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

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

ON DISCOVERING A BUTTERFLY

I found it in a legendary land  
all rocks and lavender and tufted grass,  
where it was settled on some sodden sand  
hard by the torrent of a mountain pass.

The features it combines mark it as new  
to science: shape and shade--the special tinge,  
akin to moonlight, tempering its blue,  
the dingy underside, the checkered fringe.

My needles have teased out its sculptured sex;  
corroded tissues could no longer hide  
that priceless mote now dimpling the convex  
and limpid teardrop on a lighted slide.

Smoothly a screw is turned; out of the mist  
two ambered hooks symmetrically slope,  
or scales like battledores of amethyst  
cross the charmed circle of the microscope.

I found it and I named it, being versed  
in taxonomic Latin; thus became  
godfather to an insect and its first  
describer--and I want no other fame.

Wide open on its pin (though fast asleep)  
and safe from creeping relatives and rust,  
in the secluded stronghold where we keep  
type specimens it will transcend its dust.

Dark pictures, thrones, the stones that pilgrims kiss,  
poems that take a thousand years to die  
but ape the immortality of this  
red label on a little butterfly.

---Vladimir Nabokov  
New Yorker,  
21 May 1943.

*Did you ever see this  
unusual poem?*

W. H. Wagner

from Wagner

August 3, 1943.  
VB-141, Fleet Post Office,  
New York, N.Y.

Dear Dr. FOGG,

Since I last wrote you I've moved around aplenty. This is the furthest South I've been yet (24-00 N) and I wouldn't be a bit surprised if I didn't go further down the earth's belly in the near future.

As much of my time as possible I spend botanizing or thinking about it. One has to be careful, being only a lowly Ensign, because the Navy just doesn't tolerate eccentricity of the kind a butterfly-net traditionally connotes.

Cosch Harlowe, however, being a Lieutenant Commander, can get away with a little more. At any rate when I saw him during my leave in Washington, he had done quite a lot of collecting. A friend of mine took him out where the bipinnate form of Christmas ferns grows and he got himself two fine plants. Mrs. J. Norman Henry wrote me a nice letter recently and she too has been trying to get plants of this form for her garden in Gladwyne.

I had a "48" over the week-end so I took the drive from Key West to Miami. There was evidently a migration of tropical butterflies in progress: I saw heliconians, dagger-wings, and blue nymphalids flying in great abundance southward along the road. Whenever we stopped to pay toll they would land on the sides of trucks where we could get a good look at them.

When I got in Miami I rented a car and got Mrs. Peterson, a naturalist and old friend of Small's and the St. Johns', to

take me around to meet different naturalists and horticulturists. Orchids are the most popular hobby there in Miami and most of the people who have the hobby have the money. We met Mr. and Mrs. Graham of the automobile Grahams and saw their orchids. We also met a Mrs. Milshawe who had a marvelous collection of tropical Florida butterflies. Mrs. Peterson took me to the Simpson Park of which she is now the war-time custodian and we saw a variety of native trees including gumbo-limbo, Metopium, two Coccolobas, and the satin-leaf. When we went back to her place in North Miami she gave me cookies with watermelon preserves and two kinds of mangoes.

When I was in Washington they urged me to put plants up in newspapers if I got into the tropics. So far this is only an idea, but if I get the time and conditions are right I'm going to collect ferns and small plants at least. The hustle and bustle and monotony of squadron duty in active service won't be bad at all if I can look out the door and see luxurious tropical plants and animals. In this way I've got an advantage over most of my fellows who abhor the very thought of going to a wilderness for duty.

Best wishes to Mrs. Fogg and the girls.

Yours truly,

Herb

from Fogg

August 17, 1943

Ensign Warren H. Wagner, Jr. A-V (S)  
U.S.N.R.  
VB-141, Fleet Post Office  
New York, N. Y.

Dear Herb:

I was delighted to receive your recent letter and to learn something of your interesting experiences. I can see what a trial it must have been for you not to be able to swing a net when such delightful butterflies were parading before your eyes. I am glad that you have been able to see something of Peninsular Florida, where I have spent many happy months and which I long to see again. I well remember visiting Simpson Park in the days when Charles Torrey Simpson was still alive and when he showed me around, introducing me to his marvelous treasures.

We are frightfully busy here now, with several thousand service men in uniform and classes being conducted on a war time basis. I am actually engaged in lecturing to the Army on the vegetation of various parts of the world and am enjoying it keenly. I wish the whole business would end, however, and we could get back to some of the things that we most enjoy doing.

Many thanks for you kind wishes to the family. The girls are at camp in the Adirondacks, but Mrs. Fogg has asked to be remembered to you. Do let me hear from you from time to time and if your orders bring you to Philadelphia, do not fail to look us up.

Sincerely yours,

F.G

from Wagner

(VB-141, Fleet Post Office,  
New York, NY)

Washington, DC  
7 March 1944.

Dear Dr. Fogg,

During the last few days I've had the good fortune of being on leave in the "states". As you would pretty much expect, I spent two days of it at the National Museum with my friends there.

Just before I left my station in the Netherlands West Indies, I received a long letter from Carroll Wood in which he gave me the latest news of my friends at the University of Pennsylvania. The best news was your promotion to the office of Vice Provost. It brought to mind the occasion several years ago when your class wrote on the blackboard, "Congratulations, Dean Fogg."

The operations of which my squadron contributed a good part forbade much getting away for bug huntin'. I was able, though, on a couple of occasions to get quite a few specimens from the Carribean. Incidentally I know the area down there so well now that I could practically draw each island and the coast of South America without any trouble.

Before my leave came up, I went on liberty to Caracas, Venezuela. The South American counterpart of our common Monarch flew into the cab on the way over from LaGuira airport. That afternoon I did some collecting of pteridophytes and butterflies, but I only scratched the surface. I had planned to do the place "up brown" the next day. Unfortunately, however, we were invited out to a party of diplomats and oil people at the "country club" and everybody got drunk including the hostess. They dropped me into bed in the wee hours of the morning in a limp, plastic condition.

Next morning, true to the naturalist's creed, though, I headed up the mountainside. I was about half-way up when I was attacked by gremlines of the abdominal cavity. Apparently the alcohol hadn't agreed with me. Sitting on the roadside, clutching my stomach, and flanked on the one side by a butterfly net, and on the other by a huge clump of Psilotum complanatum Schwartz, I must have presented a wierd spectacle to the native guards who caught up to me along the mountain road. They spoke entirely in Spanish and I in complaining English. They apparently took me for a spy because they'd wave wildly toward the top of the mountain and say "Permissio". I was in no mood to argue, though, so I gave in and went back down the mountain. It wouldn't have done me any good to argue anyway since they were both provided with knives three feet long.

I got quite a few plants in the valley that afternoon. Dr. Maxon has been pleased to get whatever specimens I bring back from the Carribean. I collect everything in duplicate, and Maxon sends a set to Dr. Wherry.

Mr. Clark and I had a swell time identifying some of the South American moths and butterflies I had gotten in Caracas. He

has mounted a lot of butterflies and moths that I gave him last January from British Guiana, Cuba, Haiti, Antigua, St. Lucia, and Trinidad. When I was in those places I'd get out of the plane and walk over to the nearest woods or roadside and collect everything in sight with my midget net that I carry always. My fellow officers are surprisingly tolerant. I checked the pilot I fly with out in the use of the butterfly net, but he's not too sharp. He called one of my favorite ferns, a Schyzaea of the parched sands of British Guiana, which I collected along a taxi strip while we were waiting for a tire to be fixed, "oats", so I don't think he'll ever be converted.

Quite a few of the people on the various bases get things for me. I turned a very peculiar looking Automeris moth over to the museum collected by S 2/c Catelli.

The prettiest things I got in Caracas were the clear-wing danaiids. They would be practically invisible flying in the shade as they do had they not been so abundant. In one jungle patch they were so abundant (several genera of them, all looking exactly alike) that I just swung my midget net wildly for a couple of minutes and had at least a pound of them.

Most spectacular were the owl butterflies. These were common in a ravine below the Hotel Avilo where I stayed. They hung around some smelly mud in the shaded stream bed there and I'd go back every hour or so. Most of them were busted, but I got single good males of two species. The wings spread about five inches and they resemble the great, flashing blue Morphos, which are the other genus in the Morphinae. Their wings are so big that they have a hard time taking off, and consequently it was easy catching them on the tree-trunks where they were perched. It was fun letting them go and watching the huge things flop away into the brush.

To describe the thrill of finding orchids and ferns in the virgin jungles of South America would tax my descriptive ability beyond its natural bounds. All I can say is that a real nature lover is overwhelmed.

My leave is nearly up, and I'll be back to my squadron very shortly. I would very much like to hear from you, 'though I imagine you're busier than ever these days.

