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

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

3/2 of 14 = 28/3 = 9 1/3

We require 24 U.G + 30 Grad = 54
54 - 9 1/3 = 44 2/3 hrs to be done

Clark, Terry
824 9th. Street
Columbus Ind.
Jan. 3, 1938

Butler University
Indianapolis
Indiana
Dear Sir,

Last summer I transferred my credits from Hanville to Butler, with the intention of entering the graduate school. I was unable to attend then, but hope to this summer.

Will you please advise me as to the number of hrs. I must have before I receive a master's degree in Botany. I am considering taking some extension work this next semester.

Yours very truly,
Terry Clark

Total acceptable = 14 Term hrs.

Nature Study 4 Term Hrs (B)
Botany I 4 (A)
Biology IIA 4 (A) 1/2
~~Botany IV 4 (D)~~

Botany III 4 (B)
Zoology I 4 (C)
" II 4 (B)
" III 4 (A)

Anatomy I 4 (C)
" II 4 (C)

January 4, 1933

Dr. Loren C. Petry
Agricultural College
Cornell University
Ithaca, New York

Dear Dr. Petry:

I am sending under separate cover a copy of the laboratory manual we are using in our course in general botany. I am also enclosing an outline of our course for the first semester. Unfortunately, the outline for the second half of the course is not now available in mimeographed form. I am, however, sending you a summary of both the first and second parts of our course. You may be able to get some idea of the outline of our second half from the summary. Our course carries five hours of credit for each of two semesters.

Since attending the symposium on science teaching last week the thought has occurred to me that it might be worth while to find out what students who have graduated from college, and who took only our beginning botany course, think to be most important as they now look back over a period of years since their graduation. I have not had time to think the matter through nor to work it, preparing a suitable questionnaire to get this information, but I hope to do something on it soon. I feel that the most important course in botany or any other science for that matter is the beginning course, and we should make every effort to have it really meet the needs of those who take it.

Very truly yours,

Ray C. Friesner

RCF:VC

Chemistry

1. Takes it for granted that pupils can solve problems using grade school fundamentals, such as dividing decimals. Does not understand that some kind of test or review must be given class in these things.

2. Does not write all new or unusual words on blackboard. Seems surprised when pupil does not recognize or cannot spell these words later.

3. Does not have a set of minimum essentials. Does not make it plain that some things are more important than others.

4. Does not have enough cumulative drill work; does not go back far enough in the term. Symbols, formulas, etc. assigned to learned (,) in

January 6, 1938

Mr. Perry Carroll
Williston, Florida

Dear Mr. Carroll:

In accordance with our conversation of last week, I am sending you the statement which you requested recommending that your work in botany be substituted for the required work in Conservation of Natural Resources.

I hope that this will meet the needs for your license.

Very truly yours,

Ray C. Friesner

RCF:VC

or in nonfilamentous colonies of definite or indefinite shape. Cells generally with one nucleus. Cells capable of division. Reproduction by zoospores, aplanospores, akinetes, and isogamy.

(4) Ulvales. Plants an expanded sheet, hollow tube, or solid cylinder (parenchymatous filament). Thalli formed by filaments joined laterally are not included. Cells with one nucleus. Cells capable of division, reproduction by fragmentation (simple or specialized), zoospores, aplanospores, akinetes, and isogamy.

(5) Ulotrichales. Plants simple filaments, never branching. Often attached by a hapteron (holdfast cell). Cells uninucleate; cells capable of division. Reproduction by fragmentation, zoospores, aplanospores, akinetes, and isogamy or oogamy.

(6) Cladophorales. Plants filamentous, generally branching. Cells often multinucleate. Plants may be prostrate or a portion may be prostrate. Branches may be different from main axes. Cells may produce setae, end cells often pointed. Filaments may be fused together laterally. Cells capable of division. Reproduction by fragmentation, zoospores, akinetes, aplanospores, and isogamy or oogamy.

(7) Oedogoniales. Plants filamentous, simple of branching. Cells uninucleate. Cell division occurs and involves a peculiar annular splitting of the cell wall near one end, each division leaving a ring on one of the two cells. Cells may have setae and end cells may be pointed. Plant may be prostrate. Reproduction by zoospores, akinetes, fragmentation, and by oogamy. Motile reproductive cells have a whorl of many cilia at the anterior end.

(8) Desmidiales. The true or placoderm desmids. Vegetative and reproductive cells unciliated. Plants unicellular, sometimes in amorphous or filamentous colonies. In all but two genera, a median constriction (sinus) divides the cell incompletely into to halves (semicells). Cell walls have vertical pores through the innermost and median layers. Cells bilaterally symmetrical, walls often ornamented. Reproduction by cell division and conjugation.

(9) Mesotaeniales. The saccoderm desmids. Vegetative cells and reproductive cells non-ciliated. Plants unicellular, sometimes in weak filaments. No median constriction present and walls do not have pores. Chloroplast a median plate, a spiral ribbon, or stellate. Reproduction by cell division and conjugation.

10*** (10) Schizogoniales. Plant body a simple filament, an expanded sheet, or a solid cylinder. Filaments may have false branching. Each cell has one central stellate chloroplast with a pyrenoid in the center. No agreement as to whether starch is present. Reproduction by fragmentation, (simple and specialized) and by akinetes. Members of this order may eventually be classified as Rhodophyceae.

(12) Siphonales. Thallus is a multinucleate tube which may become large and of definite shape. Reproduction by fragmentation, zoospores, and oogamy. No cell division.

Genera (Fresh-water)

(1) Volvocales:

1. Stephanoptera
2. Dunaliella
3. Heteromastix
4. Pyramimonas
5. Polytomella
6. Chloraster

January 6, 1938

Department of Public Instruction
State of Florida
Tallahassee, Florida

Gentlemen:

This is to certify that Mr. Perry Carroll has taken our course in general botany which covers the entire range of the plant kingdom and which constitutes ten semester hours of college credit. Because of the nature of this course I feel that it might well be permitted as a substitute for the work required by you in Conservation of Natural Resources.

Sincerely yours,

Ray C. Friesner

RCF:VC

January 7, 1938

Mr. Ferry Clark
824 Ninth Street
Columbus, Indiana

Dear Mr. Clark:

I have your letter regarding requirements for master's degree in botany at Butler University. Our present requirements are twenty-four hours of work in under-graduate botany and thirty hours of work in graduate botany.

I have looked over your grades from Central Normal, and it appears that you have a total of sixteen term hours in botany and nature study. In addition, you have four hours in biology, two hours of which might possibly be counted as botany. Your Botany IV course shows only a grade of "D", while all the rest are "A's" and "B's". If there is no error in the "D" grade for Botany IV, we would not be able to accept those four hours because we have a ruling that we can not accept any credits in which the student made the lowest passing grade in some other school. When these term hours are translated into semester hours, it appears that you would have about 9 1/3 hours. This would leave you a total of 44 2/3 hours to be done for the master's degree.

There may be some error in these figures, and I shall be glad to go over them more carefully with you some time when you find it convenient to come to Butler. I would be glad to have a meeting with you at your convenience at which we could outline the entire work that you would be required to do. I assure you that we will be glad to have you, in case you find it possible to come.

I am sending you under separate cover copies of our recent publications in botany to show you that we are really doing some high-grade work in botany, the results of which are published from time to time.

Sincerely yours,

Ray C. Friesner

RCF:VC

From
Withrow

PURDUE UNIVERSITY
LAFAYETTE, INDIANA
SCHOOL OF AGRICULTURE

January 10, 1938

Dear Dr. Friesner,

I have been going over my material for the anatomical phases of my research and I find that there are some sixty sections I would like to have imbedded and cut. I have slides and cover slips. I would like about two slides of each section.

I would prefer a slow technique. I have found the butyl alcohol method satisfactory but a little difficult to secure a good safranin stain with. I prefer the slow technique or long schedule since I am interested particularly in cambrial cells and phloem parenchyma and I have found the slow method has given me the clearest slides. Some of the sections are very hard but I have cut them successfully in paraffin. Celloidin might be a little better but we did not have a sliding microtome and it always meant borrowing the use of one from another department.

Safranin and fast or light green will be satisfactory as stains.

I am particularly interested in

securing slides as good as possible and the amount of time the student finds necessary is not important. I shall be glad to pay him whatever you suggest for the number of hours he finds necessary. I will send two similar sections in each bottle, the second to be used in case something goes wrong with the first. The material is now in Rawlins formalin-acetic acid-alcohol solution.

If you find you have a student who can do this work for me, I shall greatly appreciate it. And I certainly am grateful to you for helping me in this matter.

Sincerely,

Alice P. Withrow
1156 E. 56th St.
Chicago, Ill.

TELEPHONE SEDGWICK 3-3200

THE NEW YORK BOTANICAL GARDEN
BRONX PARK (FORDHAM BRANCH P. O.)
NEW YORK, N. Y.

January 11, 1938

Dr. Ray C. Friesner
Butler University
Indianapolis, Indiana

Dear Dr. Friesner:

The Council of the American Society of Plant Taxonomists wishes to express its deep appreciation of your enthusiastic service in bahalf of the Society at its Indianapolis meeting, especially in the organization of a very successful dinner.

With best regards, I am,

Very truly yours

H A Gleason

H. A. Gleason
Acting Director

HAG/CMS

January 17, 1938

Morris Book Company
1137 R Street
Lincoln, Nebraska

Gentlemen:

Our librarian has turned over to me a list of second-hand books advertised by your firm. There I find listed Sharp, L.W. Introduction to Cytology, 3rd Edition.

I am having a class in this subject next semester, and am writing to ask how many copies you could supply us with at the price of $3.50 stated in your list. We will probably have from six to eight students in the class. I am sure that some, at least, would want second-hand copies, so I would like to have the information to present to them at the first meeting of the class.

Very sincerely yours,

Ray C. Friesner

RCF:VC

Professor Freeshee

7-I-35 Morris Book Co.

