose he doesn't need my help.

Send me some samples of what you want done, that is an idea of the thoroughness with which you wish genera and species described. Also an idea of the "pertinent synonymy".

With all good wishes,
Sincerely yours,

July 1, 1919.

Dear Dr. Standley:

I think I shall have Mr. Correll who has been doing research work for me during the last academic year, spend the next six months making a catalogue of the Guatemalan orchids in preparation for an Orchid Flora of that country. This will mean doing the purely clerical work; writing up descriptions and bibliography and doing the odd jobs that will pave my way to a finished job. This being the case I hope you will send on soon some samples of the method of treatment you intend to adopt.

I want to obtain a copy of Berthold Laufer's "Sino-Iranica," Field Museum Anthropological Series, Pub. 401, vol. 4, No. 3, (1919). Do you suppose you can get one up for me and send it to my North Boston address with the bill. I need a copy for home consumption.

I have received Malaxis in the Guatemalan flora, so that job is progressing. The Ostlund collection has proved to be a magnificent acquisition and is supplying species heretofore only the type specimen was known.

With the best of wishes,

FIELD MUSEUM OF NATURAL HISTORY
ROOSEVELT ROAD AND LAKE MICHIGAN
CHICAGO

January 29, 1940

Dear Mr. Ames:

The other day I received from Mr. Correll a letter in which he expressed a desire to go to Guatemala this year to collect orchids and other plants, and I understand he has written you regarding the matter.

I believe that I wrote you some time ago regarding the possibilities of the wet Pacific forest of western Guatemala as a source of orchids. There is abundant dense forest there, and moisture throughout the year. The orchids are a little higher off the ground than in Costa Rica, and there can't be so many species, but I am sure there are a good many of them. In order to collect orchids, as you know better than I, it requires a great deal of patience and special attention such as is not practical when making general collections. Last year I collected all I found close at hand in condition for determination, and the results were rather sad. However, if I had had time to hunt them, I am sure I could have found several times as many.

This year I expect to go to Guatemala some time in October and remain for about six months, working at several separated localities, some of them good for orchids, others not (probably). If funds could be supplied for Mr. Correll, I should be glad to have him with me when in good orchid regions, and could place him at other times in localities favorable for his work. For instance, Dr. Steyermark has been collecting at one place in Dept. Quezaltenango, about 4,000 ft., where there is every facility for work and about the richest vegetation I have ever found in Central America. A collector could remain there a month or more to advantage, and I think it would cost nothing. There are good collecting places also on the United Fruit Company properties, on both coasts, where expenses would be little or nothing. I doubt that I shall work there myself, but I may. If there is time, and I expect there will be, I want to go again to Coban, much as I detest the place, in some respects.

I have a thousand dollars for expenses, which probably will be enough or nearly so. I plan to make free use of automobiles in regions where there are roads--that is everywhere except in Alta Verapaz. With a car you can reach innumerable good regions in every part of Guatemala. While they cost five to ten dollars (average about seven) per day, they are well worth it in results. There are few places from which you can go out on foot and make worth while collections.

If you wish to send Mr. Correll with such provision as may seem desirable for his expenses, I shall be glad to facilitate his work in every way, and provision can be made for the deposit of a set of my material at Harvard in return for a set of what he may collect independently. Material we might collect together would naturally be so divided. I doubt that it would be desirable for us to remain together all the time, especially in places where the orchid flora is sparse. Working independently, perhaps from the same headquarters, it would be possible to increase greatly the amount of material gathered.

Steyermark is now working, I suppose, on the slopes of the Volcano of Tajumulco, highest mountain of Guatemala. From there he will go to the north coast region for several weeks before returning to the States, about the first of April.

Sincerely yours,

Paul C. Standley

ORMOND, FLORIDA

February 2, 1940

My dear Dr. Standley:

Your letter of January 29 reached me here this forenoon. Regarding Correll and the plan for Guatemalan collecting, I don't know what to say at this time. Correll is a good field man, but he has not had tropical experience. He might yield results. Then again, he might not. The main question is: what do you think it would cost to support him and take care of his field work?

There has been a rebellion in the ranks at the Herbarium because you suggested in a letter to me that we should include Honduranian ~~Catchallid~~ and Mexican species in the orchid flora of Guatemala even though these species have not as yet been actually found in Guatemala. I have taken the ground that to do what you suggest would add more than a year of extra work to our task and result in a flora based on suspicion. I think you will be wise to let us go ahead on the assumption that only those species actually known to occur in Guatemala should find a place in the Flora. The work will be a pretty big thing even at that!

Some time ago I sent to you a little book I wrote during the summer vacation. Did it ever reach you? If so, what is your reaction to it. Don't trouble to read it, just to answer this question, but if you need a few minutes recreation some day soon you might honor me with your attention.