It won't be long till the Irises in your garden will be in bloom, and people will come out to see the Fogg Arboretum. I guess the girls are pretty big now. Give them both a "Hello" from me. Best regards to Mrs. Fogg.

Sincerely,

Herbert

Ens. Warren H. Wagner Jr USNR

From Fagg

April 28, 1944.

Ensign Warren H. Wagner, U.S.N.R.,  
VB-141, Fleet Post Office,  
New York, N.Y.

Dear Herb:

It certainly was grand to hear from you and I am sorry it has taken me so long to answer your interesting and informative letter of March 7th. These are trying times for all of us and we have watched things change almost under our eyes with practically no warning. The Army has taken out most of its trainees, leaving us only a few advanced students and we stand to lose others probably in the near future.

Many thanks for your kind felicitations. I remember very clearly the afternoon that I walked into the 2B classroom and saw your greeting sprawled across the blackboard. I hope that my new job is going to give me a little more time for research than has my present one.

You certainly have been seeing something of the world and I envy you the opportunity which has been afforded you to visit so many interesting places. I am glad that you manage to find time to pick up a few specimens now and then and greatly appreciate the beautiful *Morpho* which you enclosed in your letter. I hope some day we can all get together again and you can tell me some of the things which it was now impossible to discuss. Sending this letter is a little like shooting an arrow into the air, for I haven't the slightest idea where or how it may reach you. At any rate, you will know that your memory is still green here and that we shall look forward to seeing you back again some time when the world becomes a more normal place.

With warm personal regards, I am

Sincerely yours,

John M. Fagg, Jr.

from Wagner

WARREN H. WAGNER, JR.  
7708 MORNINGSIDE DRIVE  
WASHINGTON, D. C.  
13 July 1944.

Dear Dr. Fogg,

I've been looking over my notes and mounting up some old snapshots which brought nostalgic memories of the days, now two years past, when I was haunting MacFarlane Hall. I have all of my Botany notes neatly arranged in my bookcase now, and what few photographs I have are pasted in an album. Two of our trips, the one to New Jersey and another near Philadelphia, are well represented in my album with several shots each.

My furlough is nearly over now. I had wanted particularly to see you while I was in Philadelphia. I started out on the 0420 train which was two hours late getting there and I spent the morning showing Dr. Wherry what I think is the hybrid Cystopteris fragilis X bulbifera which I got a lot of material of up in Thurmont, Md. It has a number of peculiarities; the large fronds have a tendency to become long and attenuate and droop, and the rachis bears peculiar proliferations like bulblets which vary in size and which frequently have sporogenous tissue intermixed. The balance of the morning I helped Miss Earle with the sheets I gave the Herbarium of tropical pteridophytes. At noon Mrs. J. Norman Henry showed up and she took me out to her house for the afternoon so I didn't get back downtown till about 0700 and I had to catch the train. I had picked up a case of dysentery in Puerto Rico which I was just getting over so they said not to stay away from home more than the day.

I got a good chance to review the notes and collections I made while in South America and the Caribbean during my leave. There were ten pages of pteridophyte notes altogether.

Dr. Maxon asked me for a copy of these notes and he was very interested in the work I did down there. I wrote a couple of articles for him for the American Fern Journal of which I'll send you reprints. He and Mr. Morton are working on the ferns of Jamaica now and they accessioned a large number of sheets that I collected in off-hours while I was in the Caribbean area.

Mr. Clark and I have been having fun trying to identify some of the butterflies, moths, and skippers I picked up over a twelve-month period in tropical America, and you'd be amazed at the degree to which these insects have developed mimicry. Bates, I think, is one of the old Philadelphia naturalists, and he did considerable study of mimicry down there. The mimicry is so perfect that there are species described in the wrong family. I got over two-hundred species of which some are new varieties, and one seems to be a new species from Cuba.

A Mr. Fessenden here in town is studying the local range of Botrychium matricariaefolium and he has quite a list of localities. Just a few years ago the southern limit known for this species was Baltimore, Md. where Waters found it. Mr. Fessenden says, "It just shows that you can find these Botrychiums if you look for them." Acting on his words, I took a walk from my sister's house in Silver Spring, Md. and darned if I didn't find another locality in fifteen minutes. I'm sending a sheet to the University Herbarium.

I've seen quite a lot of Carroll lately. He's out at Fort Meade where he works mostly at night, and he gets a chance to come in once in a while. He expects to ship overseas around the end of Summer.

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I have just completed a twelve-months tour of duty in the Atlantic Fleet, and I am going to Dallas, Texas, for further training next week. I'm still an Ensign in the Naval Reserve, but an AlNav ought to hit me pretty soon for Lieutenant (jg). It's hard to believe I've been in the Navy for over two years now. I was a copilot on a medium bomber. In Dallas I'll take further training to be changed from A-V(s), Aviation Specialist, to A-V(N) Aviation pilot. They have so many pilots now, I guess that they'll do their best to wash me out of further pilot training. They've just dropped 16,000 prospective pilot students, and, I understand, they're washing them out right and left even in the week before they get their wings.

Beebe and Sonya must be pretty big girls now. It's been a long time since I've been in the "Fogg Arboretum". This dry spell has certainly wrecked gardens around town, and everybody is squirting his hose on the victory garden. Remember me to Beebe, Sonya, and Mrs. Fogg.

Best respects,

Herbert

from Wagner



UNITED STATES NAVY

11 September 1944  
Naval Air Station  
Alameda, California.

Dear Dr. Fogg,

Here I sit, shoes all polished, my Navy blues all pressed, awaiting orders. I'm "all dressed up and no place to go" at least not yet. I quit the training course at Dallas, Texas, when I found out that it would take me until July 1945 to finish and that the pilot field is crowded in the Navy making it necessary to wash 50% out all along the line. Under the conditions I think I'd be wasting my time so I asked for active duty in the Pacific.

I'll probably get into Naval Air Transport. It isn't an operational combat squadron like the one I spent my last year in, in the Atlantic Fleet doing anti-submarine work; but it'll tax my specialty - navigation to pin-point islands over distances of 4000-odd miles. That is, if I get what I asked for, "South Pacific". They aren't taking technical observers into operational squadrons anymore or I'd join my old medium bomber outfit.

It's funny to me that my natural history enthusiasm hasn't waned in

These past couple of years of association with professional Naval men, former lawyers, businessmen, insurance specialists &al. If anything I've become more enthusiastic. Seeing wilds in South America or even near Denver, Colorado, like those I saw last week, works like testosterone on my naturalists urge. I sent Dr. Wherry a small collection of Selaginellas, Equisetums and other pteridophytes I picked up in 4 days around Denver. While there I took a jaunt to University of Colorado at Boulder and spent a morning in the somewhat confused herbarium they have there. If I stay here a couple of days I'm going down to visit Miss Eastman at the Golden Gate Park San Francisco Academy of Sciences. They have an excellent botanical library there as well as 300,000 sheets of herbarium material.

Wherever you go there are naturalists. In Cuba I met Tucker Abbott, conchologist (Navy flier on the side) In Puerto Rico I met Mr. & Mrs. McConnell (Penn State botanist couple), in Florida, Mrs. E. Peterson, and last week in Colorado I took a hike with Mr. Moorman, Biology Professor at Austin State Teacher's College, Texas.

There's nothing like travel to strange places to show you how



UNITED STATES NAVY

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much opportunity there is for a young botanist who has the will to take advantage of it. Imagine my surprise to find two new *Adiantum* tongues for Trinidad that the British hadn't found there before. The biggest thing that collecting in new areas shows though, is that what looks like good literature on your area turns out to be inadequate and frequently mistaken. Even Colorado seems to be a vast garden awaiting investigation for an avid field botanist.

The experiences of the last two years has perhaps hardened me to a lot of things and they have been unmistakably broadening (The educational value of overseas service in military organizations should be carefully appraised by students of war and our national affairs) but I still prefer the rather specialized life of a professional scientist. The only thing that could whip me in a life of research at, say, the Smithsonian, would be the pettiness of jealousy and personal baby animosities that

you see in such places. I've been  
in lots of museums and known  
quite a number of biologists personally.  
No impression of the scientific life  
seems to me in my present environ-  
ment so destructive and opposed  
to the efforts of science than these  
personal tiffs between scientists  
in museums. This has no reference  
to any particular instance; it's just  
something that frightens me when  
I think of casting my lot some day  
with an institution like the  
Smithsonian as a professional  
biologist.

The Navy is an easy life if you're  
at a good base, especially in the  
states, and if you're not being  
worked too hard or are not on the  
spot from some difficult job or  
other. But I think the peacetime  
Navy would stagnate a person.

As soon as I get out I'll give  
you the word on my new duty  
and, if possible, the local flora.  
If things go at the same rate as  
now in the course of the war,  
who knows - there may be peace  
in 1945.

Best respects,  
Herbert.

October 12, 1944.

Ensign Warren H. Wagner, Jr. (291007),  
Naval Air Station,  
Alameda, California.