Morris Book Co., 1137 R St., Lincoln, Nebr. 3

AGRICULTURE BOTANY FORESTRY net price

Norris,T. American Fish Culture,Phila.(1868),ave. 1.00
Robbins,W.J.&R. Botany,1929,Van N,($3.75)g.u.---- 1.25
Roberts,H.A. Commercial Poultry Raising,1920,
($3.00),v.g.u.---------- 1.80
Roper,et al, Princ. Dairy Science,1928,($4.50)g.u 2.50
Sampson,A.W. Livestock Husbandry on Range and
Pasture,1928,Wiley,($4.50) average used------ 2.60
Sharp,L.W. Intro. to Cytology,3d,1934,McG-H,($5.00)
good used---------- 3.50

BOTANY PRINCIPLES AND PROBLEMS
by
Edmund W. Sinnott
Second Edition - - - 1929
Published by McGraw-Hill Book Company

GOOD USED--POSTPAID 90¢ EACH POSTPAID--GOOD USED

Slingerland,M.V. Manual Fruit Insects,1930,Mac.
($3.50) like new---------- 1.75
Stevens,W.S. Plant Physiology,4th,1924,Blak($3.50)
very good used---------- 2.40
Sturges,A.M. Practical Beekeeping,1924,($3.50)
fine,as new---------- 2.25

THE ELEMENTS OF PLANT BIOLOGY
by
A.G. Tansley
Published at $4.00, Dodd Mead and Company,1934

NEW COPIES $2.25 POSTPAID NEW COPIES POSTPAID $2.25

Waugh,F.A. Book of Landscape Gardening,1926,Judd,
($2.00) very good used---------- 1.20
White,E.A. The Florist Business,1933,Macmillan,
($4.00), very good used---------- 2.65
Whitson,A.R.&W. Soils and Soil Fertility,1917,
Webb,($1.60) good used---------- .85
Wilkinson,A.E. Practical Vegetable Culture,1929,
DeLaM,($2.00) shelf-new---- ---------- 1.30
Warren,G.F. Elements of Agriculture,19th edition
1923,Macmillan,($1.80) 40 new copies,each---- .40

SEND US YOUR WANT LISTS

January 17, 1938

National Broadcasting Company, Inc.
RCA Building, 30 Rockefeller Plaza
New York, N. Y.

Gentlemen:

I am in receipt of the student notebooks on Music Appreciation together with an Instructors' Manual, which you so kindly sent me a few days ago. Please accept my sincere thanks for your kindness in sending these notebooks.

Very truly yours,

Ray C. Friesner

RCF:VC

January 17, 1938

Dr. L. C. Petry
Botany Department
Cornell University
Ithaca, New York

Dear Dr. Petry:

Your consignment of material dealing with your General Botany course has reached me this morning.

I am very much impressed with it, and hope to give it a much more thorough study shortly. I see in it considerable differences from the way we take up our work, and I am sure that it contains much of good suggestions for improving our work.

Very sincerely yours,

Ray C. Friesner

RCF:VC

K. M. WIEGAND, PROFESSOR
L. KNUDSON, PROFESSOR
A. J. EAMES, PROFESSOR
L. W. SHARP, PROFESSOR
O. F. CURTIS, PROFESSOR
L. C. PETRY, PROFESSOR
W. C. MUENSCHER, PROFESSOR
E. F. HOPKINS, ASSISTANT PROFESSOR

NEW YORK STATE COLLEGE OF AGRICULTURE
AT CORNELL UNIVERSITY
ITHACA, NEW YORK

CORNELL UNIVERSITY AGRICULTURAL
EXPERIMENT STATION

CARL E. LADD, DEAN

DEPARTMENT OF BOTANY

January 17, 1938

Professor Ray C. Freisner
Department of Botany
Butler University
Indianapolis, Indiana

Dear Professor Freisner:

Thank you for the outlines. I am sending ours in return. I am interested in the inquiry you plan to make and I would appreciate a copy of the results, if it is not too much trouble.

Hastily,

L. C. Petry

Loren C. Petry
Professor of Botany

January 17, 1938

Mrs. Alice P. Withrow
1156 E. 56th Street
Chicago, Illinois

Dear Mrs. Withrow:

I am very sorry to be so slow in replying to your letter of the tenth instant. Last week and this week have been student conference weeks, and my time has been so occupied with that that it has not been possible to get around to anything else until now.

I have secured the promise of one of the best two students in my Microtechnique class that he would be willing to undertake the task of preparing the slides which you need. If you can send the material immediately he will have time to start it into the imbedding within the next few days. I believe you will find that he will be able to do you a good job.

Very truly yours,

Ray C. Friesner

RCF:VC

UNIVERSITY OF MARYLAND
AGRICULTURAL EXPERIMENT STATION
AND
COLLEGE OF AGRICULTURE
COLLEGE PARK

DEPARTMENT OF
BOTANY

January 19, 1938.

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

Dear Prof. Friesner:

There will be available in our department for the next academic year at least one fellowship and one assistantship. The stipends for these are $400 and $800 respectively, besides the remission of all fees.

If you have any senior undergraduates, with a major in Botany, who are interested in graduate work in morphology or cytology, they may apply for these positions by getting the necessary blanks from the Graduate School. Successful candidates will be expected to assist in General Botany for the stipends mentioned above.

Very truly yours,

Ronald Bamford

Ronald Bamford,
Associate Professor.

52 Pearsons Hall
Maryville College
Maryville, Tennessee
January 22, 1938

Head of the Department of Botany
Butler University
Indianapolis, Indiana

Dear Sir:

A senior at Maryville College, Maryville, Tennessee, with a major in Biology, I expect to graduate in June. I hope to take a Master's degree next year, and a fellowship, such as is offered by many universities, will be of great financial assistance to me. My scholastic standing for the first three years of college indicates that I shall graduate cum laude. I have held an assistantship at Maryville College for three years, assisting in General Biology.

I have taken, or am taking, the following courses in my major field:

General Biology	1 year
General Zoology	1 year
General Botany	1 year
Physiology and Anatomy	1 year
Embryology	1 year
General Bacteriology	½ year
Taxonomy	½ year

Should there be any available fellowships or scholarships at Butler University, I will appreciate very much any information concerning them.

Sincerely yours,

Louise Orr

Louise Orr

From - Stover

THE BOTANICAL SOCIETY OF AMERICA

Committee on the Teaching of Botany in Colleges and Universities

CLARK W. HORTON,
Research Assistant
Hayes Hall, Ohio State University
COLUMBUS

January 24, 1938

Dear Dr.

The help you have given in filling out the extensive questionnaire has been valuable in formulating a picture of botany teaching at the present time and in defining more clearly the existence of teaching problems common to many teachers. The 264 usable questionnaires returned have been summarized and the data are now in the hands of the Committee. A report of this exploratory study will be published by the Committee in the spring. As soon as this report is published a copy of it will be mailed to you.

While this preliminary study leaves unanswered many questions about the present status of general botany teaching, it has revealed a number of ways in which the Committee might be of service to teachers. For example, of the 264 teachers returning usable questionnaires 158 indicated that they were not satisfied with the tests they now use for measuring student achievement, and 207 indicated that they were willing to work with the Committee on a program designed to improve tests and testing techniques. In addition many teachers listed teaching objectives for which they would like to see better tests prepared.

Apparently, one way in which the Committee can be of service to botany teachers is by directing its efforts to the development and use of more effective methods of collecting evidence of student achievement in botany. The Committee believes this to be a promising activity because: a) there is now wide interest in the problem; b) sincere attacks on the problem by some botanists and by teachers in other fields have resulted in a fresh point of view on both objectives and teaching practices, and have been a valuable teaching aid; c) many problems of teaching procedure and of student guidance can be better understood and treated through the collection of evidence made possible by recent developments in achievement testing.

At the present time the Committee sees three possible ways of being helpful to botany teachers on problems of achievement testing:

1) By serving as a clearing house for those who are now actively working on the problem. The Committee's Research Assistant, Dr. Clark W. Horton, a botany teacher, has spent the past two years working with Dr. Ralph W. Tyler in the Division of Accomplishment Tests

From Stover
24-I-38

at Ohio State University and is willing to give such help on testing problems as is possible through correspondence. He will attempt to make contacts among teachers working on the same or similar problems, and will, in response to inquiries about specific problems, supply references to significant published articles on recent developments in testing, or to promising test forms.

2) By asking Dr. Horton to go out to work intensively with a few departments in developing tests appropriate for the needs of those departments. This would be done in the hope that many of the types of tests developed would prove suggestive and useful (with modifications to fit local conditions) by teachers in other places. In doing such work an attempt will be made not only to develop effective forms of tests for mastery of content, but particularly to develop tests for ability to use information, for problem solving, for scientific method and thinking skills, as they involve botanical materials, and for other so-called "intangibles". Because of limited time and funds the number of departments in which such work can be done will be small.

3) By publishing and distributing to cooperators and to others who may want it a bulletin under the title "Tests in Relation to Objectives in General Botany. This bulletin has already been prepared in tentative form. It will be revised in the light of the Committee's experiences on this project and will be published probably during the summer of 1938. The mailing list for this bulletin will include the names of those who filled out the previous questionnaire.

Perhaps you are one of those who have already indicated willingness to work on the testing problem, and have made clear in the questionnaire the objectives of teaching for which you would like better tests. If, since filling out the questionnaire, you have done further thinking about the objectives on which you would like to collect more adequate evidence of student achievement, or can give us any suggestions as to other ways in which the Committee might proceed, we would be pleased to have you write to us.

All letters in relation to this testing project should be addressed to Clark W. Horton, Research Assistant, Committee on Botanical Teaching, Page Hall, Ohio State University, Columbus, Ohio.

Sincerely yours,

E. L. Stover

E. L. Stover, Chairman
Committee on Botanical Teaching

ELS:jj

From Stover

THE BOTANICAL SOCIETY OF AMERICA

Committee on the Teaching of Botany in Colleges and Universities

CLARK W. HORTON,
Research Assistant
Hayes Hall, Ohio State University
COLUMBUS

January 24, 1938

Dr. Ray C. Friesner
Butler College
Indianapolis, Indiana

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from Stover 24-I-38

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Perhaps you are one of those who have already indicated willingness to work on the testing problem, and have made clear in the questionnaire the objectives of teaching for which you would like better tests. If, since filling out the questionnaire, you have done further thinking about the objectives on which you would like to collect more adequate evidence of student achievement, or can give us any suggestions as to other ways in which the Committee might proceed, we would be pleased to have you write to us.

All letters in relation to this testing project should be addressed to Clark W. Horton, Research Assistant, Committee on Botanical Teaching, Page Hall, Ohio State University, Columbus, Ohio.

Sincerely yours,

E. L. Stover

E. L. Stover, Chairman
Committee on Botanical Teaching

ELS:jj

PURDUE UNIVERSITY
LAFAYETTE, INDIANA
SCHOOL OF AGRICULTURE

January 25, 1928

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

Dear Dr. Friesner:

Yesterday I sent you via parcel post 68 bottles of preserved stem sections, two boxes of slides, some cover slips, paraffin, labels and two large slide boxes. I believe that there will be enough of all the materials for two slides of a stem section from each bottle with the exception of the cover slips. I did not count them but there didn't appear to be too many of them. I will appreciate it if the student who does the work will keep account of the material he needs to use that I did not send. I will expect to pay for all materials such as alcohols, xylol, etc. I felt that it was not feasible to send these, however.

I notice that there seem to be several stem sections which are imperfectly preserved. It may not be possible to secure good sections of these. I sent two sections where I could. In one or two cases, I sent the entire crown of the plant when it happened to be in the rosette stage. I would like to have sections from near the middle of the stem in these cases. I would like to have all the paraffin blocks or portions of blocks not used and the preserved sections not used returned. The plants are arranged together by species and in order of age. Of course, the younger sections are much softer than the older sections. In some cases, the stems are hollow.

