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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.

September 6, 1939

Dr. J. Russell Smith
Round Hill,
Virginia

Dear Dr. Smith:

Your letter inquiring about nitrogen-fixation work in the Honey locust was on my desk upon my return from vacation. We did have a student work on symbiotic organisms associated with this tree, but we did not work on nitrogen fixation. The results of this work were published in the Proceedings of the Indiana Academy of Science, Vol. 34:215-225, 1925 (1926).

Sincerely yours,

Ray C. Friesner

RCF:mb

September 6, 1939

John Wiley & Sons, Inc.
440 Fourth Avenue
New York, N. Y.

Dear Mr. Wright:

The Complimentary copy of Holman and Robbins
"General Botany" was on my desk upon my return from vacation.
Please accept my thanks for the copy.

Sincerely yours,

Ray C. Friesner

RCF:MB

CARNEGIE INSTITUTION OF WASHINGTON
DIVISION OF PLANT BIOLOGY

ECOLOGICAL RESEARCH

P. O. ADDRESS:
MISSION CANYON, SANTA BARBARA, CALIFORNIA
(OCTOBER-MAY)
ALPINE LABORATORY, MANITOU, COLORADO
(JUNE-SEPTEMBER)

September 7 1939

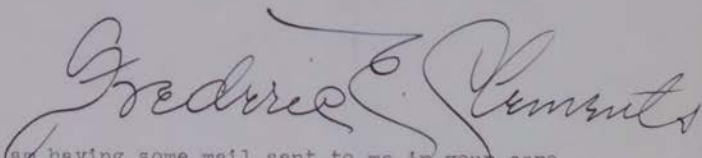
Dear Friends :

Your kind comments anent the "Flower Pageant" are much appreciated. The editor took a number of liberties with the text, chiefly with the idea of enhancing its floweriness, but on the whole both this and the plates came out fairly well. I suspect we liked the floral organ plate least, since this was their final selection for a herd of cattle in a Kansas prairie - neither what could be called an inspiration !

We are greatly interested to hear about the lodge in the nearer wilderness, but fear we shall not see it this time. This is partly because our schedule is compact in the hope of reaching Mount Katahdin before winter sets in, but chiefly because we are hoping both of you can meet us at Dune Park Saturday, September 23, and then go on to Bluffton and the Ohio oak openings with us .

I shall receive mail at Lincoln, #
Dr. J. E. Weaver, and shall wire or phone you
later of our approach.

With all best wishes from both,



P. S. I am having some mail sent to me in your care
at the University.

September 14, 1939

Dr. F. E. Clements
Care of Dr. J. E. Weaver
University of Nebraska
Lincoln, Nebraska

Dear Dr. Clements:

Your letter regarding your trip through Indiana and Ohio came during the confusion of our registration and hence has had to remain for a couple of days unanswered.

I am very sorry that it will not be possible for me to get away from the college over the week-end of either September 23 or 30. We had hoped you could come through Indianapolis and stop over a day or so but I can readily see how we would be off your best route. Gladys is having her literary over the 23rd but otherwise the house is free.

If you should go north on Route 41, you will pass within 1.2 miles of a most interesting location for plants. On Road 14 just 1.2 miles west of Knos (Rd. 41) you go through sand hills. On either side of the road you will find Calamovilfa longifolia (southern-most location), Bouteloua curtipendula, Tripelasis purpurea, Polygonella articulata (an Atlantic Coastal Plain species), Aristida tuberculosa, Talinum rugospermum, Aristida purpurascens, Scirpus schweinitzii, Anemone carolinianum and others.

I will forward any mail that comes for you to Mr. Dean so it will get there by September 23 unless I hear from you to the contrary.

I am sorry to miss out on our associations this year and hope another year will find things more favorable.

Sincerely yours,

Ray C. Friesner

RCF:mb

University of Arizona
TUCSON
COLLEGE OF AGRICULTURE
AND
AGRICULTURAL EXPERIMENT STATION

Sept. 20, 1939

Dr. Ray C. Friesner, Head,
Department of Botany,
Butler University,
Indianapolis, Ind.

Dear Dr. Friesner:

I have your letter of July 31st asking about the price of the Translongitome. The enclosed folder gives instructions and the price which is \$22.50.

I thoroughly appreciate your budget difficulties as we have plenty of our own of similar limitations.

I would be glad to send you one or two sample slides made by this method if you would like to examine them or show them to your class. My classes in anatomy and general botany have found the serial "trans-longi" sections very helpful.

Very sincerely yours,

DM Crooks

Donald M. Crooks, Head of Dept.,
Botany and Range Ecology

DMC:LC

BUSINESS LETTER

September 27, 1939

September 27, 1939

Miss Elsa Nyholm
Lund Botanical Association
Lund, Sweden

Dear Miss Nyholm:

I am enclosing a list containing 152 species of plants which we have available to send to you on exchange. Will you please inform me as to the advisability of attempting to send them now in view of the outbreak of war. In case you feel that we should not take the risk of sending them now, we can hold them until such time in the future as you may care to have them sent.

Sincerely yours,

Ray C. Friesner

RCF:mb

Kokomo, Ind. Oct. 1, 1939.
1812 N. Burdum St.

My Very Dear Dr. Friesner! -

Took a notion to scribble you a few feeble lines.

I went on a trip N. E. today - 2 objectives: -
to get some more acorns of *Quercus Schumacheri*
+ more specimens of *Hypericum virginicum*.
Succeeded fine with acorns - but when I
got to the Willis - Marvin bog knew for
sure that the season was at an end. - Frost
had taken its toll of blooms. - Everything dead.
Yet I found a few protected places. I already
had a nice lot - all you will want, perhaps.
- but thought more would be safer.

Quite a number of the first acorns had
tiny holes. Found the white larvae at
bottom of box. Possibly these were ones I
had picked up; since most of those fallen were
infested. So I picked all that were on lower
limbs - with many on trees higher up. - Another
oak nearby seemed to be same species.

Sept 23 - was a good day. My list of species

new to me were 10² —

1. *Solidago Riddellii*
2. " *chinensis*
3. " *uniquilata*
4. *Leontodon procera*
5. *Parnassia caroliniana*
6. *Muhlenbergia racemosa*. Scarce, out of flower - Dead. Very interesting.
7. *Scleria verticillata* - Abundant - dead.
8. *Juncus Canadensis* - " "
9. *Secodon verticillatus* -
10. *Triantha (Tofieldia) glutinosa* - only 6 plants - Completely dead - like 6-7-8. - A new

Family to me. The first 5 so beautiful. - The last 5 out of flower. I should think that the few that I got that you did not, could be made a part of yours - i. e. of the flora that goes with the Bog Reports.

My remaining trips will be mostly for acorns. - The flowers - are nearly gone.

If you need the acorns and *Hypericum virginicum* - advise - and I'll send them. - If not - will have them ready when you come again. Hope to see you and your fine fellows

within the next ³ 30-40 days.

Found another patch of Bermuda grass
N.W. part of town in a weedy alley. It was
almost normal as to spikes. I think I'll send
some to Miss Agnes Chase - Washington, D.C.
and get her comment.

That *Artemisia* was not *A. Absinthium*
as I think you suggested. - The leaves were nearly
gone. I had a long hard tussle with it. I
had hoped it was a new one. - So I'd ^{have} ~~had~~ all
5 of the *Artemisias* in state. Deane had sent
me his key. - In full fruit & flower. They are
easy. It was *A. caudata* - as I think - I
~~have~~ have it from L. Cicott '38 & 1939. Key is
glabra receptacle. Both given in hand. I
may be wrong. - Completely off. - since I had
but 1 plant & it was badly dried when I pressed it.

Busy as you are - - - this does not need
a reply - unless you need the acorn etc -

Only a card when you go with again. -

Again permit me to Thank you
for the privilege of these Trips. To me,
they are a Spring of Living Water

in a desert.