Dear Herb:

You seem to be performing the part of a coals of fire heaper. I find to my dismay that I never answered your letter of July 13th and that was followed by one dated the 11th of September. The fact that I took a month's vacation during August and September is only partial excuse for not having written you sooner. Your first letter is from Washington and tells of some very interesting fern finds. I have been seeing your name a good deal recently on herbarium labels, for my new job is giving me a little more time for work on the Flora and I have been going over to the herbarium several hours a week. It is nice to see your Pennsylvania specimens coming through and I could only wish that you and Carroll and Dick were back here so that we might make a concerted attack upon the "unknown counties."

Your September epistle bears an Alameda postmark, but heaven only knows where you are now. At last writing you had yourself all polished up waiting to go and I suppose that by this time you have gone. In it you talk about the possibility of transfer to Naval Air Transport work and pinpoint navigation. I should think the latter would be a cinch for anybody accustomed to spotting Pellaea on the top of a cliff. At any rate, you are the outstanding example in my experience of a man who has not only been able to sustain his interest in natural history while in the Service but has actually contrived to work at it during his leisure time. I certainly envy you your opportunity to see new and strange places and I should like to hear from you as to your own evaluation of the experiences which you have had.

I agree with what you say concerning the conditions which surround a scientist's life in many institutions and am wondering whether you have ever decided that you might prefer a combination of teaching and research. I have always felt that this union was a logical one for me, but would agree that it is a purely personal matter and that some men are better fitted for research than for attempting to disseminate the results of the work of others. I do hope that you will get back to these parts before long and that we may have a chance to sit down and talk things over together.

Ensign W. H. Wagner, Jr. #2.

The family are well and happy and wish to be remembered. The daughters spent two months in camp this summer and profited in every respect by the experience. We stayed home and I devoted most of my time to working in the garden and to getting ready a little handbook on weeds which the University Press hopes to bring out in the Spring for the benefit of victory gardeners and others who might like to know the difference between a ragweed and a mari-gold.

Best wishes and many thanks for having written.

Sincerely yours,

John M. Fogg, Jr.,  
Professor of Botany.

from Wagner

VR-11, % Fleet Post Office  
San Francisco, California  
21 November 1944.

Dear Dr. Fogg,

Your letter was a real pleasure to me. I'm so glad that now you can now devote more time to your work on Pennsylvania in addition to your other responsibilities. Thanks so much for your suggestions and interest in my work.

My mother and father were somewhat surprised to hear of "Lt. (jg) W. H. Wagner, Jr., the Naval officer who carries a butterfly net under his uniform, who contributed 700 specimens to the National Museum" on the "We, the People Program". The speaker was Austin Clark who has mentioned it also in newspaper releases. I also gave the Museum a couple hundred sheets of ferns from the Tropics, and I'm soon going to send a hundred sheets each to your herbarium and the National herbarium from the Pacific.

It is really impossible to take full

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advantage of my travels because, of course, I am a serviceman, impressions that I'm just a naturalist on tour, to the contrary. I'm forced to simply nip at at the plants from time to time. Each little jaunt is vividly remembered though, and the impressions will help when I read dusty volumes in the future of places far, far away from Philadelphia.

Just the other day I told my Senior officer I was going for a jaunt in the Admiralty Islands. He said "O.K.", I'll come along." He did, and three other officers did. What marvelous sights we saw. Walking stick insects 7" long brown and fat with bumps. Flying foxes (fruit bats) 3.5 feet across, sailing thru the air with "bird-wing" butterflies nearby that grow to a size of ten inches across with gorgeous colors that make them the world's most sensationally beautiful insects. I saw wee filmite that looked exactly like moss growing beside tree-ferns with caudexes 20-25 feet high and fronds 6 feet long. There were birds the size of sparrows that made a noise

like a fog-horn, and lizards with iridescent emerald-colored tails. All of this biological splendor, that can be seen by many, many servicemen who don't bother, we saw, and our foray was well worth the while even though a few of the greener members of the party felt a little squirmy after our trip into the jungles.

This was my first trip below the equator, though I've crossed the international date line many times. Just as I nip at collecting, I can only peek into books occasionally because I find myself on the go all the time. My Pacific love reading has degenerated into a keen interest in the Japanese people, their lineage, customs, and plans. It would behoove many Americans to read in this field. It is fascinating and frightening to read of these fruitful, busy, paranoid little people with the good manners. Perhaps this war is just a babe-in-arms as wars go. Maybe the Japs will take over the Pacific in time. They have the reproductive ability and natural urge for expansion

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that couldn't be quenched by just one war. Earthquakes, typhoons, wars — what the Hell do the Japs care? They haven't got anything, anyway and they date on dying for the Emperor.

I still am a naturalist at heart, though, and I devour any literature that turns up on Pacific biota. Have you seen "The Pacific World" 1944 edited by Fairfield Osborn and gotten up by New York people. It is perfect of its sort, and quite a number of servicemen are reading it. It is just what is needed, as simple as possible.

Right now I have 50 sheets of plants quarantined by U.S. Dept. of Agriculture and probably molding. The Dept. of Agriculture and the Navy in accordance with its regulations are making fools of themselves and are hampering the attempts of such people as the National Academy of Sciences in their attempts to fill in the exact knowledge of the biota of the islands over which ~~we~~ we will administer for some years to come.

A great number of servicemen are discouraged by the red-tape, and sometimes complete refusal to pass scientific material and so this stuff is being denied our scientists. I cite two cases: One, a former W. Va. forestry student, who wanted to make tree specimens but gave up in view of the regulations; and the other, a Navy flier who, I understand, collected 3000 butterflies in Guadalcanal but couldn't take them with him when they left. I don't know what ever became of the specimens. I don't know if I'll ever get mine back to the states. So much for ignorance and hard-headedness on the part of officials.

I have found that 5 pt. is all my envelopes can hold, so I'll have to close. I'll write again as soon as I can. Best wishes to all the Fogg's,

Respectfully,  
Herb

Warren H. Wagner, Jr. Lt. (jg)

January 9, 1945.

Lieutenant Warren H. Wagner, Jr.,  
VR-11, c-o Fleet Post Office,  
San Francisco, California.

Dear Herb:

I am indebted to you for your very interesting and enjoyable letter of November 21st, as well as for your Christmas greetings. I had meant to write you earlier but the last few weeks have been so busy that this remained, with many other things, in the limbo of good intentions.

You are, as far as I am concerned, an absolutely unique member of the United States Navy. I have used you on several occasions in popular lectures as an example of the type of thing which might be accomplished by anyone with real interest and enthusiasm, who, thanks to the war, is now projected into strange and fascinating places. I have not, of course, mentioned you by name, but in speaking to the wounded men at various Service hospitals where I have been, I have taken occasion to point out how an interest in natural history might contribute in a very real and objective way to the individual's enjoyment in his novel surroundings. I do not suppose one out of a thousand will take any heed from my remarks, but even one would be a pretty good average it seems to me. When I think of the distant parts of the world to which our men are being sent and realize that not one in a thousand has sufficient knowledge or appreciation of the world about him to profit by this experience, it seems to me a really great shame. You are certainly to be congratulated on having been able to carry through with your collecting interests and to consider yourself still a naturalist.

I was interested in your reference to Osborne's "The Pacific World," which has been favorably reviewed in a number of quarters and which I have intended to read but have so far not succeeded in securing. I agree with you that we would do well to know a great deal more than we have known about the peoples of the Pacific, and especially the Japs, and would like nothing better than to have a bull session with you on this subject at some future time. We have all been so impressed by the work that we have been asked to

Lieutenant W. H. Wagner, Jr. #2.

do for the Army in the Area-Language Program. I for one have felt that a real advance in human understanding has been made and hope that we can continue to do something of this sort in our civilian program after the war.

With very best wishes and the hope that I may hear from you again in the near future, I am

Sincerely yours,

John M. Fogg, Jr.

from Wagner

VR-11 Navigation 158,  
c/o Fleet Post Office,  
San Francisco, California.

10 September 1945.

Dear Dr. Fogg,

It has been a long while since I last wrote. Several weeks ago I sent you a brief, popular-type article on fern collecting in Porto Rico which I hope you received. Of the type of fern hunting I described there I've had a lot more. I have been extraordinarily fortunate in my duty assignments in the Navy, and I have tried hard to take full advantage of them.

Typically I get to an island after a long flight and I'm exhausted. Part of this is due to the rigorous requirements the Navigators have to fulfill in their work, but high altitudes for continuous periods make one woozy. If I get to an island at night I usually sleep till about nine in the morning before going out botanizing, but if I get there in the early morning I go right out in the field.