I am very sorry not to have been able to have sent the material last week. I found it necessary to secure new bottles for shipping purposes and I sent the material just as soon as I was able to secure the bottles and exchange the sections. I hope that this delay did not inconvenience the student who is to work on the sections.

Sincerely,
Alice P. Withrow
Alice P. Withrow

1156 E. 56th
Chicago, Ill.

Founded by J. A. NIEUWLAND, C.S.C.

The American Midland Naturalist
University *of* Notre Dame
Notre Dame, Indiana

Jan.30,1938

Prof.Ray C.Friesner
Dept.of Botany
Butler University
Indianapolis, Ind.

Dear Professor Friesner:

I wish to thank you once more most sincerely for your excellent assistance in collecting the material for pollen analytical study of Pinhook Bog. You may rest assured that my student as well as myself appreciate this to the full extent for without your assistance this work would be impossible.

Please send me a statement of the expenses accrued so that immediate payment may be made.

If there should ever arise an occasion giving me an opportunity to be of some assistance to you please feel free to call on me at any time.

With repeated expressions of thanks and appreciation I am,

very sincerely yours,

Th.Just.

TJ/ipse

February 2, 1938

Mrs. Alice P. Withrow
1156 E. 56th Street
Chicago, Illinois

Dear Mrs. Withrow:

Your shipment of preserved material for stem sections reached us safely last week. My tardiness in acknowledging its receipt has been due to our final examinations and registration for the new semester.

It is not quite clear in my mind whether you wished both cross and longitudinal sections of these stems or only cross sections. If you will drop me a card telling me which sections you wish, we will be able to go to work on them at once.

Very truly yours,

Ray C. Friesner

RCF:VC

STUDENTS ELIGIBLE FOR THE UPPER DIVISION

II-Semester, 1937-38

Ake, Robert Scott
Allender, Edwin Richard
Andrews, Marjory Jane
Arnold, Herbert William
Aufderheide, Ann
Bagnoli, Michael
Bailey, Aline
Ballinger, Barbara E.
Barton, L. Helen
Bebinger, Esther A.
Becker, Carleen
Bell, Chloris
Berting, John F.
Bills, Mildred Wilmer
Bitter, Sylvester C.
Bolin, William Leroy
Booth, Jean Henrietta
Bowman, Ann
Brandt, Louise Evelyn
Broderick, Lawrence F.
Broich, Lucile M.
Brown, Edward Ray
Brown, Wendell V.
Brunson, Allen Widdis
Butz, Mary Anna
Byrket, Rosemary Jane
Campbell, Genevieve
Carr, Autie Lee
Cassell, Frank Carlyle
Clay, Catherine E.
Clay, James Richard
Conner, Margaret Sue
Connolly, Thomas Taggart
Conreaux, Roberta
Cooley, Thelma Lucile
Cosgrove, Arthur Joseph
Cox, Charlotte Elaine
Cox, Robert Mark
Cramer, Mary Louise
Crawford, John Jennings
Dalman, Marjorie Jane
Daniel, Mary Evelyn
Davis, Richard E.
Davis, William Bowen
Day, Frederick H.
Delgado, Evelyn Claire
Deraniam, Jane
Disborough, Marion Roscoe
Duckwall, Ruth Katherine
Dunbar, David H.
Durham, Dorothy Louise
Duvall, Margaret Roberta
Eisenbarth, Robert Karl
Engelke, Jean
Evans, Ruby Jacque
Fairchild, Grace
Falender, Mari Louise
Fattig, Robert Dale
Fawcett, Willard Ellis
Ferguson, Patricia Jane
Fick, James A.
Finney, Martha Anderson
Fisher, Jean Marion
Fleece, Franklin Ashby
Ford, Jack Willard
Forman, Jane Anthony
Foster, Georgia Mae
Foster, Margaret Louise
Gano, Lowell Ralph
Gearen, Marian E.
Gebhardt, Lilly Irene
Gold, Philip Leonard
Goldberg, Gertrude
Golden, Kenneth Dale
Goldsmith, Doris Jane
Gordon, A. Ethmer
Gray, June
Gudgel, Charlene Frances
Guedelhoefer, Joseph John
Gunder, Olive Luella
Haag, Mildred Esther
Hamilton, Ellen Irene
Hamilton, Karl Ira
Hamp, Frank A.
Hardeman, Deotis
Hartling, Jennie Volola
Helms, Elizabeth Elaine
Henderson, Elizabeth
Herman, Julia Frances
Hicks, Mary Alice
Highley, James Preston
Hoffman, Eleanor May Moon
Holiman, Marion Hazel
Holliday, Mary Jaqueline
Hooker, Roger William
Hume, Mildred Josephine
Jackson, Corlie Elizabeth
Jackson, Robert William
Johnson, Ethel Jean
Johnson, Geraldine
Johnson, Shildes R. Vail
Jones, Bettyann
Jones, Clarrean Samella
Jose, Joanne
Kaser, Marjorie Louise
Kasting, Lorita Ethel
Keller, Floyd Donald
Kendall, Margaret E.
Kent, Stanley R.
Kiefer, Laura Pauline
Klippel, Gustav Stokes
Knowlton, Jean Elizabeth
Kolb, George Chamberlin
Kriel, William Bernard
Kuntz, Marie Sophie
Laatz, Mary Jane
Langston, A. Vincent
Lennon, Mary Blanche
Lorenz, AnnaLouise
Luichinger, Frances Clair
McCreary, James Thomas
McDermit, Marcella Julia
McDonald, Mark
McIntosh, Juliana
McKechnie, Bonnie Jean
McKee, Mary Ellen
McLane, Mary Loretta
McWhir, Marthana
Marshall, Harry George
Merrill, Susanne Kathryn
Miller, Jack
Mindach, Fred C.
Minturn, Mary Harcourt
Mitchell, Jeanne Frances
Moorman, Louise Eugenia
Moss, Byron Wilson
Myers, R. Elizabeth
Nackenhorst, John Fred
Nelson, Leona Bernice
Newman, Marjorie Ann
O'Connor, Charles Francis
Olsen, William J.
Orr, Josephine Ann
Patton, Frances Louise
Pert, William Mearns
Pfeiffer, Jane
Poland, Mildred Lucille
Powers, Dorothy Lucille
Price, Madeline
Pyke, Marjorie Elizabeth
Randall, Harriett Phelps
Redwine, Philip
Rehm, Caroline Haskell
Richardson, Charlene Louise
Roberts, Maude Mildred
Roth, Carolyn
Ruddell, Keith Richard
Rugenstein, Mildred
Sahm, Albert Wilson
Saint Helens, John Henry
Sakowitz, Henry
Scales, Mildred Lorene
Schissel, Betty May
Schoch, Marjorie Regina
Schroeder, Betty Ann
Schubert, Marie Therese
Settles, Dorothy Helen

February 2, 1938

Miss Louise Orr
52 Pearsons Hall
Maryville College
Maryville, Tennessee

Dear Miss Orr:

I have your letter of January 22 regarding possible scholarships or fellowships for graduate study in botany at Butler University. Unfortunately, we do not have any scholarships that will pay more than relief from tuition for graduate work in Butler University. In case you should be interested in such a scholarship we would be glad to have you write us again, and your application will be given consideration. In that case you would need to send us a transcript of your record in Maryville College.

We have been doing a considerable amount of graduate work in botany during the past four or five years, and would be glad to have you as a student in case you see your way clear to come.

Very truly yours,

Ray C. Friesner
Head, Botany Department

RCF:VC

February 2, 1938

Dr. Theodor Just
Department of Botany
University of Notre Dame
Notre Dame, Indiana

Dear Dr. Just:

I have your letter of January 30 regarding expenses on the boring expedition to Pinhook Bog. I had not thought that there would be any expense statement rendered for this trip. We had a good time out of it and are glad to make that contribution toward the furtherance of scientific work. In order that you may feel free to ask us again we might enter into an agreement that for any future boring you would pay the cost of gas and oil for the trip. The boys who do the work are not paid for it by us and they would not expect you to pay for it either. The work is their contribution to the general furtherance of science.

Sincerely yours,

Ray C. Friesner

RCF:VC

BOTANY CLUB

Second Semester 1936-37

DATE	15-MINUTE PAPERS	REFRESHMENTS
2-12	Dr. Hare Miss Young	
2-26	Palmer Nelson Gudgel	Potzger Esten Bowman
3-12	Prettyman Hamp West	Palmer Nelson Gudgel
3-26	Friesner Hoffman Teeter	Prettyman Hamp West
4-9	Clute Geisler Newman	Friesner Hoffman Teeter
4-23	Aufderheide Moss Barnett	Geisler Newman Gunder
5-7	Stanley McCoy Otto	Aufderheide Moss Barnett
5-21 *	Minturn Bowman Potzger	Stanley McCoy Otto

* This date is subject to change should it conflict with the date of the spring meeting of the Indiana Academy of Science

UNIVERSITY OF NOTRE DAME
DEPARTMENT OF PUBLICITY
POST OFFICE BOX 107
NOTRE DAME, INDIANA

THOMAS J. BARRY
DIRECTOR

CABLE ADDRESS "DULAC"

February 2, 1938

Prof. Ray C. Friesner
Dept. of Botany
Butler University
Indianapolis, Indiana

Dear Mr. Friesner:

At the request of Prof. Theodore Just I am sending you the clippings from the South Bend Tribune concerning your peat bog experiment.

Very sincerely yours,

Thomas Hutchinson

Thomas Hutchinson, assistant.

February 2, 1938

Professor J. W. Finley
Kempton
Indiana

Dear Professor Finley:

Thank you very much for your note regarding the work on the thymus gland in relation to heredity. I shall append this note to your original paper.

The magazines of which you speak have not yet reached us, but I judge they will in due time.

Appreciating the privilege of having worked with you last semester, I remain

Yours sincerely,

Ray C. Friesner

RCF:VC

Founded by J. A. NIEUWLAND, C.S.C.

***The* American Midland Naturalist**
University *of* Notre Dame
Notre Dame, Indiana

February 3, 1938.

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

Dear Professor Friesner:

I have your letter of February 2nd and am somewhat chagrined to find myself unable to compensate at least for the expense involved in transportation. If there should be anything I can do to show my appreciation I wish you would call on me without hesitation. In case we should decide it necessary to make some more borings in the course of the year I shall try to live up to your suggestion of covering the expense for gas and oil. Please extend my thanks to everybody in the party.

I am

Very sincerely yours,

Theodor Just

TJw

PURDUE UNIVERSITY
AGRICULTURAL EXPERIMENT STATION
LAFAYETTE, INDIANA

DEPARTMENT OF HORTICULTURE

February 3, 1938

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

Dear Dr. Friesner:

I would like to have cross sections only of the stem material. I have made both cross and longitudinal but I believe I need the cross sections only for verification purposes. It seems to me that if the several cross sections exhibit the same tendencies, I would not be likely to find discrepancies in the longitudinal sections in the type of thing I am working on.