Very Sincerely Yours
Chas. M. Ed.

AGRICULTURAL EXPERIMENT STATIONS

OF THE
COLLEGE OF AGRICULTURE
UNIVERSITY OF FLORIDA
WILMON NEWELL, DEAN AND DIRECTOR
GAINESVILLE, FLORIDA

DEPARTMENT OF
PLANT PATHOLOGY

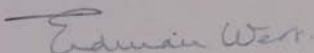
October 2, 1939

Dr. R. C. Friesner
Professor of Botany
Butler University
Indianapolis, Indiana

Dear Dr. Friesner:

In looking over our specimens of Jamaica dogwood collected for us by Dr. Scull, we came across two sheets bearing your herbarium name and the number. Since these appeared to be part of your herbarium we have sent them to you under separate cover.

Very truly yours,



ERDMAN WEST
Mycologist

EW:RV

October 2, 1939.

My dear Ray,

This afternoon I suddenly recalled that I had left my equipment that I use when mounting slides out at Butler. I should have thought of it sooner. If it is still in the laboratory I should appreciate it if some one would just set it aside and mark it with my name.

I worked there one Friday afternoon and expected to come back the next Monday and finish. That evening I went out into the country to my aunts and then--- at 2 AM was awakened by cries that the barns were on fire. Since that moment I have scarcely had a logical thought. It is startling enough to have a fire in town but much worse in the country especially when you know that three barns must go and at least two houses and another barn are endangered. Add to that the fact that your first glance at the fire told you that it must have been set on fire. Such was my experience. The barns were fired and the police caught the boys before the blaze was out. However the little rover urchins insisted that it was accidental, cigarettes and matches and that they were out from town on a "boy scout" over night lark. We had never seen them before. Be all that it may such does not replace the barns nor compensate for the nervous fright. My aunt is eighty and not strong and put much store by the barns since they were built of native timber from the farm just 75 years ago. She has been hard to console and then too there has been the question of financing a new barn; though the insurance was liberal it is small in comparison with building a new barn for farm insurance is high at the best. I thus have had my hands full and did not think of the mess I had left at Butler until this evening. I guess that I must have lost my head more than I thought. I do recall that I called the fire department, the state police and a half dozen neighbors within the first five minutes of the fire and then I recall little of the details after others were there to protect the other surrounding property. Also I have been very busy learning about barn plans and construction. It is interesting but I should enjoy running a microtome much better. I had planned to start in with your first seminar and be very regular. Now I do not know when I shall be out for the first time. If you have an extra copy of the program I shall be glad to have you put it in the enclosed envelope.

Do not take the time to write ~~me~~ ^{also} if my things are not found do not worry to try to hunt them up. I should have thought of them sooner.

Anything I can do to help let me know. I have two papers I should like to review sometime at the seminar later - some of Bailey's work as against Mrs. Farr's. I believe that I can interpret some of the results that seem to be conflicting.

George H. Smith.

G. H. S.

Telephones if you wish me for an emergency seminar sometime. I can
have some, if you call me the day before. Belmont 3102 - ring
4 or at home Humbolt 2455,

October 4, 1939

Dear Mr. Heisted:

I have finally checked over the plants collected this summer in Maine and have the following species to add to the lists I recently sent to you:

Knox County

Corea conradii This is the little woody conifer-like shrub that you have growing in your interior rock garden and which you told me grows on the rock ledges back of your house. I had previously found it only on Schoodic Mt. in Franklin County, Maine.

Hudsonia ericoides remove this species from the list recently sent.

Waldo County

Aster radula this is the few-flowered aster with a very lax inflorescence which we collected in the bog between Bald Rock Mt. and Megunticook Mt. the day you took me over the Ski trail.

Muhlenbergia uniflora this is the delicate little grass we picked up along the little mountain brook shortly after we passed the shelter house on the same day.

The kindness you showed me in taking me over this trail is still a bright spot in my memory and I am already looking forward to more pleasant and profitable times next summer in Maine.

Sincerely yours,

Robert
Mr. Heisted
Brown

Robert
Heisted
Waldo
Maine

My dear Dr. and Mrs. Friesner,

I hope you'll excuse the discrepancy in stationery. It's time I went to town, for I shall soon be reduced to wrapping paper for letters.

We often ~~think~~ and speak of the delightful afternoon you gave us so generously from your very short vacation, and we are looking forward to meeting you next summer.

I wish you might be in Maine in time to attend the three day meeting of the ^{probably in July} Josselyn Botanical Society at Belfast. The days are devoted to botanizing, and the evenings, to lectures. The U. of M. professors, Mr. Norton, stray professors from here and there, and many fine ^{lay} botanists, besides

spinulose ferns have always given me trouble. Mr. Weatherly says he has more of those specimens sent him to identify than of any other species. In the first place, I can never find a key that in all respects fits the fern, or, you might say, a fern that fits the key. The basal pinnales of the narrow ferns are ^{very often} more than 4 mm apart, and the comparative length of the first two pinnales often does not correspond to the key.

|| The glandular characteristic probably is sure, but that's a great strain on my eyes. Well, the world will keep on wagging, even if I fail to straighten out spinulose ferns.

|| Boottii I'd like to have because there seems to be a variety of opinion about specimens, and I have only one - given me by Mr. Norton. By the way, he was

the small fry like myself, attend.
Dr. Fernald sometimes comes.

But, to get to your kind letter,
I have made the corrections suggested
in your fern key, and note that Viburnum
molle is our old friend denticulatus.
The Heistads will, I know,
let me have the list of plants you
have collected in Maine. It's always
fascinating to see what others
have found.

I should be very glad to
have the specimens you offer of
Dryopteris campyloptera and D.
boottii. I thought americana
and dilatata were the same
and had some fine specimens
that I found around Damariscotta,
I think. They are at home,
so I can't check. Now, I judge from
your key that dilatata has become
a species, and americana, campyloptera.
Most confusing! Those

glad to have your call.

Soon after you told me of finding Lycopodium obscurum on Ragged Mt., I found it here.

Is Lycopodium complanatum elongatum in Knox Co.? New to me! I find tristachyum and flabelliforme but not complanatum or var. elongatum.

I hope to go to Portland soon to check over with Mr. Norton some of my summer's specimens. I never dare trust my own judgment, and he is most kind about helping me.

I'd like very much to send you a copy of my list of Knox Co. plants but it would tax my eyes too greatly.

Thy kindest regards to your both,
Edith C. T. Bicknell

Sunday eve., Oct. 8, 1939.

P. S. Reduced to a half-sheet for
my footscript.

I'd like to have the set of three
bird books, with your autograph,
Mrs. Friesner. A slip in the back of
Mrs. Richardson's book said they
were sixty cents. If they are more,
please tell me and I will send it,
as soon as I see how much postage
I also owe you. Thanks for the
trouble I am making. Mrs. Duff
is delighted with her books.

E. C. B.

JOHN S. WRIGHT
4411 Washington Boulevard
Indianapolis

October 10, 1939

Dr. Ray C. Friesner
Department of Botany
Butler University
Indianapolis, Indiana

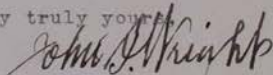
Dear Dr. Friesner:

In late June I visited Dr. D. T. MacDougal at his laboratories at Carmel-by-the-Sea, California, and saw in operation a number of dendrometers designed for measuring tree growth. For some years I have been much interested in the growth of beech trees. Very little is known on the subject, apparently, at least I have been unable to get much satisfactory information of the rate of growth and I have been told by foresters that records are few. I have accumulated some data of trees grown in this locality and am now trying to get discs from the enormous beech that was felled on the farm of Donald McCart, near Orleans, Indiana.

I was telling Dr. MacDougal about the beech trees around the Butler campus and I said that if you were interested in carrying out some measurements of the growth I would be glad to buy some of his instruments necessary to make the studies. He wishes to build them to order. For instance, he wishes to design the instrument to fit the tree.