Many of the places in the Central, South, and West Pacific are weedy tropical tangles. Such plants as Carica, Tacca, Euphorbia heterophylla, Emilia sonchifolia, Cassia spp., Mimosa pudica, various grasses including the common Bambusa, and a wild assortment of other things make collecting unpleasant, particularly when your pants and shirt are soaked wet with perspiration. The wildest, most natural islands are those down in the Solomons and Admiralties. Atolls, of course, are terribly uninteresting, except for the more wooded ones. The Marianas and the parts of the Philippines where I go are very weedy, and the good collecting spots are ravines along streams and freshwater marshes. These places seem to retain their native flora more persistently than the open, level upland areas. This, of course, is probably due to temporary farming by natives.

Perhaps you read in the New Yorker a description of the flora of Hawaii by one of the New Yorker's roving reporters. Hawaii is a wonderful place for plants and every tropical weed in the world is here, I guess. Several days ago I was climbing a mountain and it was horrible to see how many of the plants were introduced. Auracaria, Psidium, Cassia, Casuarina, Eucalyptus, Lantana, and Blechnum occidentale and Pityrogramma ochracea were everywhere. Above three thousand feet things improve in Hawaii and you begin seeing the native plants. On this trip I saw a very pretty Liparis with yellow flowers at 4000 feet. At this

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altitude the trees are stunted and covered, branch and twig, with feathery green mosses. Imbedded in these mosses are all sorts of interesting ferns.

I'm doing a "Ferns of Guam" right now. Such a paper is certainly needed. There are only around sixty species on the island, but you would be surprised how many errors have crept into the relatively large literature. Several of the species are endemic and quite rare. I undoubtedly told you about the Dryopteris depauperata, a very odd species, which grows in one small area on the island. A native chamorro, Felix Carbullido by name helped me find the spot. The Guam tree-fern, Cyathea Haenkei, is practically extinct. My friend, David Grether from the University of Wisconsin, and I had spent many hours seeking this beautiful plant with no success, and when finally I found it, the tree was too high to get any fronds! I had to satisfy myself with a curled up dead one I found on the ground. A real discovery was locating the tiny Ophioglossum nudicaule in grassy savannahs. It was pure accident finding it, but Dr. Clausen wrote me that these are the first he has heard of from the Marianas, and he congratulated me on the find. In the Philippines, a friend and I discovered a stand of Ophioglossum angustatum on the edge of a salt-marsh. I believe that this is the first authentic record for the entire Philippines of a plant known definitely previously only from Japan, China, and India. The day before I got the wierd Helminthostachys zeylanica on Samar.

I would love to work up the ferns of Hawaii, but professional ethics prevents anyone from doing it. I think the logical man would be Dr. St. John, but he and everyone else avoids doing it because the plan is that Dr. Lyons shall do the job.

I am not sure when my Naval duties will come to an end. My job is now somewhat an honor--I'm a "check navigator". There are only 26 check navigators out of 350 or so. My job is to determine whether a man is competent to navigate trans-Pacific flights by himself.

The people at the University of California suggested that I teach 16 hours a week there and work for my Ph. D. I think, though, that I shall return to my alma mater in MacFarlane Hall.

Very best respects,

Herbert.

Lt. (jg) Warren H. Wagner, Jr.

from Fagg

October 29, 1945

Lt. Warren H. Wagner, Jr.,  
VR-11 Navigation 158,  
c/o Fleet Post Office,  
San Francisco, California.

Dear Herb:

Your letter of several weeks ago arrived while I was away on a vacation, most of which was spent in the Adirondacks where our youngsters had put in a couple of months at a girls' camp. Back at the grind now, and what a grind it is! We still have over a thousand Army and Navy boys on the campus and the vets are coming back in swarms and droves. The place is busier than the proverbial beehive and we actually don't know from day to day just how we are going to accommodate the ever expanding student body. It is a far cry from four years ago when the trend was all in the other direction.

I did indeed receive your interesting article on Puerto Rico and am grateful to you for having sent it. This is an island that I would like very much to see, for according to all accounts it is a botanist's paradise. I believe that Dr. Seifriz puts it second only to Jamaica for luxuriance and botanical interest.

You have indeed been fortunate in your Navy assignments but I think you are to be warmly congratulated because of your own interest and enthusiasm which has enabled you to take best advantage of the spots to which you have been sent. I note with interest that you are working on the ferns of Guam and hope that this will be published in the near future. I sympathize with you in the situation as it exists in Hawaii for I have heard something of the personal complications which make it difficult for anyone else to work on the ferns of that group. I suppose that Degener, if he has a chance to get back there, will go ahead and do the job anyway since he is not the one to balk at ordinary barriers.

I was delighted to learn that you still contemplate returning to Penn for your Ph.D. and I hope that things may work out so that you can be released from the Navy in the near future. We have quite a few graduate students coming back to us and I should suppose that within the next year our graduate offerings would be quite as extensive as they have ever been, if not more so. We seem to be facing a period of expansion in Botany, especially now that we have taken over responsibility for all of the undergraduate work in Bacteriology, and my guess is that you will come back at a time when the Department is better qualified than ever before in its history to offer a worthwhile opportunity for graduate study.

Lt. W. H. Wagner, Jr.

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October 29, 1945

It was good of you to write such a long informative letter and I hope that you will continue to keep me posted concerning your activities.

With best wishes, I am

Sincerely yours,

John M. Fogg, Jr.

from Wagner

7708 Morningside Drive, N.W.,  
Washington, D.C.  
1 February 1946.

Dear Dr. Fogg,

The day before yesterday I came up to the University again. I arranged it at the Navy Department to muster out of the Navy right away. I had only a few hours in Philadelphia, though, on Wednesday. My brother was going to Princeton on business and I accompanied him to Philadelphia and re-joined him on his return. While at the University I discussed problems about District-Baltimore ferns with Dr. Wherry: I'm working on them in connection with the D.C. Flora Conference. I didn't get a chance to drop in your office and say "Hello."

Tomorrow night at 2400 (as we old salts say) I will become an inactive Naval Reserve Officer. In March I'll have to go out to Berkeley to work on the collections of pteridophytes from the Marianas and Admiralties, and prepare papers. At the start of the Fall term I plan to begin work at Penn.

It's a strange question but I was wondering whether it is possible ever to be elected to Phi Beta Kappa after undergraduate days--at Pennsylvania. This evening I looked over some old school papers and came across the letter which began, "Dear Mr. Wagner: Your name is on the list of those eligible for consideration at the forthcoming election to Phi Beta Kappa."

As I remember you told me, after the list of Phi Beta Kappas in 1942 was published, that you thought they didn't know enough of my work at my previous University, Nebraska Wesleyan. When I was there I was in Phi Kappa Tau social fraternity, Pep Club, the Plainsman Players, and Chorus, and got elected to Theta Alpha Phi, the honorary collegiate dramatic fraternity. I made lots of friends there both among the faculty and student body, as well as in the city of Lincoln. At Penn I was active only the German Club, Glee Club, and Naturalists Field Club because I arrived as a Junior (actually as a Sophomore because my credits were cut down: I had to catch up with some credits.) My average marks at Wesleyan were high 'B'.

I remember once that Dr. Grether (Economics Department) at the University of California told me that graduate students with scholarly promise who came from Phi Beta Kappa-less schools were made Phi Beta Kappas there at Cal. Would the fact that I missed it as an undergraduate at Penn eliminate chances of making the scholarship fraternity forever? I intend to make an academic career my life so perhaps I think about the matter disproportionately. My mistake, I'm afraid, must have been switching universities--"changing horses in the middle of the stream" as they said in the last political campaign.

In the "Smithsonian tower" the other day, I spoke with Dr. Campbell about my expedition to the Admiralties. As editor of the SCIENTIFIC MONTHLY he thinks I should try to get up a popular-type article on natural history in the Admiralties. Trouble is, as I think I told you, that our photos were stolen by some sailors who mistook them for fresh films. Photographs

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are important in articles these pictorial days.

It's odd to be in civvies again after three years and seven months with the Navy. My life in the Navy shall be well remembered. I had 1900 hours in the air, travelled from British Guiana to the Philippines east and west, and from Boston to the Solomons north and south. It was scarey sometimes in airplanes, and the work had strenuous working hours day and night, but looking in retrospect, it was fine training to work at something I never dreamed of before, with a lot of other men equally "at sea". The stars will always have a special meaning to me as they creep their gradual, mathematical courses.

Best respects,

*Herb*

Warren H. Wagner, Jr.

February 27, 1946

Mr. Warren H. Wagner, Jr.,  
7708 Morningside Drive, N. W.,  
Washington, D. C.

Dear Herb:

It was good to get your recent letter and gratifying to learn that you intend returning here to go on with your graduate work. I was talking to Dr. Schramm about you a few days ago and we agreed that with your particular capacities and abilities there appeared to be a real future for you in the field of Botany.

With respect to Phi Beta Kappa, there is, I fear, little information that I can offer you. I was at one time very active on the Electoral Board, but my administrative duties of the last few years have made it impossible for me to follow matters as closely as was formerly the case. It may be that the Board at some future time will decide to review the cases of men in your category, but I can give you no assurance whatever that this will be done. Possibly by the time you return in September I may be in a position to advise you.