I am very sorry to have omitted this extremely important bit of information and hope that I have not inconvenienced you.

Sincerely,

Alice P. Wilkinson

Illinois State Academy of Science

Robinson, Illinois
February 3, 1938

Dear Academy Member:

The thirty-first annual meeting of the Academy will be held at Carbondale on May 6th. and 7th. of this year. The section meetings will be on Friday, May 6th. from 1:30 to 5:00 P.M.

As you have indicated your preference for the botany section of the Academy, you are invited to submit a paper for the program of that section at the coming meeting.

To secure a place on the final program, titles and authors names must be in my hands not later than March 4, 1938.

One of the leading botanists of the state is preparing a paper on a particular host adaptation relationship of the ecology of parasitic fungi. If there are other members of the Academy ready to report on similar fields of investigation, a symposium may be arranged on the subject of the parasitic fungi. If a symposium is arranged it will occupy only part of the program. Papers dealing with any phase of botanical investigation will be welcome. The region about Carbondale is of considerable interest to botanists and it is hoped that we will have a number of papers on the local flora.

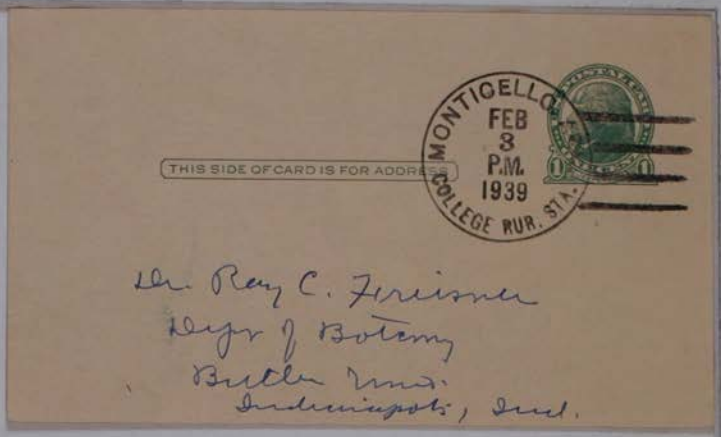
If you have been to Southern Illinois in May you will want to return. If not, you have a treat in store. Plan to come.

Sincerely,

P. K. Houdek

P. K. Houdek, Chairman
Botany Section, 1938

Thirty-first Annual Meeting, Carbondale, May 6-7, 1938
CHAIRMAN LOCAL COMMITTEE,
OTIS B. YOUNG, Southern Illinois State Normal University, Carbondale



A & M. College
Monticello, Ark.
2-3-38.

Dear Dr. Julison:-

I am sending you some Solidago to identify for me. I have them I am sure but not mounted so that I can check them. These years ago Fernald said he knew nothing of specimens from this section. They will be good for you I say. The specimens are a gift to you,

Yours. Dibrell Demaree.

February 4, 1938

Pennsylvania Chemical Corporation
Orange, New Jersey

Gentlemen:

We have recently received through your kindness two copies of your "Dilution Chart" for the use of auxilin. We are having two young men about to undertake some research in our laboratory in this field, and I am writing to ask if you could supply us with two or three extra copies of this chart.

Very truly yours,

Ray C. Friesner

RCF:VC

THE BOTANICAL SOCIETY OF AMERICA
Committee on the Teaching of Botany
in Colleges and Universities
CLARK W. HORTON,
Research Assistant
Hayes Hall, Ohio State University
COLUMBUS

February 4, 1938

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

Dear Dr. Friesner:

The enclosed form letter - particularly the marked paragraph - will provide a background for what I say here.

When the Committee suggested that I go out to work with departments in an attempt to develop tests which might not only be helpful in those departments but also to other teachers, I asked for a list of possible places where such work might be done. Butler University was one of those listed.

In drawing up such a list - because of the limitations of time and funds available for this work - we tried to keep in mind certain criteria. We believed that each place at which this work is done should be: a) representative of a type of college (and presumably a type of general botany course); b) a place where considerable thinking has been going on about the purposes and methods of the general course; and (c) a place where there is a genuine interest in the problems of measuring achievement and where some time would be given to work on it.

The central point of this letter deals with the last item above. If you want me to do so I could spend a few days or a week at Butler University working intensively with those members of your department interested in the problem. I think I should make it clear that if I came I would not want to make "talks." I would want only to sit down with individuals or a small group and get directly into the problem and see what we could develop.

Sincerely yours,

Clark W. Horton

Clark W. Horton
Research Assistant
to the Committee

CWH:jj

February 4, 1938

McGraw-Hill Book Company, Inc.
330 West 42nd Street
New York, N. Y.

Gentlemen:

Please send me two copies of Sharp's "Cytology", third edition. I shall appreciate any educational discount you may be able to extend.

Payment will be made immediately upon receipt of invoice from you.

Very truly yours,

Ray C. Friesner
Head, Botany Department

RCF:VC

BOTANY CLUB

First Semester 1937-38

DATE	15-MINUTE PAPERS	REFRESHMENTS
10-15	Stanley Carson Gunder Friesner	
10-29	Howell Gudgel Brown Kent	Stanley Carson Gunder Friesner
11-12	Palmer Moorman Miss Moss Hamp	Howell Gudgel Brown Kent
11-19	Geisler Arnold Shellsmith Swickard	Palmer Moorman Moss Hamp
12-3	Potzger Newman Lowery Otto	Geisler Arnold Shellsmith Swickard
12-17	McCoy West Conner Prettyman	Potzger Newman Lowery Otto
1-7	Aufderheide Mr. Moss Chapman Wright	McCoy West Conner Prettyman
1-21	Nelson Bowman Haynes Minturn Clack	Aufderheide Mr. Moss Chapman Wright

February 7, 1938

Dr. Ronald Bamford, Associate Professor
Department of Botany
University of Maryland
College Park, Maryland

Dear Dr. Bamford:

We are in receipt of your communication informing us of an assistantship and a fellowship available in your department for next year. It does not appear probable now that we will have anyone who will be interested in doing graduate work in morphology or cytology. We have two or three students who would be glad to go on with graduate work, but neither of them is especially interested in either of these two phases of botany.

We have an unusual "crop" of botany majors graduating this year. At least five of them will graduate magna cum laude, and any one of the five would do very satisfactory assisting work in general botany, but I doubt if any of them would be able to go on in either of the two above subdivisions of botany.

We very greatly appreciate your kindness in informing us of these possibilities.

Very sincerely yours,

Ray C. Friesner

RCF:VC

February 7, 1938

Mr. Thomas Hutchinson
Assistant, Botany Laboratory
University of Notre Dame
Notre Dame, Indiana

Dear Mr. Hutchinson:

We are very grateful to you and also to Dr. Just for the clippings you recently sent from the South Bend Tribune concerning the bog work.

I hope you will find as much real enthusiasm in this study as some of our boys are finding in the bogs they have undertaken to study.

Very sincerely yours,

Ray C. Friesner

RCF:VC

University of Saskatchewan

Saskatoon, Saskatchewan

DEPARTMENT OF BIOLOGY

February 8, 1938.

Publications,
Butler University,
Indianapolis, Indiana.

Dear Sirs:

I wish to obtain a copy of the paper on "The Genus Solidago in Northeastern North America" by Ray C. Friesner, Butler University Botanical Studies, Vol. 3, pp. 1-64, 1933. If this is not available for distribution, kindly let me know the cost.

Very truly yours,

W. P. Fraser.

W. P. Fraser.

DEPARTMENT OF BOTANY

THE STATE UNIVERSITY OF IOWA
IOWA CITY, IOWA

February 8, 1938

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

My dear Dr. Friesner:

I appreciated very much your letter of January 28 relative to Miss Ina Stanley and her work with you. I am writing her today offering her a quarter-time Assistantship in our work here for the coming academic year. These appointments are usually in the hands of people who have been here at least one year or have had work for the master's degree before entering our Graduate College. We like to have at least one lady assistant in our work, and Miss Stanley has impressed us as the most promising of our young women candidates. Your letter has been very helpful to me in evaluating her, and I wish to thank you for writing me about her.

It is quite important that we know as soon as possible her plans for the coming year. As you know, the month of February is the time when people are writing about appointments and it has been our experience that all the good people are located before the close of March. Our nominations ought to be in the office of the Dean inside of two weeks, and in case Miss Stanley for any reason cannot accept this appointment, we would wish to let another of the candidates have this assistantship. In case she should think we are pressing the matter, you can readily explain to her that this is the season when appointments have to be made. I hope she can come, and in case she accepts, would appreciate your further suggestions regarding her and her work for the coming year.

Yours sincerely,

Robert B. Wylie
Professor of Botany

RBW:DW

February 9, 1938

The A. N. Marquis Company
919 North Michigan Avenue
Chicago, Illinois

Gentlemen:

I am enclosing the blank with the information you request for insertion in "Who's Who in America".

I feel very greatly honored in being selected for a biographical sketch in this publication. Honestly, I wonder whether there may not be a mistake in my selection, for I hardly see what I have done to warrant this distinction. However, if you are sure there is no error, I accept the honor with a great deal of satisfaction.

Very truly yours,

Ray C. Friesner

RCF:VC

6. Acrochaete
7. Phaeophila
8. Ochlochaete
9. Bolboceleon
10. Pilinia
11. Blastophysa
12. Endoderma
13. Tellamia
14. Ulvella
15. Pringsheimia
16. Entocladia
17. Endophyton
18. Pseudodictyon
19. Internoretia
20. Pseudoulvella
21. Pseudopringsheimia
22. Trentepohlia
23. Hormiscia
24. Spongomorpha
25. Microdictyon
26. Boodlea

(12) Siphonales:
1. Bryopsis
2. Halicystis
3. Derbesia
4. Ostreobium
5. Vaucheria
6. Codium
7. Halimeda

Order 1. Volvocales

Characteristics (Vegetative)

Two cilia
Exception: Four in Pyramimonas and Carteria.

Cilia directed forwards during movement.
Exception: Scourfieldia, cilia directed backwards.

One chloroplast per cell.
Exception; Polytoma has none.
In form of cup or well.
Open at anterior end
Thickened at posterior end
Median pyrenoid at posterior end.
Exceptions:
Not present in Brachiomonas
Not median in Lobomonas
Many present in Sphaerellaceae.
Anterior end thin and colorless

Beak at anterior end of cell
Cilia arise on either side of it.

Two contractile vacuoles just beneath points of insertion of cilia
Nucleus suspended in hollow of the chloroplast.
Eyespot variable in form and position.
Wall present, thin.
Exceptions:
No wall in Pyramimonas and Polyblepharis
Thick wall in Sphaerellaceae and Phacotaceae.