At your early convenience I would like to discuss the subject with you, provided you are interested, and arrange for a series of studies to be made of tree growths under the general direction of your department. I think we would be able to advance knowledge a little in this way. I will be out of the city next week, but after that will be glad to discuss the subject with you at practically any time that you find convenient.

Very truly yours,



John S. Wright
Ell Lilly and Company
P. O. Box 618

JSW-M

October 11, 1939

Dear Mr. Wright:

We appreciate very much your letter regarding the possibility of making some growth studies on beech trees of the Butler Campus. We would be very greatly interested and would be very glad to do anything we can to forward the work. I am having a paper on the Indiana Academy of Science program on asymmetrical growth in the Black Oak made from study of growth rings of tree sections 120 years old.

I shall communicate with you after your return from your trip.

Deeply appreciating this opportunity, I remain

Sincerely yours,

Kokomo, Indiana, Oct. 11, 1939^{EX}
1812 No. Purdue St.

Dr Roy C. Friesner;

My Dear Professor Friesner:

Finally got the Oct Acorns started today. They should reach you Thursday. I had planned to go east and S. E. but doubt if I would have succeeded much better. I failed miserably on white oak. - the white oak is as plentiful as red oak in the woods I worked. Tree after tree & that had bushels '37-'38 - had not a single acorn. Found 1 good *Quercus palustris* and 1 good *Q. Muhlbergii* & that made my trips successful. I may have collected too many of the 3 more abundant species red, bur, swamp white. 7 species in all. That is the only way to learn - by doing. I feel like I know the oaks here.

2

The old Greek legend, "Thou that
teachest another, teachest thou not
thyself?" is applicable. Wish I knew
the ash and hickory as well.

A thought struck me forcibly
when in the big Robard woods
Fri. & Sat. 4 mi. N.W. These are
2 fine 15-20 s. woods that corner together.
One you & Dean & Dr. Patzger would call
a oak-hickory. the other a beech-maple
woods. Trees are large, mature - dense.
- I do not know much about the
purpose or value of quadrat or tree-
counting. But my judgment is
this would be a valuable woods
to work on. No woods we saw this summer
has so many fine trees. Land is level.
Soil good. I know of no woods with
as many species. Even *Ascaros*
buckleyi, *Tilia*, *Gossypia*, *Walnut*. Only species

not seen were butternut + box elder. I think
all the oaks, (6) maples, (4) possibly all the ash-
+ about all the hickories, besides Celtis, wild
cherry, p. burnum, Malus glauca, Crataegus
wild plum. In short - a fine woods for
tree surveying. Two old maids own
them. They are eccentric, curious, so I
hear - Stopped there 3-4 times past 2-3 years
but "they saw me but I didn't see them"
as a former expressed it.

This is only an idea. You can give me
your answer when you come by on next
trip. Feel sure I could get their permission.

It certainly was a joy and pleasure
to gather these acorns. Sorry so
many were faulty. I threw away
many bad ones. Want to go E. + S.E.
and study + check on all the oaks there.

As soon as the year is entirely over,
my dried specimens come next. Will work
over the bog material first and give you
these first - the local can be postponed.

Anything I have can be included
in yours as to papers - &c.

Trust only good results will come
from all ~~these~~ ^{our} Oak fruits and that
some may grow into giants, if
that was one of their purposes in Cal.

Later on, I shall be glad to accept
your offer of Fern specimens for
study. With your key, - my manuals
& a couple popular fern books in Libary
I ought to be able to know them.

With Best Wishes,

I am,
Very Sincerely, yours.
Chas M. Ek.

Kokomo, Indiana, Oct. 22, 1939^{EX}
1812 No. Purdue St.

My Dear Dr. Presner: -

Your appreciative letter at hand.
Last Thursday I wheeled about 2 mi.
N.W. and a farm woman who grew
up with the Robard women took
me to see them. Was a little surprised
to find the younger one so nice and
interested in the same things we
are along the forest line. She readily
gave her permission and is anxious
to know more about their woods.
The woods are about $2\frac{1}{2}$ miles from Road 31,
west. Knowing so little about quadrat
work, I hope these splendid woods will
fulfill your desires. I know of no woods
that has a greater number of species, nor
any larger trees. There is another
woods here, - the Shunk Woods - I will fast
that is better in 1 respect - it hasn't been
pastured for many yrs. - 30 at least - It too has
big trees & is quite dense - has a good flora -

+ I judge wood would be fine for study. The
flora of the Robert Woods is not so good.
The Joe Ross woods - 7 mi. N.E. is best for
a large flora - unspoiled - dense, mostly
young trees. - The Robert + Sherk have a
lot of monarchs - giants. - I KNOW
I'll learn a lot that day, identifi-
cation of ash, hickory & others - ecology,
soils - &c. -

Have been past that Inceus Muhlen-
bergii tree twice and collected nearly a
gallon of acorns. Would be glad to send these to
you - parcels-post, if you think Cal. could
use them - Also found another 2. *Pschueckii*
in city limits. Leaves are more deeply cut
than in other tree 4 mi. N.E. - a deeper green &
more shining; acorns are slightly larger and
a deeper brown. - Could also include these.

If the California exchange is entirely closed,
you need not answer this. I know not
to send them. Was up to Sherk woods west of here
found nothing new in acorns other than
variations of 2. *rubra* & 2. *bicolor*.

So you can send a card when you know the date for this Howard Co woods. I judge you won't need to start quite so early - much less distance. I'll be ready the hr. you say.

You don't know how happy I am to be able to do these little things. - Very sorry it is not many times more. It is thru these experiences that one learns. I know the Oaks better than ever before.

With Best Wishes to you
and Dr. Potzger and to all
the fine fellows I met this
summer - I am

Very Sincerely Yours
Charles M. Ek.

October 25, 1938

Dr. Stephen S. Visher
Indiana University
Bloomington, Indiana

Dear Dr. Visher:

In accordance with your request I am enclosing a carbon copy of the few remarks that I expect to make at Bluffton in honor of Mr. Dean. I am sure that you will find that they are quite tame and will probably have little of any real merit to you. However, whatever use you may be able to make of them will be all right so far as I am concerned.

Hoping to see you at the Academy meetings next week, I remain

Yours sincerely,

Ray C. Friesner

RCF:VC

UNIVERSITY



OF KENTUCKY

COLLEGE OF ARTS AND SCIENCES
DEPARTMENT OF BOTANY

LEXINGTON
October 29, 1939.

Doctor Ray C. Friesner,
Butler University,
Indianapolis, Indiana.

My dear Doctor Friesner:

I have about 50 more or less sheets of *Solidago* and since you have done a lot of work on them I wonder if you will have time to look over them and give me the names and you to keep the specimens.

Last month I made ~~to~~ a trip to Northern Mich and there I found *Solidago houghtoni* and unfortunately took but one specimen of same but I did collect quite a number of living roots which I have growing. I am hoping to establish them in our garden.

In case you have the time and desire to look over these specimens then just drop me a card and I will send them along within the next few days.

Yours very sincerely,

Frank T. McFarland

Frank T. McFarland

Professor and Head of the
Department

UNIVERSITY



OF KENTUCKY

LEXINGTON

COLLEGE OF ARTS AND SCIENCES
DEPARTMENT OF BOTANY

November 2, 1939.

My dear Doctor Friesner:

Under separate cover I am sending the Solidagos and two other parcels of plants some of which are from Texas which I had in duplicate. I trust you can use them, and just as soon as I get over a bad case of tonsillitis which I have been nursing for two weeks, I will send you quite a number of other nice things from Ky which we were able to find this summer. I hope you will like the Pachistima which we are enclosing.

You may write in on the sheet after the numbers the identifications of the Solidagos. I trust you will have time to look these over in addition to your regular work.