I hope you will follow Dr. Campbell's suggestion about writing up your experiences in the Admiralties. A good many of our students have been in that part of the world and it might even be possible to secure from them some pictures which you could use. One of the boys who was in a few weeks ago showed me a large stack of photographs which he had taken, some of which show the characteristics of the vegetation. I am wondering, also, whether you might not be interested in writing something for FRONTIERS, which, you may remember, is the popular science journal of the Academy of Natural Sciences.

You will, I know, have an interesting and profitable time on the West Coast and I shall look eagerly forward to seeing you back here when the time comes.

Sincerely yours,

John M. Fogg, Jr.

Herbarium, Life-Sciences Bldg.,  
University of California,  
Berkeley, CALIFORNIA.

12 April 1946.

Dr. John M. Fogg, Jr.  
Vice Provost,  
University of Pennsylvania,  
Philadelphia, PENNSYLVANIA.

Dear Dr. Fogg,

It seems that the work piles up and piles up. I am surrounded by piles of newspapers full of Pacific ferns, and I don't know how I'll ever get all of my notes written up. I am coming right along, though, with Dr. Copeland's assistance and instruction. He certainly is a wonderful fellow. It is utterly phenomenal how much he knows about pteridophytes. I am about half-way through the ferns of Guam but the path is beset with various pitfalls of synonymy and identification. I described my first new species the other day.

Paul Allen came breezing into the door the other day. He's working on the rubber project. He has, as you probably know, a fine son of whom he is very, very proud. He is going to teach at the University of Wisconsin next year.

Dr. Constance just handed me a letter from Carroll Wood. Carroll says he's having a wonderful time in Denmark, and he expects to leave Europe around the First of April. You will probably be seeing him soon. He speaks highly of the blond girls, the schnapps, the zoölogists, the botanists, and one family that had collected 600 swing records from the U.S. I think that his European experience, especially in Denmark, will live with him forever. His Army tour I'm not so sure of.

A large number of people here are working on the cytology of plants in the taxonomic work. I am very interested in this, and I think I have a good opportunity here to learn the techniques and the subject. I have a fern project, involving eastern ferns, which I think would be especially interesting if treated this way. My study of Oriental ferns here with Dr. Copeland promises to take more than one Spring. Their offer of teaching assistantships here with travelling expenses for students from the East sounds very good to me in view of my other work here, so I have applied for one. I would appreciate it very much if you could write a letter of reference for me to the Chairman of the Department of Botany, University of California.

Very best regards to you and your family,

Yours sincerely,

*Warren H. Wagner, Jr.*

Warren H. Wagner, Jr.

May 13, 1946

Mr. W. H. Wagner, Jr.,  
Herbarium, Life-Sciences Bldg.,  
University of California,  
Berkeley, California.

Dear Herb:

Thanks very much for your letter of several weeks ago and for the interesting story about your work in the Air Transport Bulletin. I was delighted to see that this had been written up and wish that it could be given even wider publicity, for it seems to me that what you accomplished should stand as an inspiration for all time to come.

Carroll Wood turned up on Friday and spent most of yesterday with us at home. He is full of interesting observations on the flora of Europe and looks forward to getting back to field work this summer in western Virginia and returning to resume his graduate studies here in the fall. I have told him how many offers of positions have come to my attention recently and how much I wished that he might be far enough along in his graduate work to be able to take advantage of this situation before the field again becomes crowded. He seems to be in splendid condition and it certainly was fun seeing him again.

I am interested to learn of the teaching assistantship at California and wish you the best of luck in your application. I hope this does not mean that you will not some day come back here, but it seems like too good an opportunity to pass up at this time. I have written to the Chairman, as you suggested, and shall be glad to learn what happens next. Now if we can just get Bob Schaeffer fixed up, I'll begin to feel that the war is finally over.

With best wishes from everybody here, I am

Sincerely yours,

May 13, 1946

Chairman,  
Department of Botany,  
University of California,  
Berkeley, California.

Dear Sir:

I have been asked by Mr. Warren H. Wagner, Jr., to write to you in support of his application for a teaching assistantship at the University of California.

Mr. Wagner took work with me as an undergraduate in Botany and was planning to continue with his graduate program when interrupted by the war. I regard him as one of the most promising young men we have ever had in our Department and I can say nothing more clearly in his favor than to state that I should be very happy to see him come here in the same capacity as that which he is seeking with you. He is a young man of great enthusiasm, unusual initiative and originality, and remarkable mental alertness. He has a knowledge of botanical literature which would do a credit to many a Ph.D. and is well acquainted with certain critical groups of plants in various parts of the world. He combines with this an interest in insects, especially Lepidoptera, which has enabled him to make a significant contribution to our knowledge of conditions in the Pacific as well as in the Caribbean. I should like to see him receive any encouragement which will enable him to carry on his studies for I feel that he has the makings of a good research man as well as an able teacher.

Yours very truly,

John M. Fogg, Jr.,  
Vice-Provost and  
Professor of Botany.

Department of Botany,  
Life Sciences Building,  
University of California,  
Berkeley, CALIFORNIA.

13 August 1946.

Dr. John M. Fogg, Jr.,  
Vice-Provost,  
University of Pennsylvania,  
Philadelphia, PENNSYLVANIA.

Dear Dr. Fogg,

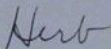
Enclosed you will find a popular-type story about the famous "gooney-birds" of Midway, which I think I told you about when I was last in Philadelphia.

This Summer--the first one since I mustered out--has turned out the busiest one I've ever had. The first semester of Summer school I had a Botany 1 teaching assistantship (teaching, by the way, is wonderful fun), and now I am taking Organic Chemistry and reading Botany 1 exams. Organic Chemistry, I think, was designed to drive students mad. I see carbon atoms lining up in my sleep.

My buddy, Grether, just brought back a parcel of very interesting plants from the Pacific, including an unusual fern from the Empress' Summer Palace at Peking. Identifying ferns takes up all my spare time.

I hope that you will enjoy the "gooney bird" story.

Respectfully,



Warren H. Wagner, Jr.

October 10, 1946

Mr. Herbert H. Wagner, Jr.,  
Department of Botany,  
Life Sciences Building,  
University of California,  
Berkeley, California.

Dear Herb:

Your letter of August 13th and a journal containing your article arrived while I was away on vacation. Hence the delay in acknowledgment.

I read your story with interest and am glad to see that you are so successful in communicating your enthusiasm in writing. Again you have made me long to see once more the warmer portions of the earth's surface where so many fascinating experiences are to be had.

We are in the midst of the busiest year in the University's history, with a total registration of well over twenty thousand. Botany is again a thriving corner of the campus and we have a goodly group of graduate students hard at work on their courses and problems.

It's good to learn that you are continuing to work on your fern collection and I am sure that if you have any duplicates, Dr. Wherry would be pleased to have them.

With best wishes and a hope that we shall soon again see you in this part of the world, I am

Sincerely yours,

John M. Fogg, Jr.

from Wagner

Gray Herbarium



Harvard University

REED C. ROLLINS, DIRECTOR  
M. L. FERNALD, FISHER PROF. NAT. HIST. (1909-3) EMERITUS  
ROBERT C. FOSTER, ACTING CURATOR  
FRANCIS WELLES HUNNEWELL, RESEARCH ASSOCIATE  
EDITH SCAMMAN, RESEARCH ASSOCIATE

NICHOLAS POLUNIN, RESEARCH FELLOW  
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MARJORIE W. STONE, BIBLIOGRAPHER  
BERNICE G. SCHUBERT, ASSISTANT

79 GARDEN STREET  
CAMBRIDGE 38, MASSACHUSETTS, U.S.A.

December 28, 1950.

Dr. John M. Fogg, Jr.  
Vice Provost  
University of Pennsylvania  
Philadelphia, PENNSYLVANIA.

Dear Dr. Fogg,

After such a terribly long delay, I feel rather sheepish about starting a letter to you about my last several years. Having received your much appreciated Christmas card, though, may I assume your forgiveness?

I came back East last Fall with my wife, Florence, to spend a year here on a Research Fellowship. I had been at California for four years getting my degree. I was a teaching assistant there most of the time, and also had two expeditions to Hawaii to study the ferns there. Lincoln Constance and E. B. Copeland were my advisors there, and I assisted Adriance Foster for two years in his Anatomy and Morphology classes. I decided that I could make a better contribution in research if I devoted myself to the cytology and morphology of the Ferns rather than their taxonomy alone. Since making that decision I have come to the conclusion that it was a wise one, for there are numerous important problems that need solution or re-investigation, and I am spending this year looking into some of them.