Reproduction

Asexual is commonest
Either during motile condition (Sphaerella and Pyramimonas)
or after withdrawing cilia and coming to rest

February 9, 1938

Dr. Clark W. Horton
Research Assistant
Hayes Hall, Ohio State University
Columbus, Ohio

Dear Dr. Horton:

I have consulted the members of our botanical staff, as well as the students in our classes, and all are quite willing to have you come and work with us toward the perfection of whatever sort of tests you and we may desire to prepare.

We will be glad to have you come and stay as long as you feel necessary and the time when you come will make no particular difference to us, so long as we know it a few days in advance.

We appreciate very much your kindness in selecting us for one of your visits.

Very truly yours,

Ray C. Friesner

RCF:VC

THE BOTANICAL SOCIETY OF AMERICA

Committee on the Teaching of Botany in Colleges and Universities

CLARK W. HORTON,
Research Assistant
Hayes Hall, Ohio State University
COLUMBUS

February 10, 1938

Dr. Ray C. Friesner
Butler University
Indianapolis, Indiana

Dear Dr. Friesner:

Thank you for the assurance that I may work with interested members of your department in building achievement tests.

My plans are not yet definite as to dates. As soon as they become definite I will let you know by letter or wire.

Sincerely yours,

Clark W. Horton

Clark W. Horton
Research Assistant
to the Committee

CWH:jj

ESTABLISHED 1807

CABLE ADDRESS: "JONWILE" NEW YORK

JOHN WILEY & SONS, INC.

PUBLISHERS OF BOOKS

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LONDON
CHAPMAN & HALL, LTD.
11 HENRIETTA STREET, W.C.2

February 16, 1938

Professor Ray C. Friesner
Butler University
Indianapolis, Indiana

Dear Professor Friesner:

Your order blank of the 8th addressed to the McGraw-Hill Book Company, has been referred to us as we are the publishers of Parkins & Whitaker's "Our Natural Resources and their Conservation." We take pleasure in sending you a copy, under separate cover, with our compliments. When you have had an opportunity to look it over carefully, we shall be interested in learning how it fits your needs.

May we ask you to advise us, as a matter of record, of the safe arrival of the book.

Very truly yours

JOHN WILEY & SONS, Inc.

C. Hewlett

FP

Educational Department

PENNSYLVANIA CHEMICAL CORPORATION
MANUFACTURING AND CONSULTING CHEMISTS
JEFFERSON AND FREEMAN STREETS
ORANGE, NEW JERSEY
ORANGE 5-7100

February 18, 1938

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

Dear Dr. Friesner:

Mindful of the fact that greenhouse and nurserymen are constantly consulting you and your colleagues about the hormone-like plant growth substances, we invite your attention to one very important respect in which large scale production of the plant "hormone" acids will benefit growers.

We have, as you know, been engaged in the manufacture of Indolebutyric acid, alpha Naphthalene Acetic acid and other human and plant hormones. As might naturally be expected, our constant aim is to produce these acids as inexpensively as possible. It is now possible, under our present production schedule, to offer Indolebutyric acid at $2.50 per gram.

please give information in concentration recommended

Our Indolebutyric acid crystals are exceptionally pure. Naphthalene Acetic acid is available at $3.75 a gram. Both of these "hormone" acids are manufactured in the United States, enabling scientists and growers to procure their requirements from a domestic source, prepaid to destination. Indoleacetic acid in crystalline form will also be available shortly.

It is our belief that we are the only domestic producer of these acids; that is to say, the only one source of supply in this country manufacturing the acids that will make available the hormone-like acids to scientists and growers alike.

With each gram of the acids, we gladly furnish growers with directions for preparing the concentrate solution. A graduate vial for measuring the acids on a milligram basis as illustrated in the accompanying direction chart is also furnished.

Many commercial growers find the ready prepared root promoting substances too expensive to use on a large scale. Thus we feel that it is not amiss for us to discuss these economies with you.

In appreciation and with thanks, we are

Sincerely yours,

PENNSYLVANIA CHEMICAL CORPORATION

J. V. Stanger
Research Department

JVS:J

February 18, 1938

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

Gentlemen:

I am sorry that I made the mistake of ordering Parkins & Whitaker: "Our Natural Resources and Their Conservation" from the McGraw-Hill Company. I know well enough that it was a Wiley book, but somehow I made the error in the rush of work.

I am writing to ask you to bill me subject to any educational discount you may be able to extend for this book, inasmuch as you have already supplied a desk copy to our Dr. Potzger who teaches our course in conservation. I wish this copy for my own private use, and hence do not expect you to furnish it free.

Very truly yours,

Ray C. Friesner
Head, Botany Department

LIST OF PUBLICATIONS SINCE 1930

C. M. PALMER

1931. Algae of Marion County, Indiana, A description of thirty-two forms. Butler Univ. Bot. Studies 2:1-24.

Algae of Indiana: Additions to the 1875 - 1928. Check List. Proceedings Indiana Acad. Sci. 40:107-109.

Algae of Indiana: Second list of additions to the 1875-1928. Check List. Proceedings Indiana Acad. Sci. 40:107-109.

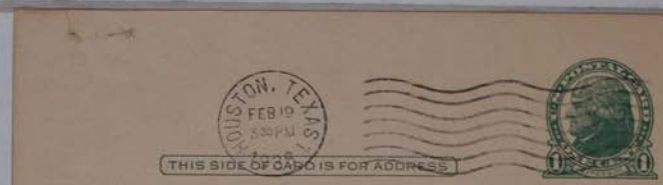
The Algae Schizomeris and Lemanea in Indiana. Proceedings Indiana Acad. Sci. 40:111-113.

1932. Distribution of the Algae, Lemanea, in Indiana. Proceedings Indiana Acad. Sci. 42:89-92.

Plankton algae of White River in Marion County and Morgan County, Indiana. Butler Univ. Bot. Studies. 2:125-132.

1934. Algae of Steuben County, Indiana. Butler Univ. Bot. Studies. 8:102-103.

1936. Algae of Indiana: Third list of additions to the 1875-1928. Check List. Proceedings Indiana Acad. Sci. 45:99-101.



Prof. Ray C. Friesner,
Dept. of Botany,
Butler University,
Indianapolis,
Indiana.

Dear Prof. Friesner-

Catalogue of the Flora of Texas is out. Bulletin No. 550. 5000 species listed. I think they are free. Write for a copy to A.B.Conner, Director, Texas Agricultural Experiment Station, College Station, Texas. Write soon as the supply is low.

Yours very truly

Geo.L.Fisher,
811 West Pierce Ave., Houston, Texas.

Feb. 13 1938.

February 21, 1938

Mr. George L. Fisher
611 West Pierce Avenue
Houston, Texas

Dear Mr. Fisher:

Thank you very much for the information regarding the bulletin on the flora of Texas. It was very thoughtful of you to think of me in this connection.

It happens that the station sent me a copy about two weeks ago, and it arrived just in time to be put to use in determining the sixty-odd numbers of plants I collected last April while spending a few days with friends at San Marcos.

Very truly yours,

Ray C. Friesner

RCF:VC

33. Lagerheimia
34. Franceia
35. Bohlinia
36. Dimorphococcus
37. Ankistrodesmus
38. Dactylococcus
39. Closteriopsis
40. Schroedeeria
41. Closteridium
42. Selenastrum
43. Kirchneriella
44. Quadrigula
45. Gloeoactinium
46. Tetraedron
47. Cerasterias
48. Thamniastrum
49. Polyedriopsis
50. Scenedesmus
51. Tetradesmus
52. Crucigenia
53. Tetrastrum
54. Tetralantos
55. Actinastrum
56. Micractinium
57. Errerella

(3) Tetrasporales:
1. Palmella
2. Sphaerocystis
3. Gloeocystis
4. Hormotila
5. Urococcus
6. Palmodictyon
7. Asterococcus
8. Tetraspora
9. Apiocystis
10. Schizochlamys
11. Stylosphaeridium
12. Malleochloris
13. Prasinocladus
14. Ourococcus
15. Coccomyxa
16. Dactylothece
17. Nannochloris
18. Klakatothrix
19. Chlorosarcina

(4) Ulvales:
1. Enteromorpha
2. Monostroma
3. Schizomeris

(5) Ulotrichales:
1. Ulothrix
2. Uronema
3. Stichococcus
4. Geminella
5. Hormidium
6. Binuclearia

Indianapolis
Convention and Publicity Bureau
(INCORPORATED)
HENRY T. DAVIS, SECRETARY-MANAGER
INDIANAPOLIS

MEMBER
INTERNATIONAL ASSOCIATION
OF CONVENTION BUREAUS
PHONE
RILEY-2577

February 21, 1938

Dr. Ray Friesner
Butler University
Indianapolis

Dear Dr. Friesner:

Dr. Coulter has asked me to call a meeting of the chairmen of the various committees of the recent American Association for the Advancement of Science Convention.

This will be the final meeting of the committee chairmen and will be held at 12:15 P.M., Thursday, February 24, at the Hotel Severin.

There are several final reports to be given and Dr. Coulter hopes that each of the chairmen may find it possible to be present at that time.

Yours very truly,

Henry T. Davis
Secretary-Manager

HTD-mb

American Association for the Advancement of Science

INDIANA COMMITTEE ON ARRANGEMENTS
FOR THE INDIANAPOLIS MEETINGS

December 27, 1937 to January 1, 1938

February 21, 1938

Dr. Ray C. Friesner
Butler University
Indianapolis, Indiana

Dear Dr. Friesner:

The meeting of the American Association for the Advancement of Science here last December was not only the largest meeting of this great association that has ever been held outside an eastern metropolitan center, but it was also one of the most important meetings in respect to extent of program and the fine co-operative spirit shown by men engaged in different fields of science.

Those who have had long experience in the management of the Association gave generous praise to the Committee on Local Arrangements and said that there had never been a meeting where the provisions made by the local committee were better.

The part which you played as a member of the Local Committee in attaining this result should be an enduring satisfaction to you.

As chairman of the finance section I am especially grateful for the assistance which you gave our section, and as a memento of our pleasant associations I am sending you a permanently bound copy of the program which please accept with my personal compliments.

Very truly yours,

John S. Wright

JSW-M

THE SOUTH BEND CLINIC
122-124 NORTH LAFAYETTE BOULEVARD
SOUTH BEND, INDIANA

February 23, 1938.

Dr. Ray C. Friesner,
Dr. J. E. Potzger,
Butler University,
Indianapolis, Indiana.

Dear Fellows:

In a rash moment I agreed to speak before the Woman's College Club of South Bend. The last time I spoke before them it was on the subject of varves. That was about five years ago. I think if I had my notes I could give the same talk, and that few of them would recognize it. Of course, all the information I had I stole; and this year I am going to steal some more, provided I talk on the subject of fossil pollens, which in a way has a remote connection with varves. Of course, anything anyone says about fossil pollens in Indiana has to be stolen from you fellows or your associates.