Yours very sincerely,

Frank T. McFarland

Frank T. McFarland
Professor and Head of the
Department.

I believe the specimens read from bottom to top and I am afraid I did not reverse the sheets as I typed the numbers.

Plants sent to Ray C. Friesner

November 3, 1939

by Dept. of Botany
University of Kentucky

- 765. *Scirpus validus* Vahl.
- 128. *Solanum rostratum* Dunel.
- 196. *Leptochloa filiformis* (Lam.) Beauv.
- 179. *Krameria secundiflora* DC.
- 104. *Dyschoriste linearis* (T. & G.) Kuntze.
- 158. *Schedonnardus paniculatus* (Nutt.) Trel.
- 297. *Rosa foliolosa* Nutt.
- 113. *Hedeoma drummondii* Benth.
- 85. *Convolvulus hermanningoides* A. Gray
- 1132. *Convolvulus inermis* Vahl.
- 344. *Lupinus texensis* Hook.
- 27. *Psoralea cuspidata* Pursh.
- 952. *Aristida fendleriana* Steud.
- 22. *Desmanthus illinoensis* (Michx.) Macbr.
- 31. *Desmanthus leptolobus* T. & G.
- 1055. *Andropogon saccharoides* Sw.
- 704. *Chaetopappa asteroides* DC.
- 892. *Physalis longifolia* Nutt.
- 709. *Fragaria gracilis* Engelm. & Gray
- 1194. *Serinia wrightii* (A. Gray) Kuntze.
- 729. *Ptilimnium capillaceum* (Michx.) Hollick.
- 184. *Chamaesyce prostrata* (Ait.) Small.
- 205. *Strophostyles pauciflora* (Stn. & S. Wats.
- 771. *Panicum anceps* Michx.
- 1047. *Strophostyles helvola* (L.) Ell.
- 64. *Grindelia grandiflora* Hook.
- 119. *Boerhaavia erecta* L.
- 15. *Neptunia lutea* (Leavenw.) Benth.
- 122. *Amaranthus graecizans* L.
- 1108. *Gaura brachycarpa* Small.
- 1235. *Gaillardia fastigiata* Greene.
- 85. *Croton texensis* (Klatzsch.) Muell. Arg.
- 16. *Frosopis grandulosa* Torr.
- 137. *Orthoscordum bivalve* (L.) Britton.
- 986. *Chamaecrista robusta* Pollard.
- 963. *Lactuca scariola* L.
- 176. *Triodia albescentis* Vasey
- 394. *Convolvulus arvensis* L.
- 216. *Selenium microcephalum* DC.
- 578. *Juncus texanus* (Engelm.) Coville.
- 67. *Vernonia baldwinii* Torr.
- Phalaris carolinensis* Walt.
- 2096. *Conopholis americana* (L.f.) Wallr.
- 2095. *Viola triloba* Schwein.
- 2085. *Equisetum praealtum* Raf.
- 2091. *Teucrium canadense* L.
- 2084. *Lyonia ligustrina* (L.) DC.
- 2090. *Rudbeckia hirta* L.
- 2089. *Dasystoma laevigata* Raf.
- 2908. *Aster umbellatus* Mill.
- 2070. *Dasystoma laevigata* Raf.
- 2068. *Aster cordifolius* L.
- 95. *Acerates viridiflora* (Raf.) Eaton.

3042. *Habenaria peramoena* Gray.
 3041. *Hypericum punctatum* Lam.
 3028. *Aster prenanthoides* Muhl.
 3026. *Aster cordifolius* L.
 3024. *Aster shortii* Lindl.
 3022. *Aster ericoides* L.
 2420. *Viburnum pubescens* v. *Deamii* Reeder.
 3007. *Melampyrum lineare* Lam.
 3006. *Spartina Michauxiana* Hitchc.
 Festuca nutans Spreng.
 2467. *Poa sylvestris* Gray.
 289. *Carex blanda* Dewey.
 291. *Carex vulpinoidea* Michx.
 407. *Carex tribuloides* Wahlenb. var. *turbata* Bailey.
 288. *Carex leavenworthii* Dewey.
 304. *Carex Jamesii* Schwein.
 303. *Carex rosea* Schkuhr.
 282. *Carex crus-corvii* Shuttl.
 347. *Carex lupulina* var. *pedunculata* Dewey.
 343. *Carex Grayii* Carey var. *hispidula* Gray
 2463. *Carex triceps* Michx. var. *hirsuta* (Willd.) Bailey
 2461. *Viola rostrata* Pursh.
 620. *Verbena hastata* L.
 617. *Hypericum punctatum* Lam.
 614. *Lophotocarpus calycinus* (Engelm) J.G. Sm.
 612. *Juncus biflorus* Ell.
 622. *Linum virginianum* L.
 621. *Syringium prostratum* Nutt.
 625. *Unciola latifolia* Michx.
 642. *Sanguinaria canadensis* L.
 2465. *Hybanthus concolor* (Forster) Spreng.
 2460. *Asclepiodora viridis* (Walt.) Gray.
 2479. *Pachystima Canbyi* Gray
 2424. *Galax aphylla* L.
 2429. *Quercus phellos* L.
 2427. *Psoralea pedunculata* (Mill.) Vail.
 2418. *Polygonum lapathifolium* L.
 2987. *Asclepias verticillata* L.
 2990. *Asclepias tuberosa* L.
 2993. *Monarda fistulosa* L.
 2994. *Hypericum dolabriforme* Vent.
 2262. *Amelanchier canadensis* (L.) Medic.
 2255. *Vaccinium arboreum* Marsh.
 2270. *Ilex dubia* v. *monticola* (Gray) Loes.
 2346. *Lespedeza stipulacea* Maxim.
 2350. *Spiranthes gracilis* Beck.
 2354. *Clionanthus virginica* L.
 2355. *Magnolia Fraseri* Walt.
 2356. *Ilex verticillata* A. Gray.
 2357. *Viburnum cassinoides* L.
 2359. *Viburnum prunifolium* L.

THIS SIDE OF CARD IS FOR ADDRESS

Dr. Friesner
Butler Uni.
Indianapolis Ind.



Dear Dr. Friesner
Am established in the region of the first of the Ten
Thousand Islands -for the first time at this time of
year and am already turning up some interesting things
the above named name is the system of Uni. of Fla.
is using in revising nomenclature of Smalls Botany
Had you anything shipped you besides the mounted
specimens? Cant seem to locate the last years unmount
material.

Will probably be here in the region of the Islands and
of the Big Cypress for some time - have located several
Custard Apple Swamps -the habitat of the Menicium
not collected in a quarter of a century here in Fla-
and of certain epiphitic orchids these swamps now are u
under water to a great depth and must be explored by
Indian canoe but located can be explored on foot in th
dry season

Sincerely, Eleanor Scull

Naples Fla. Gordon Pass
11-3-39.

VASSAR COLLEGE

POUGHKEEPSIE-NEW YORK

Department of Botany

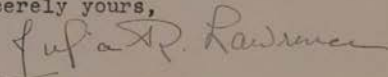
Nov. 7, 1939

Dr. Ray C. Friesner,
Butler University,
Indianapolis, Indiana

Dear Dr. Friesner;

I am sending under separate cover 150 specimens from this vicinity. Some of them are from Mass. which I hope will be satisfactory to you. I am sorry that there has been so long a delay in your receiving them.

Sincerely yours,


— Julia R. Lawrence

JOHN S. WRIGHT
4411 Washington Boulevard
Indianapolis

November 7, 1939

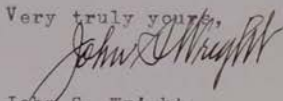
Dr. Ray C. Friesner
Butler University, Department of Botany
Indianapolis, Indiana

Dear Dr. Friesner:

Yesterday evening I had a talk with Mr. Chas. J. Lynn who has, as you may know, an estate of between 15 and 20 acres in Sunset Lane almost overlooking Butler Campus. He told me that on it are a number of beech trees. I told him of our needs and he expressed willingness to co-operate if any of the trees are suitable and, of course, if it would not involve any injury to the trees. Any apparatus put on these grounds would be quite safe as they are under the supervision of experienced gardeners. If we can work out an arrangement with Mr. Lynn it would be quite convenient to you as you could drive over there in five minutes.