When I came here I met Dr. Fernald for the first time. He was very jolly, and no day passed that he didn't tell me at least one joke. On the Friday he died he told me a funny story about the man in Nova Scotia who advocated eating fish for the brain and whose children (brought up on fish) were both morons. It was quite a shock early the next morning to learn that he had died suddenly in the night. I attended his funeral. I had hoped several years back that I might come here to work with Mr. Weatherby, after getting my degree; I had met him and spent an afternoon with him during the War. Of course, he died in 1949. Now the only interest in ferns here is entirely separate from evolution and taxonomy, and is, namely, in morphogenesis and physiology. Professor Wetmore's students use ferns in their studies of auxins and plant development.

The problem I have been especially working on here is that of the dichotomous fern-frond. Since the Telome

Theory has been promulgated, practically everyone has assumed that the ferns are excellent illustrations of the change from equal-sided branching to unequal-sided branching to pinnation. But I have made a survey of the ferns, including such types as Schizaea, Rhipidopteris, Adiantum reniform, and Ophioglossum palmatum, and have been much disappointed to find that in no case is there a fern in which the dichotomy is primitive. On the contrary, the fern prototype seems very likely to have had typically fern-like leaves, pinnate in plan. While I was in Washington this Christmas I had hoped that I could collect a wide variety of young sporophytes to study the alleged transition from dichotomy to anisotomy which is supposed to occur in young fern-leaves, but all I could get were the ferns which grew on cliffs--such as Asplenium and Camptosorus. The ferns which I have examined so far appear to develop pinnae by intercalation of laterals below the apex rather than by unequal development of branches, and there seems thus to be no "recapitulation" there.

Florence and I went to Washington early not to collect the young sporophytes, but to attend Mr. Austin H. Clark's 70th birthday banquet held at the Hotel Washington on December 18. Of the numerous "Clark boys" here, only Carroll Williams and I were able to attend. Carroll Williams presented one of the talks--"Austin Clark--Mentor." The speeches which were given were all good, and some of them very amusing. The Toastmaster was Bill Lawrence, the science reporter for the NEW YORK TIMES. At our table was Dr. A.C. Smith and his wife, and Jason Swallen. There were 150 people present, and a big bound book of letters was presented to Mr. Clark at the end of the evening. Mr. and Mrs. Clark later showed us the book which was filled with letters and photographs of the senders.

I had hoped to visit Philadelphia on the way down or on the way back, but it was not possible so we are going to have to delay it till Spring. This Christmas was the first one I had spent with my family in four years--and how my family has grown! My two sisters and my brother are all married like myself, and there are now three nieces and nephews. So thirteen people sat down at Christmas dinner.

Mrs. Henry came to see Florence and me in California when she was visiting out there, and it was wonderful to see her. This Christmas in her card she sent a piece of the plant of Polystichum acrostichoides of the bipinnate form which Carroll and I raised back in 1942. I saw Henry Skinner during his brief visit to the Gray Herbarium recently, and he told me about his thesis. At the Columbus meetings last Fall I heard Red Camp speak for the first time, and learned there that he was part of the Philadelphia botanical scene. Things must now be quite changed from the days when I was at Penn, what with Goddard and Ed Cantino added to the Botany Department, and certain subtractions.

The reason I came back to Cambridge early was to

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prepare a talk for the New England Botanical Society on January 5. The subject matter of Hawaiian ferns will be quite a change from the gaunt, wintry out-of-doors scene of Boston during the Winter. Actually it has been warmer than expected this Fall, but now I think it is getting down to business. My car, which I left behind the Gray Herbarium while I was in Washington, was a snowball when I returned. And the 30-weight oil which I had in it had turned to stone. It took a tow-truck called out at 10:00 last night to get it moving, and this morning we had to have re-charged the battery, tired from trying to turn over a petrified engine.

I suppose that the present world conditions will have much to do with whether the young Ph.D.'s in Botany can carry out their plans for the immediate future, but one goes ahead and plans nevertheless. The University of Michigan invited me to become an Instructor in Botany there starting next Fall, and all the preliminary work was done on it, until the Dean announced that there are no funds available for new instructors next year there. This leaves me looking for a job. I am looking for a place where I can teach Botany, and perhaps have courses in Anatomy and Morphology, and do research in the Lower Vascular plants. With Dick Howard and Carroll Wood I have been auditing Bailey's wonderful course on the phylogeny of angiosperms as demonstrated by their anatomy and morphology. I believe that the entire subject of vascular plant evolution is full of important research opportunities. I have also been participating in Dr. Wetmore's seminar on morphogenesis and I can see also a great future for this field.

When I met Rogers McVaugh last Fall I mentioned that I took my first Taxonomy course from you, and he told me that he also did. You may remember that I took your lectures on Algology while I was an undergraduate at Penn. It might perhaps seem that I put that to less use than my Taxonomy but actually I applied it quite well. You see, I married an algologist. I wouldn't even have been qualified to carry her pail across the California reefs unless I had some background in algae. Florence is now getting her degree and ought to be finished her thesis by this Spring.

I hope that you will have a chance to drop me a line. Next Spring I surely shall be able to come to Philadelphia on a visit, and I hope that my wife will be able to meet you then. Very best regards to you and your family,

Sincerely,

Warren H. Wagner, Jr.

January 30, 1951

Mr. Warren H. Wagner, Jr.,  
The Gray Herbarium,  
79 Garden Street,  
Cambridge 38, Mass.

Dear Herb:

I am certainly very grateful to you for your long and interesting letter of December 28th and I only wish that I had a budget of news similar to yours to pass on to you. About all I can say is that I am busier than ever since, in the absence of Dr. Schramm, who is on leave this year, I have taken on the Acting Chairmanship of the Department of Botany. Despite this fact, however, I manage to get in a good lick of work on the Flora from time to time and when Dr. Wahl was here during Christmas Week, we concentrated solidly on the project.

I was able to get in a considerable amount of field work in the much neglected northwestern counties of the state last summer and as a result, our map ranges are beginning to look pretty impressive. Indeed, if the book had to go to press right now, I would not be too greatly ashamed of the distributional records as represented in our present series of distributional maps. There's still lots of work to be done in this regard but it is a matter of filling in local areas rather than of attacking large blocks of counties. Most of our keys have been prepared and have been subject to a good deal of use, so that they ought to prove fairly workable. I am at present engaged in an analysis of the various elements in the Flora so that we can begin to appraise our floristic problems in something like a statistical manner.

The news of Fernald's death was a tremendous shock to me, as you may well believe, since for a quarter of a century I have looked up to him as my real guide and mentor. At Dr. Rollins' request I prepared a short account of Fernald as a teacher which should appear in an early number of RHODORA.

I do wish you could get to Philadelphia, for there is nothing I would like more than to see you again and to sit in while you and Camp discuss the telome theory. It's grand to have Camp in Philadelphia, for as you may expect, he is pepping things up in his inimitable fashion. There have been a good many changes in our own Department, as you are aware, and this is abundantly evidenced by our departmental seminars which, instead of being attended merely by a handful of faculty and students, are now so jammed packed that occasionally we have to move

next door into the Zoology Auditorium. In other words, Botany is taking on a dynamic aspect here and it is great fun to be in the midst of it all.

I am sorry for you that the Michigan deal fell through but I guess all of us are in pretty much the same fix. We would like to add some new instructors next year, but with the bugaboo of shrinking enrollments, we dare not take a single step in that direction until we see more clearly just what is going to happen.

Meanwhile, do not forget your promise to drop off here in the spring to renew old ties and get to know some of the newer members of our Staff.

With best wishes and warm regards, I am

Sincerely yours,

John M. Fogg, Jr.,  
Professor of Botany

Biological Laboratories  
 Harvard University  
 Cambridge 38, MASS.  
 April 17, 1951

Dr. John M. Fogg, Jr.  
 Vice Provost  
 University of Pennsylvania  
 Philadelphia, PENNSYLVANIA

Dear Dr. Fogg,

Your letter was much appreciated, and I am afraid this reply is quite tardy. Since my last letter, the Michigan position came through for me, so I am going out there this fall, after teaching the Biology course here this summer.

Carroll Wood is going great shakes on his study of Downingia. He occupies the room next to mine here in the Biological Laboratories. These little Downingias are the cutest plants in the world, and as they are growing now in the greenhouse, he shows me some of the results of the hybridization experiments he has done.

Lately I have taken a couple of weeks off from my I have study of the dichotomous fern leaves to try to get the chromosome number of the local Pteridium aquilinum var. latiusculum. After various technical difficulties I have turned out finally that the number was  $2n = 104$ . The basic primary purpose in this was to determine a good way of getting somatic counts (I used leaf-tips and croziers) because most of the work done on ferns here in the Biological Laboratories concerns sporophytes and experimental materials of such genera as Polypodium, Adiantum, and Dryopteris in which sporal material with meiosis is not available. In Chromosome numbers in the ferns tend to be very high for vascular plants in general, and accordingly it is necessary if meiotic material is not available to adopt some method of shrinking the chromosomes. I finally settled on the use of the paradichlorobenzene method and worked out the timing so that the chromosomes look, by Golly, just like meiotic metaphase.