With best wishes,

CHICAGO NATURAL HISTORY MUSEUM

[FORMERLY FIELD MUSEUM OF NATURAL HISTORY]

ROOSEVELT ROAD AND FIELD DRIVE

CHICAGO 5, ILLINOIS

November 14, 1944

Dear Mr. Ames:

Just now I have got myself into a pretty pickle, although it is one for which I am in no way responsible, at least not directly so. I received word from the Museo Nacional of Costa Rica that they were sending me a package of plants for determination and it arrived promptly, a very large package. On opening it I find that it consists in principal part of 256 specimens or orchids collected by Alberto Brenes, all of the specimens to be returned to that museum. Now I have received another letter from their director, stating they are sending still another lot, which I judge consists likewise principally of orchids. They send plant collections from time to time, some good and some bad, but never before has there been a similar sending of orchids.

Naturally I should like to get rid of the orchids, for I can not name them myself, except for an occasional one. I have glanced at part of the specimens. Many of them, the smaller plants at least, can be divided. What I wish to ask now is whether you would be willing to take the orchid collection, naming it when you can conveniently do so, and returning the specimens to Costa Rica, except for such material as you want to retain, duplicate or otherwise. If you should be willing to undertake this more or less thankless task, I shall be glad to send the lot on to you as soon as the new sending arrives.

The present director of the Costa Rican museum is Rómulo Valerio R., brother of Juvenal Valerio, the former director, who is now with Wilson Popenoe in Honduras, at the new agricultural school. Their father, a very intelligent man, was by profession a sculptor of santos or church images. He had a deep interest in Roman history, and as a result he gave to all his rather large family of children classical Roman names. The youngest boys were twins, whom he named Rómulo and Remo, and they were called by their family Momo and Memo. This one is Momo!

While upon the subject of orchids, I should like to inquire about the status of manuscript of the Guatemalan ones. The manuscript for the Flora of Guatemala is now almost complete, except for the introduction. I have submitted for publication the first (to be published) volume, which will begin with Moraceae and run to the beginning of Leguminosae, more or less. This has been done because of war conditions. I wish Swallen to write up the grasses, but he is in Brazil and will not return until the war ends. I can do the group myself but not nearly so well as he. At any rate, all the families not already written up for the flora are provided for, so that publication need not stagger along like that of the Flora of Peru. There will be six or seven thick volumes of the Flora of Guatemala.

If and when the orchid part is ready for publication, it can begin part II, the one preceding that now in process of publication. If the orchid treatment is as long as I suppose, it could well be printed as a separate part, which would make it more easily

available for distribution. I presume a good many people will wish it who do not care particularly for other parts of the Flora. There is no need for haste in regard to the orchid part, but if it is completed and is sent on here, I shall try to get it printed as soon as this first volume is out of the way.

The Lewis family left Guatemala early last summer and Mrs. Lewis and the children are now in a country town in Indiana. I was sorry they left, and they were sorry to leave, although their children are now at the age where they would have had to be sent to the States for schooling. Mrs. Lewis is one of the most delightful women whom I have ever known. I doubt there is anything she could not do, and whatever she would undertake, she would pretty certainly do well.

With best regards, sincerely yours,

Paul C. Standley

Paul C. Standley.

A nephew of mine who is with the Engineers on Adak Island in the Aleutians sent me in a letter recently small specimens of twelve plants he had collected there. He knows nothing about plants and I presume took those that looked the best to him. Of the twelve, three are orchids. A rather high family percentage for any flora!

ORMOND, FLORIDA

November 22, 1944

Dear Mr. Standley:

Your letter of the fourteenth November is in hand having been forwarded to me at the above address where I shall be quartered for the winter and spring.

I think Schweinfurth will be able to handle the Costa Rican orchids if we can pull him away from his work on Peruvian species. It should not be difficult to do this work, although there are still many puzzles among the smaller flowered things from Cosata Rica. You cannot run these things through at a glance unless you wish to lose your self-respect. Of course I will be unable to do a thing in the way of research until this long vacation comes to an end. And even then I find that I like too much the little jobs I do as an old man viewing the end of his life. Any way, send on the specimens and let Schweinfurth do what he can.

As I understnad it, the manuscript of the Guatemalan orchids was finished long ago. All of the new species were described in Bot. Mus. Leaflets, vol 10. If others have turned up, they have not been called to my attention. As you know Correll is in the Navy. He had the manuscript and as I understood from him there was no hurry about delivery to you as the date of publication was somewhat upset by the War. At least the job has been completed! That is, completed as far as anything can be completed of the nature of a tropical flora. It is a vast affair. I feel that it is a creditable one. It will be a great pleasure to see the final treatment as I feel very sure that nothing quite like it has been done for any orchid flora of the American trpics.

I am also sorry that Mrs. Lewis is no longer busy with Guatemalan orchids. We owe to her some delightful finds and it was a pleasure to be able to share her enthusiasm.

What you report about your nephew is in line with my experience. Many interesting things have been picked up by the chaps in the armed forces and I really believe there will be a strong trend toward orchids after the war, the stimulation coming from what the boys saw in the South Pacific area.

If there is any hurry about the Guatemalan flora, I can write to Correll and ascertain what has become of the manuscript.

With the best wishes in the world,
Faithfully yours,