I am wondering if you have a photograph of the apparatus which is used, and a photograph showing it in use. If you have, I should greatly appreciate a copy of the photographs so that I could have lantern slides made. If I am in my present mood and disposition, I shall try to take along a microscope to show them some pollen grains, which I am sure Professor Just has. You may be sure that you fellows and Butler University will get all the credit. The only way I ever learn anything is to write a paper or give a talk on it.

I found the last set of papers published by Butler University very interesting. Just has promised to let me have a look at Erdtmann's publications. This talk does not happen until about a month from now.

I was very much disappointed not to see you both when you were here to make borings of the Pinhook bog. You certainly got a nice write-up in the newspaper; and it was good to see your pictures, if not yourselves. We had a room at home all ready for you in case you wanted to stay over. What gluttons you fellows at Butler are for punishment when it comes to doing a real piece of work! It's no wonder you are spoken of as bull-dogs.

Sincerely yours,

Lyon

Marcus Ward Lyon, Jr.

Photos
Drawings
Apparatus
Graphs -

MWL:DK

Refer to Wodehouse
Sears - Gazette
Eco Mong

Loan of Slides

CHARLES M. EK.
1812 N. PURDUM STREET
KOKOMO, INDIANA.

Feb. 24, 1938.

My Dear Dr. Potzger;

You are so busy that I've hesitated for some time to write to you. Had hoped to see you in your trip north. Will attempt to be brief.

For about a year have been thinking about a Master's degree, submitting my Flora of this region as the thesis. I am aware that some of the requirements, rulings, precedents, &c. would have to be set aside and a special case made for me, owing to my age. The financial value of a degree will not be worth a dime at my age, 65 next June 20, that is as far as I know now. It would be sort of an epitaph, a benediction, a recognition of the 5 year's efforts put forth in working at the plant life of this locality.

The records at Indiana could be examined. Had about 5 years botany and nearly 3 years zoology, also 1/3 of a year's credits on an A.M. This was only a basis for ~~of~~ what I've done in my second regime.

Am too old for any language study. Must put in my few remaining days collecting and finishing the flora.

Concerning my botany library when I am thru with it, — well - I'd be pleased to talk it over with you, if interested.

This idea of a degree may be fantastic — or only an obsession and so impracticable.

Will have the copying done in early March. The typing will be expensive, for I've been off the payroll since Sept. and no hope of getting back.

Would be glad if you'd take this idea to Dr. Friesner and see how feasible the plan is.

I could come down some day to the University and bring along part of the material and some day go to N.Y.B.A. offices, visit the old book shops &c.

Will have to start the typing soon to

set it completed by May 1. Just a guess, but 80,000 words or more.

Mr. Deam has been in Florida a month. - Don't think Flora was completed - and so I fear we will not see it in June as I had hoped for. He was in poor health for several weeks, Dec. - Jan.

Sorry to take this time from your work.

Would be glad to get a reply as soon as you - and Dr. Friesner can decide what can be done.

With Very Best Wishes, to you, to Dr. Friesner, - Faculty. - -

I am,

Sincerely Yours

Charles M. Ek.

A.B Indiana University 1900.

P.S. –

I certainly would be happy if in my last days this could be done. – For 2 years have worked every day. Beginning – 1932, – quantitative L. Ive earned a P.L.D. !! –

Pass the letter to Dr. Friesner – with any comments you have.

Sincerely,

Hope you will have time this summer to botanize a day or so with me – grasses – &c – – – –

EK

February 25, 1938

Pennsylvania Chemical Corporation
Jefferson & Freeman Streets
Orange, New Jersey

Attention: Mr. J. V. Stanger

Gentlemen:

I have your note of February 18 regarding the availability of Indolebutyric acid. Some time ago a representative of your firm kindly gave us a sample of this material, suggesting that in case we had anyone interested in doing research with it that we use it. Since that time we have had a student at work using this sample.

We are now out of this material and would be glad if your firm could send us a gram of it. Payment will be made immediately upon receipt of invoice from you. It will also be necessary that you give us information concerning the concentration which you recommend that we use.

Very truly yours,

Ray C. Friesner

RCF:VC

February 26, 1938

Dr. Marcus W. Lyon Jr.
The South Bend Clinic
122-124 North Lafayette Boulevard
South Bend, Indiana

Dear Dr. Lyon:

I have your letter in regard to material to use in connection with your lecture on fossil pollen. I think it is fine that you are willing to do this work for the Women's College Club. Dr. Potzger informed me that he has a few photos which he will get together within the next few days and send to you. Incidentally, he is going to give a similar talk at Kokomo some time in April, and in case you have any lantern slides made he would appreciate a loan of them for his talk.

In addition, I suggest the following illustrative materials that we could send you in case you care to have us do so:

1. We have a considerable number of drawings of pollen grains finished neatly in pencil, which could be used either for merely passing around or for lantern slides, or if you have a projector available they could be projected directly from the drawings.

2. We would be glad to send you the cylinder and the handle of our boring apparatus so that you could use it for demonstrating exactly how the work is done. We could wrap this in a small package and it would probably not cost over twenty-five or thirty cents parcel post. We do not happen to be using the apparatus during the month of March, and for that reason would be only too glad to send it.

3. We have some large graphs approximately 20 inches wide and 36 inches long which represent results from the bogs studied to date. These would probably not mean much to your audience, but still they might be of some value for illustration.

You will find some excellent drawings of pollen grains, in case you wish more, in Wodehouse and also in Botanical Gazette, Vol. 87, pp. 95-106, 1930.

Finally, I venture three or four references which will be apt to give you material on our local regions that will be usable in the preparation of your work. I am enclosing them with this letter.

We are, indeed, very glad if we can in any small way repay you for the numerous courtesies that you have shown to us in the past.

Sincerely yours,

RCF:VC

Ray C. Friesner

Lyon 26-II-38

REFERENCES

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Rate of peat growth in the Erie basin. Ecology 14: 348-355. 1933

Sears, P. B.
Common fossil pollen of the Erie basin. Bot. Gaz. 87: 95-106. 1930

Sears, P. B.
Types of North American Pollen Profiles. Ecology 16 (3): 488-499. 1935

Sears, P. B.
Glacial and post-glacial vegetation. Bot. Rev. 1: 37-51. 1935

Sears, P. B.
Post-glacial climate in eastern North America. Ecology 13 (1): 1-6. 1932

February 26, 1938

Dr. W. P. Fraser
University of Saskatchewan
Saskatoon, Saskatchewan

Dear Dr. Fraser:

Your request for a copy of "The Genus Solidago in Northeastern North America" has been referred to me. I am glad to mail you under separate cover a copy of this paper.

Since its publication a considerable number of new species have been named and I have also discovered some errors in the key. I am inclosing herewith a list of the changes that will be necessary to bring the paper up-to-date.

Very truly yours,

Ray C. Friesner

RCF:VC

The genus Solidago in Northeastern North America

Corrections and additions to Feb. 25, 1938

1. Step 29, Third character:
   Change "S. canadensis hargeri" to "29a"
   Add: 29a. Lower surface of leaves densely pubescent with short straightish hairs _____ 29b

   29a Lower surface of leaves softly pubescent with crisp (i.e. curved) hairs _____ S. ● satanica Lunell (Rydb. Flora Prairies & Plains)

   29 b. Plant yellowish-green; 0.3-0.8 m. high _____ S. gilvocanescens (Rydb) Smythe

   29 b. Plant green; 1-2 m. high. S. canadensis hargeri. Fern

2. Step 41, Second character:
   Add "branches of inflorescence strongly ascending"

3. Step. 43, ~~First~~ First character:
   Add: "lanceolate"
   Second character:
   Add: "oblong
   Change "S. altissima" to "43a"

Solidago
Zopf

Add: 43a. Leaves about 10 mm. wide, widest at middle _____ S. lunellii Rydb

43a. Leaves more than 10 mm wide, widest below middle — S. altissima L

4. Step 49, First character:

Add: " above, softly pubescent below."

5. Step 57, Second character:

Change "S. rugosa aspera" to "70a"

Add: 70a. Panicle very lax, branches few, distant prolonged, divergent, floriferous only above middle — S. rugosa celtidifolia (Sm) Fern. (Fernald. Rhodora 38: 223. 1936.)

70a. Panicle with more compact ascending branches, densely floriferous thruout except in lower 1/4 of lower branches. _____ _____ S. rugosa aspera

6. Step. 59, Second character:

Change "S. nemoralis" to "59a"

Add: 59a. Lowermost cauline leaves 7-10 times as long as wide — S. longipetiolata

59a. Lowermost cauline leaves less than 7-10 times as long as wide — S. nemoralis

Solidago
3 of 9

7. Step 65, Second Character:

Change to read " Stem purple or green", etc.

8. Step 84, Second character:

Change "3-8 cm. wide" to read "3-10.5 cm wide"

9. Step 87, First character:

Change "S. ulmifolia" to "87a"

Add: 87a Outer and median tegules lance-oblong, acute or obtuse — S. ulmifolia (87a)

87a Outer and median tegules lance-attenuate, conspicuously costate — S. neurolepis Fern. (Rhodora 38: 212. 1936)

10 Step. 96, Second Character:

Change " S. multiradiata" to "96a"

Add: 96a Tegules obtuse, cauline leaves minutely (occasionally coarsely) crenate or dentate in upper 2/3 of each leaf — S. decumbens (20)

96a Tegules acute to acuminate, cauline leaves entire, ciliolate in lower half of each leaf — S. multiradiata (54)

11. Step 91, Second character:

Change "22" to "91a"

Add: 91a. Tegules acute or acuminate _____ S multiradiata (54)

91a. Tegules obtuse _____ 22

12. Step 102, Second Character:

Change "S. petiolata" to "102a"

add: 102a ~~Tegules~~

→ Involucre 4-5 mm. high – S. petiolata (60)

102a. Involucre 6-7 mm. high – S. simulans (Rhodora 36: 206.)

13. Step. 100:

Add a third character as follows:

100. Cauline leaves 5-9 below inflorescence, not coriaceous, _____ S. decumbens (20)

14. Step 115, Second character:

Change "S. gillmani" to "115a"

Add 115a. ~~Heads nearly sessile~~

→ Pedicels 1-8 mm long – S. deamii Fernald

115a. Pedicels more than 8 mm long – S. gillmani (28) (Rhodora 36: 204. 1936)

Solidago
Sect 5

15. Step 120, First Character:
Change "S. randii to "120 a"
Add 120 a. Involucre 5-6mm high — S. randii (65)
120 a Involucre 6-9mm high - S. deamii

16. Step 120, Second Character:
Change "S. gillmani" to "120 b"
Add 120 b. Pedicels 1-8 mm long — S. deamii
120 b. Pedicels over 8mm long — S. gillmani (28)

17. Step 1, Second character:
Change "125" to "125 a"

18. Add between steps 124 and 125:
125 a. Leaves of ovate type ——— 62
125 a. Leaves linear or lance-linear — 125

19. Step 127:
Add a third character as follows:
127. Involucre 6-7mm high — S. glutinosa Rydb

Solidago
Lot 9.