Working in a large, historical herbarium on the ferns has its rewards, as I discovered recently. In my study of Dielis I finally came to the conclusion that this genus which had theretofore been associated with the "marginal" ferns, davallioid and lindsaeoid, was really derivative from superficial ferns, the asplenoid ferns, and specifically from the familiar rock spleenworts of the general affinity of Asplenium trichomanes. But I could point to no specific ancestor or species which had all the requisite characters. Not long ago I

identifying some Hawaiian Asplenium when I came across a specimen identified by Mr. Weatherby around 1920 as Asplenium normale, one of the local Hawaiian "black-stemmed" spleenworts. But the moment I saw it, I recognized it as something new and different. The specimen had been collected in 1879 on Maui by F. L. Clarke, and both of his letters preserved here refer to the "new Asplenium." The fern, in brief, shares practically all its characters with Diellia but its sori are typically asplenoid, not marginal at the ends of anterior veins as in Diellia, and the secondary commissural veinlets that tend to develop along the margins in the latter genus are lacking. Since then we have located another collection, this time by D.D. Baldwin, of another plant of this species, and it has the same characters. I believe I have actually found the prototype of the genus I studied for the last four years.

Another oddity which has turned up is a collection of Elaphoglossum in which the leaves are palmate. This is very interesting in connection with my study of the fern-leaf, as the whole genus Elaphoglossum (something like 400 species) has simple, paddle-like blades. This specimen was among some old, miscellaneous unidentified material.

These little side-interests have taken me somewhat away from my main problem, but since Prof. Wardlaw got here I am back on the fern-leaf problems. Miss Alma Stokely of Mount Holyoke kindly provided me with the young sporophytes of two of the problematic ferns I was studying: Dipteris and Actinopteris, both dichotomous-leaved types, and recently Mrs. Lenette Rogers Atkinson of Amherst sent me some living young sporophytes of Schizaea pusilla. Harold St. John just a couple of days ago sent several hundred juvenile plants of S. robusta from Hawaii, too. The Schizaeas are especially interesting because their sterile leaves seem to be simply stipes, or stipes in which the blade is never formed. One of the curious things that turned up is that the leaf is terminated by a massive apical cell, and the tracheids differentiate right up to that cell. The dichotomous Schizaeas (which I hope Miss Scamman will get some young sporophytes of) seem merely to be specialized types based on the plan of the primitive ones like those I mentioned, in which, however, the petiole becomes repeatedly divided, and the result comes out that you have a whole series of little blades (the "fertile segments") along the margins. Incidentally, if you have not seen the gametophyte of S. pusilla, it is quite a remarkable thing: the antheridia and archegonia are borne directly on long, one-cell-rowed filaments.

I had hope very much to get onto the Asplenium complex, specimens of which I borrowed long time ago from you. Unfortunately while here to best take advantage of my research opportunities while associated with Dr. Bailey and Dr. Wetmore, I felt I should study the leaf problem, so I have not been able to go on with the

study of these plants. I believe that Asplenium pinnatifidum is the combination A. montanum X Camptosorus and that A. Bradleyi is the combination A. montanum X A. platyneuron, and from my spore measurements and study of spore abortion last year in this group that this will turn out to be the case. By taking the three basic species, Asplenium montanum, A. Platyneuron, and Camptosorus rhizophyllum, it should be possible, I think, to compound practically all the other "appalachian spleenworts." I feel that I should, however, return the specimens to you (and should have long ago) as I have had them already so long. But I do intend to finish this problem, and probably will be able to, or perhaps interest a student in it, at Michigan. The same sort of thing would be desirable to study among the Dryopteris spp. of the northeastern states, and I think it would be a terribly interesting evolutionary and cytological problem.

I wish I had an excuse other than social to visit Philadelphia as I am getting busier and busier as June approaches. Perhaps I can return the specimens to you personally and make this a reason for coming down. I really should file them myself for having kept them on loan so long. Camp was here briefly not long ago, and Dr. Bailey told me about his discussions on the Telome Theory. I wish I could show Camp some of my material, or better present a lecture on it, with slides, and have him criticize it. At any rate, if I do come down to Philadelphia, I would like to get to know him and talk over this matter with him.

Now that Spring has come here I feel truly like an old laboratory fuddy-duddy. Miss Scamman's letters with enclosed pictures of Costa Rica make me feel nostalgic enough to get outside, but now that the flowers and croziers are appearing I almost feel jailed. Recently Harris took me out to see Buxbaumia aphylla that crazy moss that grows on dry, rocky, lichen-covered hillsides in the Middlesex Fells, but this has been my only recent venture into the wilds of greater Boston.

Very best regards,

Sincerely yours,

Warren H. Wagner, Jr.

From Fogg

May 23, 1951

Dr. Warren H. Wagner, Jr.,  
Biological Laboratories,  
Harvard University,  
Cambridge 38, Mass.

Dear Herb:

Many thanks for your fine letter of April 17th. I greatly enjoyed reading it, as did Dr. Wherry to whom I took the liberty of showing it. You are indeed on the track of some extremely interesting things and I hope that you can continue to work on this most fascinating group of plants. I am, of course, particularly interested in your views on *Asplenium* "hybrids," and if it will add anything to retain our sheets for a longer period of time, please do not hesitate to do so.

I do wish that you could come to Philadelphia for a visit and I hope that some of these times we can persuade you to speak at one of our botanical seminars. Your reference to Camp and his *Telome* brings a smile to my features for he gave us a very lively seminar talk last year the reverberations of which are still resounding throughout the corridors and laboratories of Macfarlane Hall. Camp is indeed a stimulating person and whether you agree with him or not, it's exciting fun to have him around.

I should love to have a chance to see you and get caught up on back news, and perhaps if you can't make it before, you will at least get on for the A.A.A.S. meetings next December. Meanwhile I do hope you will keep me informed of your activities from time to time and that you will accept my most cordial wishes for success in your new venture. Also, please give my best to Carol.

Sincerely yours,

Professor of Botany

UNIVERSITY OF MICHIGAN  
ANN ARBOR  
DEPARTMENT OF BOTANY

November 4, 1952.

Dr. John M. Fogg, Jr.  
Vice-Provost  
University of Pennsylvania  
Philadelphia, PENNSYLVANIA.

Dear Dr. Fogg,

A letter just came from Dr. Wherry in regard to specimens of ferns borrowed some time ago, while I was in Berkeley, which travelled with me to Cambridge, and are now with me here in Ann Arbor. Now, finally, the original plan has materialized, and I am getting the results I wanted in the study of the appalachian spleenworts.

So far I have had unusually good results, which I have never before been able to obtain -- perhaps because of the Berkeley fogs and their effect on the cell divisions. The three basic species of my hypothetical evolutionary triangle reveal  $2n = 72$ . The known hybrid, A. ebenoides, yields the same result, but in meiosis, unlike the others, gives 72 univalents (complete non-pairing), not 36 pairs. The University of Indiana kindly sent me living Alabama ebenoides which is fertile, and will undoubtedly yield  $2n = 144$ . The two other hybrids, which form the legs of the hypothetical triangle, i.e. A. pinnatifidum and A. bradleyi give  $2n = 144$ . The specimens which you have already lent are being studied for statistics on frond form, pinna form, venation, and so on, and are truly being used. I would like now to borrow on short-time loan all the specimens of the complex which will be duly recorded, studied, and returned in a very short time. I certainly do hope that I haven't given you the impression in regard to the specimens already on loan that I have been careless. I acted on your advice of May 23, 1951, to hold on to them, and right now I am able to do exactly what studies I had originally intended.

My work this fall is such that I am able to catch up on the research that has been hanging fire. For one thing, I have only to teach a couple of classrooms in Botany 1 -- a sort of calm before the storm, for next semester I will have to give the Taxonomy course, which is a very large one here (4 lectures a week), and also give, with Sparrow, all the lectures for Botany 1; he will give the lectures to one group, and I to the other. I am trying to develop a new course for next year, an advanced course entitled "Evolution and Systematics of the Vascular Plants," which I expect to take a lot of time.

The Department here is a great, rambling outfit with lots of hustle and bustle. At the moment Rog is down in Mexico, and he won't be back until after Christmas. Alex Smith just returned from the west, where he was doing field work in the agarics. There are three instructors in the Department; Eric Steiner, the cytogeneticist from Indiana; Al Sussman, whom you undoubtedly know, from Harvard; and myself. We are trying to write up a new lab manual for Botany 1, a job that needs a lot of squeezing to fit in. Eric teaches the course in Genetics; Al in Physiology of Lower Plants.