At some mutually convenient date we will make an appointment with Mr. Lynn to inspect the trees.

Very truly yours,


John S. Wright
Eli Lilly Corp

JSW-M

November 9, 1939

Dr. Frank T. McFarland
Department of Botany
University of Kentucky
Lexington, Kentucky

Dear Dr. McFarland:

I have just finished looking over the specimens of *Solidago* and enclose my opinions. It has been a real pleasure to go over them and I hope you will favor me similarly in the future.

In addition to the names on the enclosed sheet I need to discuss a few of them:

3968. Heads are so nice and showy that I did my best to make something else out of it besides *S. nemoralis* but it probably is only an unusually showy form of this species.

3670, 3669, 3697. You have labelled *S. canadensis hargeri*. This is correct, except that I feel that this species will prove to be the same as *S. pilvocanescens* Rydb. which latter would take precedence and reduce the former to synonymy.

3695. You have labelled *S. uliginosa*. According to Gray's Manual this is correct but I think *S. uliginosa* is going to be dropped and reduced to syn. of *S. unilobata*, at least so far as our territory is concerned.

3649, 3717. I am calling these *S. hirtella*. Fernald is calling them *S. graminifolia* var. *nuttallii* in the new Gray's Manual. I have tried to convince him that our midwestern material south of central Michigan is different from the eastern but he has been unable to agree.

I hope to do some further work on this group to convince him that *S. hirtella* is worth maintaining. If you wish to be in tune with Fernald you'd better call these two *S. graminifolia nuttallii* (Greene) Fernald.

Thanking you again for the privilege of going over these specimens, I remain,

Sincerely yours,

RCF:neb

Ray C. Friesner

THIS SIDE OF CARD IS FOR ADDRESS



Dr. R. C. Trelease
Dept. of Botany.
Purdue Univ.
Lafayette Ind.

Naples - Gordon Rose

Dear Dr. Freeman - 11-18-39

Your cause and the
list of singers you
checked over for me
were rec'd - on the whole
I think now I am in
South America for some
months probably it
would be as well to ad-
dress me at 410 W. 18th

Ask Mami my love

Florida address -

If the 39 material did
not go to you, I fear
it went to S. U. or
was lost - well see if
I can trace it

I am glad to get that
list with your
check my love -

Sincerely
This unless under different

Franklin College,
Franklin, Ind.,
Nov. 15, 1939.

Dear Mr. Friesner:

Thank you for the copy of the fern
key. I have been looking for a
suitable one for some time. I believe
this one will fill my needs and I
am very pleased to have it.

You said at the meeting that you
had some 200 mimeographed copies
of the key. May I beg 25 more
copies from you?

Sincerely yours,

Harold Mullendore

Lund den 29.11

1932

Professor Ray C. Priesner.

My best thanks for your list of plants for our exchange. We are glad that you some further time are willing to keep the plants, as we do not know anything about the future. The distribution will be made so early as Dec. 12th in order to get the plants sent away as soon as possible.

We have bad times here in Europa and do not know when the ruin is coming. Russia will perhaps try to wallow over us all.

Yours sincerely

Elva Arvola

LETTER FROM

December 1, 1939

December 1, 1939

Professor Lorus J. Milne
Randolph-Macon Woman's College
Lynchburg, Virginia

Dear Professor Milne:

Your request of November 10th for historical data regarding biology at Butler University has been referred to me by President Robinson. I have finally found time to go back through the records and am glad to be able to report as follows:

- 1855-1859 Natural Science (included physiology) taught by John Young
- 1859-1870 Natural Science (included botany, zoology, physiology, geology and meteorology) taught by E. T. Brown
- 1870-1874 Natural Science and History taught by Alfred Fairhurst
- 1874-1879 Natural History (included botany, zoology, physiology, geology) taught by David Starr Jordan
- 1879-1881 Data not available
- 1881-1892 Natural History and Chemistry taught by O. P. Ray
- 1892-1893 Biology, E. L. Bruner, Head of Department, 1924 changed to Zoology
- 1893-to date Zoology, H. E. Pearson, Head of Department
- 1920-to date Botany, H. C. Friesner, Head of Department

In case there are any additional details which you think I might be able to supply, I shall be glad to do all I can to be of service.

Sincerely yours,

Ray C. Friesner

MAJOR OBJECTIVES FOR GENERAL BOTANY

AT BUTLER UNIVERSITY

1. To develop the skills in observation and thought which may be considered to constitute the mental discipline typical of the scientific method.
2. To develop abilities at organizing analyzing and presenting data which may be used in any field of intellectual endeavor.
3. To develop a knowledge and appreciation of the fundamental life processes and their relation to human welfare.
4. To develop a knowledge and appreciation of plants as living, functioning entities viewing the organism as a whole in its reaction to the stimuli of its environment.
5. To develop an understanding of reproduction, structure, and ecological significance of plants from a phylogenetic standpoint that development and evolution of plants may be seen and felt rather than merely accepted because the instructor or the book says so.

December 7, 1939

Dear Mr. El:

I have just finished going thru the herbarium specimens which you collected on the trips with us this summer and wish to thank you specially for them. In each case they represent some species that we would not have gotten otherwise. When the data of these bogs are published we will give you credit for the species which your collecting added to our list. The following is a list of those which we have added to the herbarium from your collections:

Mill Creek bog	Horon Bog	Lakeville Bog	Loon Lake Bog
✓ <i>Cyperus rivalis</i>	✓ <i>Polygonum persicaria</i>	✓ <i>Prenanthes altissima</i>	✓ <i>Lespedeza virginica</i>
✓ <i>Mentha piperita</i>	✓ <i>Helianthus giganteus</i>	✓ <i>Aster puniceus</i>	✓ <i>Lespedeza capitata</i>
✓ <i>Sorghastrum nutans</i>	✓ <i>Bromus purgans</i>	✓ <i>Coreopsis tripteris</i>	✓ <i>Eleocharis olivacea</i>
✓ <i>Glyceria plicata</i>	✓ <i>Scleria conglomerata</i>	✓ <i>Elymus virginicus</i>	
✓ <i>Scleria verticillata</i>	✓ <i>Galium triflorum</i>	✓ <i>Achillea umbrosa</i>	
✓ <i>Tofieldia glutinosa</i>	✓ <i>Carax tribuloides</i>	✓ <i>Sorghastrum nutans</i>	
✓ <i>Rumex verticillatus</i>	✓ <i>Carax leptalea</i>	✓ <i>Aster laevis</i>	
✓ <i>Juncus canadensis?</i>	✓ <i>Potentilla argentea</i>	✓ <i>Scleria verticillata</i>	
		✓ <i>Carax crinita</i>	

You see that you have really added to the cause of science in your work with us this summer. We have not planned our work for next summer yet, but I hope that it may be such as to include you with us as much as possible. We have profited much from the aspirations of last summer.

I also want to thank you for the sets of *Quercus schneeci*, *Hypericum virginianum fraseri*, and *Chenopodium album*. You must have spent a very considerable amount of time in getting so many nice specimens of the oak. We are having some special labels made for labelling your specimens both in our herbarium and those that go out in exchange. As a result of the war in Europe, we are holding all our specimens here until it is over. I shall send you some of the labels when they come from the printer tomorrow.

I hope we will not have to put off much longer the quadrat work in the woods about Kokomo, but will have to let you know later just when we will come.