20. Page 20, Species 4.

S. arguta forma tomophylla Fern. Rhodora 38:208.1936.

21. Page 26, Species 20.

S. decumbens oreophila (Rydb.) Fern equivalent to S. oreophila of Rydb. Flora Prairies and Plains.

22. Page 26. Insert new species.

S. deamii Fern Rhodora 36:204. 1936.

23. Page 27, ~~Species 23~~. Following number 23.

S. elliottii ascendens Fern. Rhodora 38:215. 1936.

S. e. pedunculata Fern " " " "

S. edisoniana Mack. reduced to ~~syn~~

S. elliottii edisoniana (Mack.) Fern.

24. Page 29. Insert species

S. gilvocanescens (Rydb) Smythe. Rydb. Flora ~~Pr. Pl.~~ Pr. + Pl.

25. ~~Spe~~ Page 36, Species 48

S. longipetiolata reduced to syn. of

S. nemoralis decemflora (DC) Fern. Rhodora 38:~~226~~ 226. 1936

REVIEW QUESTIONS

Liverworts and Mosses

1. Describe vegetative structure in Marchantia with special reference to the land habitat.

2. Describe methods of reproduction in Marchantia. What are the advantages and disadvantages of each method?

3. From a reproductive standpoint how is Marchantia adapted to the land habitat?

4. Discuss relative functions performed by sporophyte and gametophyte in liverwort and moss. Compare with red algae.

5. Discuss evolutionary paths shown by the sporophyte generation in liverworts and mosses. What is the trend shown by the gametophyte?

6. Compare vegetative structure of liverwort and moss. Which shows a more efficient adaptation to the land habitat? Wherein?

7. Compare the spore dehiscing mechanism of liverwort and moss.

8. Compare vegetative methods of reproduction in liverworts and mosses. Which show a more efficient adaptation to land habitat?

9. Discuss and compare sex determination in (a) Sphaerocarpos, (b) Marchantia, (c) monoecious mosses, (d) dioecious mosses.

Solidago
7 of 9

26. Page 36. Insert new species

S. lunellii Rydb Flora Pr.+Pl.

27. Page 38. Species 52.

S. monticola reduced to S. roanensis monticola (T+G) Fern. Rhodora 38: 204. 1936

28. Page. 39. Species 54.

In first line of description change "0.1 – 1.3 m" to read "1.0 – 3.5 dm"

add new variety:

S. multiradiata paricepts Fern. Rhodora 38:202. 1936.

Change ~~size~~ involucre size from "7-9 mm" to "5-7".

29. Page 39, Species 55

S. nemoralis decemflora (DC) Fern. Rhodora 38:226. 1936

S. nemoralis haleana Fern. Rhodora 38: 227. 1936

30. Page 40. Add new species

S. neurolepis Fernald. Rhodora 38: 212. 1936

31. Page 45, Species 64.

S. radula laeta (Greene) Fern. Rhodora 38:228

S. radula stenolepis Fern. Rhodora 38:228

32. Page 48. Species 69.

Change distrib to read "Nfd to Ont., s. to Va, W.Va. and La." (Fernald, Rhodora 38:222).

33 Page 48. Species 70.

Change distrib. to read "Fla. to Tex., n. to s. Me., O., Mich., and Mo. (Rhodora 38:223).

34. Page 49: Add new variety

S. rugosa celtidifolia. Fern. Rhodora 38:223. 1936.

35. Page 49: Add new species.

S. Satanica Lunell. Rydb. Flora Pr and Pl.

36. Page. 51: Add new species

S. simulans Fern. Rhodora 36:206.

37. Page 58. Add New Species
S. glutinosa Rydb. Flora Prand Pl.

38. Page 58. Species 95.
Insert "Involucre 4-5 mm high".

39. Page 59. Species 98.
Insert "Involucre 4-5 mm high".

~~40.~~

Solidago
1 of 4

The genus Solidago in Northeastern North America

Corrections and additions to Feb. 25, 1938

1. Step 29, Third character:
   Change "S. canadensis harperi" to "29a"
   Add: 29a. Lower surface of leaves densely pubescent with short straightish hairs 29b
   29a. Lower surface of leaves softly pubescent with crisp (i.e. curved) hairs . . . . . S. satanica Lunell (Rydb. Flora Prairies & Plains)

   29b. Plant yellowish-green; 0.3-0.8 m. high . . S. gilvocanescens (Rydb) Smythe

   29b. Plant green; 1-2 m. high . . . . . S. canadensis harperi. Fern

2. Step 41, second character:
   Add "branches of inflorescence strongly ascending"

3. Step 43, First character:
   Add: "lanceolate"
   Second character:
   Add: "oblong"
   Change "S. altissima" to "43a"
   Add: 43a. Leaves about 10 mm. wide, widest at middle. . S. lunellii Rydb
   43a. Leaves more than 10 mm. wide, widest below middle. . . S. altissima L.

4. Step 49, First character:
   Add: "above, softly pubescent below".

5. Step 57, Second character:
   Change "S. rugosa aspera" to "70a"
   Add: 70a. Panicle very lax, branches few, distant prolonged, divergent, floriferous only above middle . . S. rugosa celtidifolia (Sm)Fern (Fernald. Rhodora 38: 223. 1936).
   70a. Panicle with more compact ascending branches, densely floriferous throughout except in lower 1/4 of lower branches. . . . S. rugosa aspera

6. Step 59, Second character:
   Change "S. nemoralis" to "59a"
   Add: 59a. Lowermost cauline leaves 7-10 times as long as wide. . . S. longipetiolata
   59a. Lowermost cauline leaves less than 7-10 times as long as wide . . . . . S. nemoralis

7. Step 65, Second character:
   Change to read "Stem purple or green", etc.

8. Step 84, Second character:
   Change "3-8 cm. wide" to read "3-10.5 cm. wide".

Solidago
2 of 4

9. Step 87, First character:
Change "S. ulmifolia" to "87a"
Add: 87a. Outer and median tegules lance-oblong, acute or obtuse. . . . . S. ulmifolia (87a)
87a. Outer and median tegules lance-attenuate, conspicuously costate. . . . . S. neurolepis Fern. (Rhodora 38; 212. 1936)

10. Step 96, Second character:
Change "S. multiradiata" to "96a"
Add: 96a. Tegules obtuse, cauline leaves minutely (occasionally coarsely) crenate or dentate in upper 2/3 of each leaf. . . . . S. decumbens (20)
96a. Tegules acute to acuminate, cauline leaves entire, ciliolate in lower half of each leaf. . . . S. multiradiata (54)

11. Step 91, Second character:
Change "22" to "91a"
Add: 91a. Tegules acute or acuminata. . . . . S. multiradiata (54)
91a. Tegules obtuse 22

12. Step 102, Second character:
Change "S. petiolata" to "102a"
Add: 102a. Involucre 4-5 mm. high . . . . . S. petiolata (60)
102a. Involucre 6-7 mm. high . . . . . S. simulans (Rhodora 36: 206)

13. Step 100:
Add a third character as follows:
100. Cauline leaves 5-9 below inflorescence, not coriaceous. . . . . S. decumbens (20)

14. Step 115, Second character:
Change "S. gillmani" to "115a"
Add: 115a. Pedicels 1-8 mm. long. . . . . S. deamii Fernald
115a. Pedicels more than 8 mm. long . . . S. gillmani (28) (Rhodora 36 : 204. 1936)

15. Step 120, First character:
Change "S. randii"to "120a"
Add: 120a. Involucre 5-6 mm. high . . . . . S. randii (65)
120a. Involucre 6-9 mm. high . . . . . .S. deamii

16. Step 120, Second character:
Change "S. gillmani" to "120b"
Add: 120b. Pedicels 1-8 mm. long. . . . . S. deamii
120b. Pedicels over 8 mm. long. . . . . .S. gillmani (28)

17. Step 1, Second character:
Change "125" to "125a"

18. Add between steps 124 and 125:
125a. Leaves ovate type. 62
125a. Leaves linear or lance-linear. 125

Solidago
3 of 4

19. Step 127:
Add a third character as follows:
127. Involucre 6-7 mm. high. . . . . .S. glutinosa Rydb

20. Page 20, Species 4.
S. arguta forma tomophylla Fern. Rhodora 38: 208. 1936.

21. Page 26, Species 20.
S. decumbens oreophila (Rydb.) Fern. equivalent to S. oreophila of Rydb. Flora Prairies and Plains.

22. Page 26. Insert new species.
S. deamii Fern. Rhodora 36:204. 1936.

23. Page 27. Following number 23.
S. elliottii ascendens Fern. Rhodora 38: 215. 1936.
S. S. pedunculata Fern. " " " "
S. edisoniana Mack. reduced to S. elliottii edisoniana (Mack) Fern.

24. Page 29. Insert species.
S. silvocanescens (Rydb) Smythe. Rydb. Flora Pr. & Plains

25. Page 36, Species 48
S. longipetiolata reduced to syn. of
S. nemoralis decemflora (DC) Fern. Rhodora 38: 226. 1936.

26. Page 36. Insert new species.
S. lunellii Rydb Flora of Prairie and Plain

27. Page 38. Species 52.
S. monticola reduced to S. roanensis monticola
(T & G) Fernald. Rhodora 38: 204. 1936.

28. Page 39, Species 54.
In first line of description change "0.1-1.3 m." to read "1.0-3.5 dm."
Add new variety:
S. multiradiata parviceps Fernald. Rhodora 38: 202. 1936.
Change involucre size from "7-9 mm." to "5-7".

29. Page 39, Species 55.
S. nemoralis decemflora (DC) Fernald, Rhodora 38: 226. 1936.
S. nemoralis halleana Fernald. Rhodora 38: 227. 1936.

30. Page 40. Add new species.
S. neurolepis Fernald. Rhodora 38: 212. 1936.

31. Page 45, Species 64.
S. radula lacta (Greene) Fernald. Rhodora 38: 228.
S. radula stenolepis Fernald. Rhodora 38: 228.

32. Page 46. Species 69.
Change distrib to read "Nfd to Ont., s. to Va., W. Va. and La."
(Fernald, Rhodora 38: 222).

Solidago
4 of 4

33. Page 48. Species 70
Change distrib. to read "Fla. to Tex., n. to s. Me., O., Mich., and Mo. (Rhodora 38: 223).

34. Page 49: Add new variety
S. rugosa celtidifolia. Fernald, Rhodora 38: 223. 1936.

35. Page 49: Add new species.
S. satanica Lunell. Rydb. Flora Prairie and Plain

36. Page 51: Add new species.
S. simulans Fernald, Rhodora 36: 206.

37. Page 58. Add new species
S. glutinosa Rydb. Flora of Prairie and Plain

38. Page 58. Species 95.
Insert "Involucre 4-5 mm. high".

39. Page 59. Species 98.
Insert "Involucre 4-5 mm. high".

A. Rusch B-

Exercise #29.