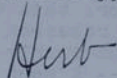
During the summer months Florence and I went to the Biological Station of the University, located along the shores of Douglas Lake, in Cheboygan County, at the northern tip of the Lower Peninsula. I gave the course in Fresh-water Algae and one in the Pteridophytes and Gymnosperms. For both groups the area is excellent. We got a number of new records for the Algae, although the country is well-known. The reason lies largely in the great diversity of lakes which occur there, to mention nothing of the assortment of ditches, swamps, back-waters, and what-not. For ferns and gymnosperms it is excellent: of *Equisetum* we found 15 entities, and *Botrychiums* are abundant, including *B. minganense* and *B. lunaria*. The limesinks near Alpena have walking-fern, male-fern, silvery spleenwort, narrow-leaved spleenwort, and a variety of other things. They are holes in the forest, 150 - 200 feet deep, lined with limestone cliffs, and deeply shaded for the most part.

Carroll Wood writes that he is a very busy man these days. I haven't heard from Lloyd Carr, or even of him, for years. Austin Clark's long-awaited book of butterflies of Virginia has appeared, and recalls for me many happy days spent in various parts of that wonderful state. I saw Paul Allen at the A.I.B.S. meetings, both at Minneapolis and at Ithaca. He looks very much as always.

What is the estimated time of appearance of the Flora of Pennsylvania? Will it appear as a unit?

Best regards,

Sincerely,



Warren H. Wagner, Jr.

from Fogg

December 17, 1952

Dr. Warren H. Wagner, Jr.,  
Department of Botany,  
University of Michigan,  
Ann Arbor, Michigan

Dear Herb:

Many thanks for your letter of November 4th, which has gone too long unanswered. I have been desperately busy here this term and botanical matters have sometimes had to take second place.

I am interested in hearing what you say about your work on the Aspleniums and hope that you will really be able to secure some conclusive results. Dr. Wherry has been a little bit concerned about the fact that you still have some of our Ferns on loan since apparently he wants to do some additional work with these sheets and has been wondering how soon you might be able to return them. I am still further embarrassed by receiving a letter from Dr. Mains asking for the loan of additional material of Asplenium and Camptosorus for you and am wondering whether it might be possible to return the first batch before these additional ones are forwarded. If, however, you desire to see them all together, we can send them, although I prefer not to do so until after the Christmas rush is over.

Another point is that Dr. Wahl will be coming down to work with me during the holidays and there are several questions concerning identification of localities among the Ferns which would make it desirable that he and I have access to as much of our material as possible.

I am wondering whether you can tell me where Roge is in Mexico and also how long he plans to be there. We spent five weeks there in the late summer and fall and shall be flying down for a couple of weeks at the end of January. If Roge is still there, I would be glad of a chance to get in touch with him.

In response to your question about the Flora, I can say only that Herb Wahl and I are expecting to get leaves of absence next year in order to concentrate full time on the preparation of the manuscript. It is our hope to bring the work out in a single volume and I trust that with nothing else on our minds for a year we can pretty well whip the thing into shape.

Sincerely yours,

WAGNER, W.H., Jr.

UNIVERSITY OF MICHIGAN  
ANN ARBOR  
DEPARTMENT OF BOTANY

November 8, 1955

Dr. John M. Fogg, Jr.  
Curator of the Herbarium  
Department of Botany  
University of Pennsylvania  
Philadelphia, PENNSYLVANIA

Dear Dr. Fogg,

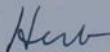
Mr. Frederick W. Case, a Graduate student in Taxonomy, is investigating certain members of the genus Sarracenia, and he needs for this work some dried materials which I should like to request from you on loan.

He should like to study any of your herbarium sheets of Saracenia which are labeled either S. rubra, S. jonesii, or S. rubra f. jonesii.

The specimens will be housed during the period of their loan here in the Department of Botany offices, Natural Sciences Building, in regular steel herbarium cabinets protected by paradichlorobenzene fumes.

I hope that it will be possible for you to make this loan.

Sincerely yours,



Warren H. Wagner, Jr.  
Assistant Professor of Botany

WHW/nln

November 28, 1955

Dr. Warren H. Wagner, Jr.  
Department of Botany  
University of Michigan  
Ann Arbor, Michigan

Dear Herb:

Sorry not to have responded earlier to your letter of November 8th with its request for the loan of our *Sarracenia*s but am writing now to say that I sorted them out in the herbarium a couple of days ago and turned them over to Miss Earle to be packed and forwarded. We have only 20 sheets of the *rubra jonesii* category but hope that the material will be useful to Mr. Case in his studies.

Dr. Wherry tells me that Mr. Case has been turning up some interesting things and I shall certainly look forward to seeing his treatment.

We had a nice visit from Rogers McVaugh early last week and I was glad to be brought up to date concerning his activities.

It is indeed good to hear from you and I hope some day you will stop in and pay us a visit.

Sincerely yours,

John M. Fogg, Jr.,  
Director

P.S. Since dictating the above I have received a memorandum from Miss Earle informing me that with the loan of the 20 sheets of *Sarracenia*s she included 20 specimens sent to you in exchange as follows: 5 sheets of *Sarracenia*; 11 of *Asplenium*; and 3 mounted duplicates of tropical ferns.

November 8, 1956

Dr. Warren H. Wagner, Jr.  
Department of Botany  
University of Michigan  
Ann Arbor, Michigan

Dear Herb:

Thanks a lot for the batch of separates recently received from you. Most of these I had seen in original publications, but I am delighted to have them in reprint form for my files.

I was particularly pleased to have your fine account of Dr. Clark which I had not seen before. It is a fine tribute to a wonderful gentleman.

Best wishes and warm regards,

Sincerely yours,

John M. Fogg, Jr.,  
Director

Wagner, W.H.

THE UNIVERSITY OF MICHIGAN  
ANN ARBOR  
DEPARTMENT OF BOTANY

January 10, 1961.

Dr. John M. Fogg, Jr.  
Director, The Morris Arboretum  
Chestnut Hill  
Philadelphia, PENNSYLVANIA.

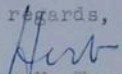
Dear Dr. Fogg,

The people of Mountain Lake Biological Station invited me down for the period July 19-Aug. 23 this year to give a course in the Biology and Taxonomy of Pteridophytes. This ought to be pure fun, and very profitable. My ordinary courses here at the University of Michigan are the general systematics course, for which I have been responsible the last decade; a course in woody plants; and a graduate-level course in Evolution and Systematics of Vascular Plants. The only course I have given in pteridophytes is the one we had in 1952 at the University of Michigan Biological Station during the summer. The last was especially profitable from the standpoint of research: we made a lot of discoveries, and it gave rise to a number of research problems. I am hoping that the same will happen at Mountain Lake.

I am merely writing this for your information, and in the hope that if you have any tips you will pass them on. I understand that you are familiar with the area and the place. I am interested in the local pteridophyte flora from the research standpoint. A number of problematic forms should be there -- Lycopodium habereri, Botrychium oneidense, B. multifidum, possibly B. alabamense, Ophioglossum pycnostachum, Cystopteris tennesseensis, and so on. I am especially interested in the forms of Dryopteris campyloptera and its hybrids with other species. The local athyria will be another point of focus.

I hope to take Florence, Warren, and Margaret down there with me. They ought to have a good vacation, if they don't get tangled up with snakes. I would really like to take Rigel, my English setter, but I think that the people there are somewhat skittish about dogs.

With best regards, sincerely,

  
Warren H. Wagner, Jr.  
Professor.

January 17, 1962

Dr. Warren H. Wagner, Jr.,  
Department of Botany  
The University of Michigan  
Ann Arbor, MICHIGAN

Dear Herb:

Thanks for your letter of January 10. I am delighted to learn that you are going to Mountain Lake this coming summer. We spent three seasons there, when our daughters were quite young, and enjoyed them immensely.

I haven't been there since 1940 and, unfortunately, the most of the fern names which you mention had not even been recognized at that time. I did extend the range of Lycoodium annotinum and discovered a more northeasterly station for Cheilanthes alabamensis; the latter was reported in Rhodora Vol. 41 : 137. 1939.

I collected rather copiously during my three summers at the Lake and although my first set is at Penn, there are (or were) many duplicates down there. You will doubtless make many corrections on the sheets of Pteridophytes.

At one time I entertained the notion of publishing an annotated Check-list of the Vascular Plants of Giles County. In fact, I still have a filing case containing some 1500 3 x 5 cards, one card for each species or variety, with records of every known collection. If you'd like to collaborate with me on the publication of such a check-list, I'd be glad to turn it over to you. A thing of this kind should be of some value to future taxonomy classes.

I think you are right about the dog. Surely when we were there no pets of any kind were allowed.

Thanks for your Christmas greetings. We dashed off to Guatemala, Honduras and Mexico just before Christmas and as a result sent no cards at all this year.

Best wishes and warm regards.

Sincerely yours,

JMF:am

John M. Fogg, Jr., Director

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