Sincerely yours,

December 20, 1939

Miss Elsa Nyholm
Lund Botanical Association
Lund, SWEDEN

Dear Miss Nyholm:

Your letter of November 29th has just this morning reached me. We have carefully packed all of the specimens which are ultimately to go to you and added a generous amount of disinfectant to each package. We will be glad to keep them until you notify us to send them.

The hearts of all America go out to Finland and to you of Scandinavia. We hope that England, France, and America can get such aid to you as may be necessary before it is too late. We do not believe that any nation of "bullies" can ultimately win over a nation of peace-loving people who will fight for their liberties.

Sincerely,

Ray C. Friesner

University of Saskatchewan

Saskatoon, Saskatchewan

DEPARTMENT OF BIOLOGY

Dec. 21, 1939.

Dr. Ray C. Friesner,
Department of Botany,
Butler University,
Indianapolis, Indiana.

Dear Dr. Friesner:

I wish to thank you most sincerely for your favour of December 5, and your determination of the list of plants sent you. It was generous of you to take the time to do this. I sent them as I thought a collection of Solidago from Western Canada would be of interest to you. I thank you also for the notes on the species. I was especially glad that you called my attention to Fernald's change of name of S. serotina as I had overlooked this. I was a little surprised to find I had not recognized S. juncea as I had expected to find it in our flora.

I collected a number of species of Solidago last season, but it was very dry in late summer and the specimens for this reason are not very good. I did not recognize in the field any species different from those I collected the previous years, but if I find anything different on examining the collections I shall be pleased to send you specimens. I feel sure I shall find your determinations helpful when I get time to review last year's collections and those of this year.

If at any time you should wish collections of any group from this region, I shall be glad to aid you as far as possible.

Very truly yours,

W. P. Fraser.

W. P. Fraser.

1. Seashore as a Habitat

- a. Deep water up to 200' - Red
- b. Up to (25 meters) 75' } Brown + Red
mostly up to 25'
- c. Between Tide levels
alternate wet - Dry
Mucilage adaptation
- d. ~~Shore~~ ^{Above Tide level} - Wind
Salt water spray
Sand -
Rock Crannies
- e. Tidal Rivers

2. Plants Typical of above

- a. Red algae
 - b. Brown and Red
 - c. Mostly Brown -
 - * *Polysiphonia fastigata*
 - Chondrus crispus*
- Grasses - *Triglochin*
Suaeda - *Sarcocornia*
Salicornia - *Spergularia*

3. Red Algae Life History
+ Economic Imp.
4. Brown Algae
5. Plants Common to Indiana

My dear Dr. and Mrs. Friesner, -

I had hoped before this to be able to call on you, to express my appreciation, and to direct you to my cottage, but I have been unable to do so. I hope you will excuse the rudeness.

My cottage is on the west side of Norton Pond. If you don't mind a short piece of road under construction, leave the main road in Lincolnville Center at the jump, take the camp

road in front of Richard Moody's house,
marked "Rock Haven", bear to the left at
the end of the road, and you will find my
camp the third one. I have a sign,
"Please don't pick flowers and ferns on
this lot", as I am setting out plants.

I am so eager to meet you both, for
though I am very much of an amateur,
I have had a bad case of botany fever
for some time.

Yours sincerely,

Saturday. Edith Cress T. Picknell.

EXCHANGE PLANTS

1939

IN SETS OF 20

1. *Acorus calamus*
2. *Adiantum pedatum*
3. *Agrostis alba*
4. *Agropyron smithii*
5. *Alnus incana*
6. *Alopecurus ramosus*
7. *Acerum canadense*
8. *Aster laevis*
9. *Aster umbellatus*
10. *Athyrium angustum*
11. *Barbarea vulgaris*
12. *Betula populifolia*
13. *Boehmeria drummondiana*
14. *Bromus pargans*
15. *Caltha palustris*
16. *Carex plantaginica*
17. *Carex scoparis*
18. *Carex vulpinoidea*
19. *Carya cordiformis*
20. *Cassia nictitans*
21. *Cassia nictitans leiocarpa*
22. *Cardamine douglassii*
23. *Ceanothus americanus*
24. *Chamaedaphne calyculata*
25. *Claytonia virginica*
26. *Comandra umbellata*

27. *Cornus canadensis*
28. *Corylus rostrata*
29. *Cynoglossum virginianum*
30. *Delphinium tricornis*
31. *Dennstaedtia punctilobula*
32. *Dentaria laciniata*
33. *Dicentra canadensis*
34. *Dryopteris campyloptera*
35. *Dryopteris cristata*
36. *Dryopteris intermedia*
37. *Dryopteris marginalis*
38. *Dryopteris noveboracensis*
39. *Dryopteris spinulosa*
40. *Dryopteris thelypteris pubescens*
41. *Eulichium arundinaceum*
42. *Eragrostis ciliata*
43. *Eriocaulon articulatum*
44. *Erythronium americanum*
45. *Eupatorium altissimum*
46. *Eupatorium maculatum*
47. *Fucus edentatus*
48. *Galium aparine*
49. *Gaylussacia baccata*
50. *Gentiana procera*
51. *Geranium maculatum*
52. *Gum vernum*
53. *Glyceria septentrionalis*
54. *Habenaria psychodes*
55. *Hieracium paniculatum*

56. *Houstonia purpurea*
57. *Hydrangea arborescens*
58. *Hydrocotyle americana*
59. *Hypericum perforatum*
60. *Elox verticillata*
61. *Juniperus communis depressa*
62. *Krigia biflora*
63. *Lathyrus japonicus glaber*
64. *Leontodon autumnale*
65. *Lespedeza hirta*
66. *Lespedeza intermedia*
67. *Lespedeza procumbens*
68. *Lithospermum orocoum*
69. *Lobelia inflata*
70. *Lupinus perennis*
71. *Lychnis alba*
72. *Lycopodium clavatum*
73. *Lycopodium flabelliforme*
74. *Lyonia ligustrina*
75. *Lysimachia quadriflora*
76. *Lysimachia terrestris*
77. *Lythrum alatum*
78. *Malanthemum canadense*
79. *Mertensia virginica*
80. *Mitella diphylla*
81. *Myrica gale*
82. *Myrica carolinensis*
83. *Oenothera lacinata*
84. *Oenothera pilosella*

85. *Onoclea sensibilis*
86. *Osmunda cinnamomea*
87. *Osmunda claytoniana*
88. *Osmunda regalis spectabilis*
89. *Panicum latifolium*
90. *Panicum leibergii*
91. *Panicum perlongum*
92. *Panthorum seditoides*
93. *Pentstemon digitalis*
94. *Phegopteris dryopteris*
95. *Phegopteris polypodioides*
96. *Phlox glaberrima*
97. *Solemonium reptans*
98. *Polygonum arifolium*
99. *Polygonum sagittatum*
100. *Polypodium virginianum*
101. *Polystichum acrostichoides*
102. *Pontederia cordata*
103. *Potentilla fruticosa*
104. *Potentilla simplex*
105. *Proserpinaca palustris crebra*
106. *Pycnanthemum flexuosum*
107. *Ranunculus hispida*
108. *Ranunculus abortivus*
109. *Ranunculus oblongifolius*
110. *Rhinanthus oblongifolius*
111. *Rhynchospora macrostachya*
112. *Robinia pseudo-acacia*
113. *Rorippa palustris glabrata*

114. *Rosa palustris*
115. *Rosa setigera*
116. *Rudbeckia hirta*
117. *Sanicula canadensis*
118. *Scrophularia lanceolata*
119. *Scutellaria galericulata*
120. *Senecio aureus*
121. *Senecio glabellus*
122. *Senecio obovatus*
123. *Silphium integrifolium*
124. *Sisyrinchium atlanticum*
125. *Sium suave*
126. *Solidago altissima*
127. *Solidago bicolor*
128. *Solidago graminifolia nuttallii*
129. *Solidago juncea*
130. *Solidago nemoralis*
131. *Solidago ohioensis*
132. *Solidago puberula*
133. *Solidago riddellii*
134. *Solidago rugosa*
135. *Solidago sempervirens*
136. *Solidago speciosa*
137. *Spartina patens*
138. *Spartina pectinata*
139. *Spiraea latifolia*
140. *Spiraea tomentosa*
141. *Stachys palustris*

- 142. *Stylophorum diphyllum*
- 143. *Thaspium barbinode*
- 144. *Thaspium trifoliatum flavum*
- 145. *Triglochin maritima*
- 146. *Trillium glauco*
- 147. *Trillium recurvatum*
- 148. *Vaccinium macrocarpa*
- 149. *Veronica altissima*
- 150. *Veronica officinalis*
- 151. *Vinca minor*
- 152. *Zinnia aurea*

OUTLINE OF THE PURPOSES AND FUNCTIONS OF AN AMERICAN INSTITUTE OF BIOLOGY

Over the past four or five years we have had, from quite a number of persons, the suggestion that an attempt ought to be made to establish an American Institute of Biology, patterned after the American Institute of Physics and so organized as to enable the institutions and industries that utilize biological research to aid effectively, and in a large measure to control, the bibliographic agencies that they require.

This suggestion has come from men in no way connected with BIOLOGICAL ABSTRACTS, but interested in preventing the suspension of its publication and in developing it into an effective research and bibliographic tool.

The underlying idea is that there are a great many industries and corporations--food preservation, fermentation, fertilizer, crop production, fisheries and shell-fish, publishers, etc.,--that owe their current profits and indeed their existence to the utilization of biological research. These industries require up-to-the-minute information as to research progress. They require better bibliography than is at present available. And they have the funds to make that sort of bibliography possible.

Out of these discussions there has developed a conception--still flexible--of what such an Institute might be.

PURPOSES AND FUNCTIONS

The broad purpose of such an Institute of Biology would be to facilitate the diffusion and integration of knowledge throughout the whole field of biology. It would function somewhat as follows:

(1) By really supporting an expanded and revived BIOLOGICAL ABSTRACTS. With the additional support that we might receive from industry, we would be prepared to guarantee prompt, thorough and scholarly reporting of the current research literature in all languages.

The research literature of biology comprises about 60 000 papers per year, published in over 5 000 periodicals, in some thirty languages. A really effective abstracting journal in biology would note all of these papers, abstracting all that really constitute contributions to man's knowledge. The sort of a BIOLOGICAL ABSTRACTS that I have in mind would be nearly four times as large as the present ABSTRACTS. It should, I believe, be issued semi-monthly. I would recommend two volumes a year, each independently indexed. Its staff of literature-searchers should contain linguists--including at least one Russian and at least one Japanese--thoroughly trained in several of the experimental fields in biology, to put advances published in these languages promptly before English-reading biologists.

I estimate that the revenue that BIOLOGICAL ABSTRACTS is likely to receive from institutional and individual sub-

*Pharmaceutical
critical
Entire American
New Publishing
devoted to
research*

scriptions will sustain publication of abstracts of (probably) about 30 000 research papers per year. To extend the coverage of the literature beyond that point, other income than that from subscriptions will be required. The establishment of the Institute would enable the further expansion of abstracting--possibly up to complete coverage--to be financed by the biological industries.

- (2) By providing for cumulative indexes to BIOLOGICAL ABSTRACTS at reasonable intervals.

In biology, cumulative indexes should be issued every five years; research progress is so rapid that decennial cumulative indexes would scarcely be sufficient.

- (3) By providing for additional bibliographic services and aids wherever these could be used. I have in mind the desirability of establishing, for the experimental literature, a small, mimeographed, weekly or semi-monthly citation service similar to PLANT SCIENCE LITERATURE or to the now defunct CURRENT TITLES IN THE BIOLOGICAL LITERATURE. The BIOLOGICAL ABSTRACTS' office could easily put out such non-duplicating services in the experimental field, if these were desired and if the funds were provided.

From a number of the large universities we have frequently had a demand for a service of this kind. I do not know how many subscribers could be obtained. A questionnaire would yield this information at a slight cost. The cost of production would be low: we would get in touch with the editors of the journals and ask them to give advance information as to contents of the issues, and lists of the articles in forthcoming issues could thus appear in mimeographed form; also, our staff, if somewhat larger than at present, could go over the libraries here in Philadelphia and possibly also in Washington and New York, furnishing citations of papers in the experimental journals. These citations would be highly useful in obtaining abstracts of the same papers for publication in BIOLOGICAL ABSTRACTS. The two services would combine admirably.

Bibliographies, indexes, compendia of abstracts and reviews of special subjects could also be issues from time to time.

- (4) By publishing compendia or other reference works wherever these may be needed.

The great reference works of "continuations" are almost all published in Germany. They are exceedingly expensive and mostly exceedingly verbose. I have in mind such monumental works as Bronn's KLASSEN UND ORDNUNGEN DES TIERREICHS, Abderhalden's HANDBUCH DER BIOLOGISCHEN ARBEITSMETHODEN, Engler and Prantl's DIE NATÜRLICHEN PFLANZENFAMILIEN. These great works are expensive to produce, and are required by a comparatively small number of specialists, but they are, none the less, absolutely indispensable to those who do require them.

and hence of tremendous social significance since they implement the work of specialists whose work is essential in our complex civilization. Works of this sort must be financed somehow. I believe the time is not far distant when they will be published in English rather than in German.

The Germans are the world's worst editors. By and large, I think, the Americans are about the best, though British editors are also excellent. In making this comparison I have in mind the practicality, the comparatively slight cost, and the comparatively ready availability of such works as Borczyk's Manual of Determinative Bacteriology, The International Critical Tables and the English and American biological journals, as contrasted with corresponding European ones.

An Institute such as I have in mind could finance and direct the publication and editing of such reference works, on a co-operative, non-profit basis, keeping the editorial and business policies under the control of biologists, universities, and industrial users.

- (5) By providing a central agency through which waste and duplication of effort in the fields of publication and bibliography could be ~~diminished~~.

Many of the large pharmaceutical companies maintain abstracting services for their own staffs. Quite a number of university departments and research institutions have special assistants assigned to the assembly of bibliographies and preparation of abstracts for use of men doing research or teaching in specific fields. The waste arising from duplication in these respects is quite considerable and the overlapping, poorly financed services of this sort accomplish much less than could be accomplished by a central agency doing the work once and for all and making a really effective sorch of the literature. Furthermore, there is to be considered the waste that results from too limited use of bibliographies and abstracts so prepared. To a limited extent BIOLOGICAL ABSTRACTS has sought to establish contact with specialized abstracting groups, obtaining permission to publish the abstracts that they prepare so that the work of each small group may be made available to co-workers the world over.

I am convinced that an excellent abstracting and bibliographic service could be financed solely out of the waste resulting from such duplication and too limited use of existing facilities.

- (6) By conducting (or subsidizing) studies of the problems of biological research journals (when requested to do so), and, possibly, subsidizing such journals or providing editorial or business management when doing so would promote research progress.

Exhaustive studies, mostly carried out by Dr. Schramm (in biology), by Dr. Binkley (of the American Council of Learned Societies), and by the American Institute of Physics have

shown that research journals are for the most part uneconomically produced. The American Institute of Physics exists mainly as a service agency through which the American physical societies can arrange for expert, economical publication of their research journals. In biology the need for this development is still greater, since the research literature is larger and more scattered.

(7) By providing an agency through which biologists could effectively present evidence of the need of (a) integration of the biological literature, (b) support of the pure-science field of the applied-science groups, and (c) the support of research and scholarly publication by the industries.

Such an institution, I should think, ought not to be a mere appendage to BIOLOGICAL ABSTRACTS. It should have an independent existence. It should participate in the management and control of BIOLOGICAL ABSTRACTS; but the biologists of this country, especially those independent of the competing corporations, should preponderate in its governing board.

The Institute should be an institution through which the scholars, societies, libraries, learned institutions and industries in the English-speaking world can arrange for the production of abstracting and other bibliographic services and of any similar works in the field of biological publication. We, in BIOLOGICAL ABSTRACTS, can legitimately suggest its establishment, but when and if it is established its own membership will naturally determine its purposes and policies.

The idea of forming an Institute is suggested, not only because of the apparent success of some of the existing institutes, but also (a) because it is believed that such a proposal for industrial support would receive more favorable consideration if the industries had representation on a governing body which, without assuming responsibility for detailed management, would be in a position to assure the members that the funds they subscribed were being used efficiently for the purposes intended, and (b) in order to relieve the 'BIOLOGICAL ABSTRACTS' office staff and Board of Trustees of the difficult, exacting task of dealing with the various industrial concerns individually.

The real development of the Institute would naturally require the services of a thoroughly capable director whose duty it would be to assemble a list of prospects and make the contacts with responsible officials of those firms, leading to their taking memberships. Little, perhaps nothing, could be done by correspondence. A person with considerable experience in business would be required to make the approaches.

MEMBERSHIP

Since the problems of bibliography and publication in the field of biology affect many interests, diverse in their structure and financial status, the Institute should consist of several classes of membership. The following are suggested:

(A) INDUSTRIAL SUSTAINING MEMBERSHIPS at (perhaps) \$250 per

year or thereabouts. Special credit and special representation on the governing board would be accorded these; possibly, also, additional privileges such as authorization of free advertising in the subsidized journals up to the extent of, say, 40% of the annual contribution.

(B) INDUSTRIAL REGULAR MEMBERSHIPS, at presumably \$25 or \$50 per year, to fall within the means of the smaller industrial concerns.

(C) SOCIETAL MEMBERSHIPS (Affiliated Societies), to include the American (or foreign) national scientific societies, local learned societies or academies of science, etc.

(D) INSTITUTIONAL or DEPARTMENTAL MEMBERSHIPS to include college or university research departments, libraries, etc. Price presumably around \$25 or \$30 per year. College or university departments could purchase such memberships just as they now purchase memberships in the Marine Biological Laboratory. Incidentally, the proposed Institute would be very similar to the corporation of the Marine Biological Laboratory. I know of one large university department of zoology that regularly contributes \$400 per year or thereabouts as a membership in the Marine Biological Laboratory; all members of the department staff, including graduate students are, in return, permitted free use of tables in the Laboratory.

(E) INDIVIDUAL MEMBERSHIPS: Individuals engaged in broad research problems may have such need for literature that there would be justification for establishing a special class of membership.

CONCLUSION

If BIOLOGICAL ABSTRACTS is to serve the biological industries by developing a service as comprehensive and as prompt as the industries require, it is perfectly fair and legitimate to put before these industries the proposal that they take a part in financing such expansions of the service. It would be neither fair nor possible for biologists---who are as a rule low-salaried individuals---to support so extensive and expensive a service.

I believe that the Institute could be formed. Whether it would be a large one--of the size of the American Institute of Pharmacy--or a much smaller Institute--comparable to the Crop Protection Institute--is a matter beyond prediction at the present time. Much would depend on the effectiveness of its director and on the degree to which BIOLOGICAL ABSTRACTS, and any other service it might utilize, would meet the expectations of the industrial concerns.

THE COLE NURSERY CO., Painesville, Ohio
Live Plants! ESTABLISHED 1881 Perishable!

EVERYTHING THAT IS GOOD AND HARDY

Butler University arbutum
Att. Prof. R. C. Friesner, Botany Dept.
Indianapolis Ind.

CERTIFICATE OF NURSERY INSPECTION

No. 654

Columbus, Ohio, August 25, 1938.

THIS IS TO CERTIFY That the nursery stock of the Cole Nursery Company, of Painesville, County of Lake, State of Ohio, consisting of General Nursery Stock has been inspected by a duly authorized inspector, in compliance with Section 1126, General Code, and has been found apparently free from dangerously injurious insects and plant diseases.

Permission is hereby granted the above mentioned nursery firm to sell and ship nursery stock which has been inspected for the year ending September 15, 1939.

This certificate, granted under the provisions of Section 1135, General Code, is invalid after September 15, 1939, and may be revoked earlier for cause.

N. B.—All raspberry stock which may be covered by this certificate has been inspected twice, at least thirty days intervening between the two inspections.

WALTER J. MARION, Chief of Division.

EARL H. HANFELD, Director of Agriculture.

Below you will find the name of the student assigned to you through the National Youth Administration by Butler University:

~~Isaac Cooper~~

Albert McClure

Olive Cunder

Matthew Harmon

Robert Kent

PLEASE READ THE FOLLOWING

The Supervisor is held responsible for:

1. Providing work for the student and seeing to it that the student carries out the project with regularity and in a workman-like manner.
2. Keeping an accurate record of the time the student works and reporting same on the "Student Aid Time Card" on the closing day of each payroll period--the 15th of each calendar month. All payroll periods begin on the 16th of each month and close the 15th of the following month.
3. Helping the student arrange a "Work Schedule" as soon after the study program is definitely known, and insisting that this schedule be followed as closely as possible throughout the semester. The normal schedule is 10 hours per week, or 40 hours for payroll period. At no time allow the student to work more than 8 hours a day, or more than 30 hours per week.
4. Providing a definite system for keeping record of the time the student works and making certain the student understands it. Under no circumstances are you to allow the student to fill in the "Student Aid Time Card" furnished by the NYA Office. This is your responsibility. Be sure your system of time keeping shows the date the work was done, the hour of beginning and ending the work, and the total hours worked each day. At the close of the payroll period (see dates above) fill out the "Time Card" by writing the number of hours worked opposite the date the work was done. Report whole hours and half hours only. Disregard quarter hours or less. Your initials or signature should appear in the spaces provided, either after each date work was done, or by writing your full name across the spaces, lengthwise of the card, in the two spaces so designated on the Time Card. Time Cards are to be delivered to the office of the Director at Butler University. Off-campus supervisors should mail them to the Director. Do not entrust them to the student.
5. Arranging with the student for holidays occurring during the academic year. If the student does not care to work during the holidays, he/she should be allowed to accumulate enough extra hours before the holiday to off-set the hours not worked during the vacation. Unless this is done, the student is liable to lose a part of the monthly allotment. Be sure the student understands this regulation far enough in advance of the holiday that he will not be penalized.
6. Please notice that the month is stamped over the date the payroll period opens (September 16) and that October is stamped at the head of the first column. In filling out the Time Report each month, please keep this system of dating in mind. The supply of Time Cards given to you after this will not have the months stamped on them. Write in the months covered each time a report is made.

If you have any questions, please call the Director or write. Your co-operation will be greatly appreciated.

Notice: Please file this sheet for future reference.

Geo. F. Leonard, Director
Student Welfare Agencies
Butler University

N:o

Namn

Postn

Postadress

Fördrän

Skuld

Katalog

över

de växter, som i Lunds Botaniska Förenings växthytte

Höstterminen 1939

finnas tillgängliga för byte eller köp.

(Pflanzenverzeichnis 1939 des Lunder Botanischen Tauschvereins)
(Plant-catalogue 1939 of the Lund Botanical Exchange Club)

Acotyledonae vasculares sid. 2	Algae..... sid. 39
Phanerogamae » 2	Lichenes » 41
Hepaticae » 31	Fungi » 43
Musci frondosi » 32	

Rekvitioner måste vara ingångna senast d. 12 dec. 1939, då utlägget börjar.

(Bestellungen müssen spätestens am 12 Dec., 1939 eingesandt werden)

(Orders must be handed in at the latest Dec. 12th 1939)