Object -: To determine the number of bacteria present per c.c. in any available solution Yours = ?

Procedure -: The procedure in this exercise is complicated & detailed, and if I may do so I will use the authors words

1. Arrange the water blanks on the table in the following order

number	1.	2.	3.	4.	5.	6.
dilution	1/100	1/1,000	1/10,000	1/100,000	1/1,000,000	1/10,000,000
use	99	90	99	99	99	99

2. Secure sterilized pipettes

3. Melt 5 tubes of agar at 45° C in a water bath

4. With a sterile pipette transfer 1 c.c. of the solution (~~bean~~ infusion) to blank 1 (99 cc) This will give a dilution of 1:100. This pipette must ~~be~~ not be used again until it has been sterilized. Plug the flask & shake well to secure even suspension of the organisms introduced.

5. Transfer 10 c.c of the liquid from number 1 to number 2. Use a 10 c.c pipette. Dilution is now 1:1000

6. Transfer 1 c.c from #1 to #3. This gives a dilution of 1:10,000

7. Transfer 1 cc from #2 to #4. This gives dilution of 1:100,000

8. Transfer 1 c.c from #3 to #5. This gives dilution of

926 Lycopus virginicus L.
edge of spruce-balsam woods
same. 919

927 ~~Veronica~~? Euphrasia canadensis Townsend
roadside, same 919

-928 Epigaea repens
spruce-balsam woods,
same 919

-929 Dryopteris SPINULOSA (MUELL.) KTZE.
spruce balsam woods
same 919

930 Prunella vulgaris lanceolata (Bart) Fernald
roadside, same 919
This specimen approaches forma iodocalyx Fernald

S. Rush.

Q. #29 (cont.)

1:1,000,000

9. Transfer 1 cc from #4 to #6. This gives dilution of 1:10,000,000.

10. Plate out of the six flasks 1 cc of the solution into sterile petri dishes. Label the petri dishes according to dilution

12. As soon as the medium had solidified invert the plates and incubate until the next lab. period.

Observations and results.

Upon the next lab. period the cultures were examined. The first petri dish (1:100) was a mass of cultures, the second contained a smaller amount and so on until in the sixth the cultures could be counted without the aid of the microscope or the use of the plate counter, which had to be used on all of the others to determine the number present. With the aid of the microscope and the plate counter the following results were obtained:

10,000,000	dilution	= 10 colonies	= 100,000,000
1,000,000	"	= 129 "	= 129,000,000
100,000	"	= 1,080 "	= 108,000,000
10,000	"	= 8,400 "	= 84,000,000
1,000	"	= 43,680 "	= 43,680,000
100	"	= 191,040 "	= 19,104,000
Direct	"	= 394,320 "	= 394,320

-916 Campanula
base rock crevices, Serpent
River, 25 m. east of Blind
River, Algoma district, Ontario
Canada 8/14/37

-911 ~~Steironema~~ Lysimachia terrestris
edge of pond
same. 910

-912. Aster umbellatus?
rock crevices,
same. 910

-913 Dryopteris ~~dilatata~~? MARGINALE
rock crevices, same 910

-914 Woodsia ilevensis?
rock crevices, same. 910

915 ~~Scirpus~~ Phragmites communis Trin
edge of lake 2 mi.
east of Whitefish, Ont.
Canada. 8/14/37

916 ~~Hieracium~~? Leontodon autumnalis L
field 2 mi. west
Moncton, Westmoreland Co.
New Brunswick, Canada.
8/20/37

917 Oenothera biennis L
roadside, same. 916

-918 Solidago bicolor L.
same. 916

-919 Danthonia SPICATA BEAUV.
roadside
½ mi. south Wentworth
Centre, Cumberland Co.
Nova Scotia 8/20/37.

920 ? Linnaea borealis (Forbes) Rehder americana
spruce-balsam woods
same. 919

-921 Solidago bicolor L.
edge of spruce-balsam
same. 919

-922 Rhododendron canadense
spruce-balsam woods, same. 919

-923 Solidago graminifolia
roadside, same 919

-924 Solidago puberula
edge of spruce-balsam woods,
same 919

925 Pyrola elliptica Nutt
spruce-balsam woods
same. 919

L. Ruch

Ex. #29 (cont.)

The last row of numbers on the chart equals the number of colonies in the original liquid, determined by multiplying the number of colonies present by the degree of dilution used.

Discussion.

By careful procedure satisfactory results were obtained. A smaller number of colonies were present from 5 to 6 because the dilution method was used. It was more or less a process of illimination, because each one from the first on was inoculated from one containing a fewer number than the preceding one.

Conclusions: -?

The procedure was long and tedious and precaution had to be taken at all times. The figures arrived at in the first four dilutions where of course more or less correct, but only appropinate; because even with the aid of a microscope and plate counter the colonies were so numerous that an exact count was impossible. The number of colonies present was determined by the solution from which the first dilution was taken; the bean infusion, hay infusion, and inoculated liquid media were all used, the bean infusion seemed to result the largest number of colonies. A spreader in the petri dish often caused inaccurate counting. A comparative chart of all class members was made, which showed accurate results by everyone, if not one dilution then in another.

-890 Coptis GROENLANDICA (OEDER) FERN.
Damp rocks, under
balsam, same. 861

(891) ~~omitt~~

892 Aster I can't determine - mount as Aster sp.
edge of woods, same 861

-893 Lycopodium lucidulum
maple woods, same. 861

-894 Lycopodium annotinum L.
Maple woods, same 861

-895 Composite TANACETUM VULGARE L.
Roadside 1 mile N.
of Thessalon, Ontario, Canada.

896 ~~Mint~~ Lycopus americanus Muhl
Sandy shore. Lake Huron,
1/2 mi. W. Thessalon, Ont.
Algoma district, Canada
8/13/37

897 Gerardia paupercula borealis Pennell
same 896

-898 Potentilla ANSERINA L.
same 896

899 Solidago graminifolia (L) Salisb
same 896

-900 Myrica GALE L.
same 896

901 Sonchus arvensis L
same 896

902 ~~Umbell~~ Cicuta maculata L
same 896

903 Agrostis hiemalis (Walt) BSP
same 896

904 Verbena hastata L
same 896

-905 Sedum PURPUREUM TAUSCH.
same 896

-906 Spirea ALBA DuRoi
same 896

-907 Spirea TOMENTOSA L.
Iron bridge, Ont. Canada.
Algoma district 8/14/37

-908 Solidago ~~speciosa~~ uliginosa Nutt
Same 907

-909 Myrica asplenifolia L.
roadside, 5 mi. East Blind
River, Algoma district,
Ontario Canada. 8/14/37

S. Ruch

Difficulties encountered in identification

I say my identification of unknown #3 is approximate because it is exactly that. Time was the element which handicaped me on this involved experiment. I was unabled to make a few of the tests and several slides. My readings were of the late and therefore not as accurate as they should be. This was such a large undertaking that it had me ~~afraid~~ frightened at first as to what to do next. The manual which I used in identifying the unknowns was of great help.

I was able to approximately identify unknown #1 and #3. I was not able to figure out #2 because my material was too scant.

The simple stain of #1 and #3 showed the presents of spores and this at once told me that they was a form of Bacillus; with my material at hand I was able to figure these two out to some extent. With the lack of almost one-third of the proper amount of tests my results could be nothing but guess. However I chose these genes because of a few of the outstanding characteristics which they posessed and the others did not, these characteristics are listed on the chart.

869 Ranunculus acris stevenii (Andrz) Lange
Rocky hill, same 861

870 Corydalis SEMPERVIRENS
Crevices in bare rock, same. 861

871 Acer nigrum Mx ?
edge of bare rock, same 861

872 Samuela faxtoniana
boggy place in bare rock, same 861

873 Dryopteris fructuosa (Gilbert) Tuddl spinulosa
edge of maple-woods, same 861

874 Lycopodium obscurum var dendroideum.
maple woods, same. 861

875 Dryopteris marginalis
rocky crevice, same 861

876 Acer PENNSYLVANICUM L.
edge of bare rock, same. 861

877 Prunus pennsylvanicum
bare rock, same. 861

878 Aralia hispida VENT
crevice in bare rock, same 861

879 Polypodium virginianum
crevice in bare rock, same. 861

880 Gaultheria procumbens
wooded bog, same 861

881 Xanthopanthus mucronata
wooded bog, same. 861

882 Trientalis BOREALIS RAF.
wooded bog 861

883 Lycopodium complanatum var.
flabelliforme FERN. maple woods, same. 861

884 Dryopteris LINNAENA C.CHR.
maple woods, same. 861

885 Mitchella repens L.
maple woods, same. 861

886 Sphagnum
Bog, maple woods, same 861

887 Solidago OK canadensis L
edge of field, same. 861

888 Panicum flexile (Gattinger) Scribn.
Damp place, edge of field, same 861

889 Alnus incana (L) Moench
roadside, same 861

Dr Palmer;

I would like to offer to you a little note of apology. As the semester ends one looks back over the months and takes a birds eye view of his accomplishments, large or small. As I look back over the weeks of Bacterology, I look back with a feeling of regret. I have not gotten out of the course all that it offered by a long shot, and no one can be blamed but myself. I have however acquired some knowledge which I feel will help me in the years to come.

I want to thank you for your patients with me, because I know I have not come half way for you. I really have enjoyed learning under your instruction, although my attendance hasn't showed it. But putting oneself thru school requires more time than is expected.

As you read this I know there is but one thought in your mind, because this is a little ~~out of~~ ordinary. You have nothing but my word for it that I am not trying to "guill." I really am not; I have never written anything like this before, but I think you deserve this if it is taken in the right light. Hoping you will do so,

I remain

Stewart Ruch.

-850 Selaginella rupestris
Rocky hill, growing in crevice, ½ mi. west of Thessalon, Ontario, Algoma district, Canada. 8/12/37

851 Geranium bicknellii Britton.
Rocky hill, same 850

852 Melampyrum
Rocky hill, same 850

853 ~~Gnaphalium~~ Anaphalis margaritacea (L) B+H
Rocky hill, same 850

854 Equisetum sylvaticum L.
under balsam, same 850

855 Pyrola elliptica Nutt
under balsam, same 850

856 Aster macrophyllus ianthinus Fernald (Burgess)
openings in balsam, same 850

-857 Maianthemum, under balsam same 850

858 Aster too little to determine
under balsam, same

859 ~~Gnaphalium~~ Artemisia graphaloides Nutt.
Rocky hill, same 850

-860 Epilobium angustifolium
edge of pasture, same 850

861 Viburnum cassinoides
edge of field, 8 miles north of Thessalon, Algoma district, Ontario Canada. 8/13/37

862 Mint Galeopsis tetrahit L
edge of field same 861

863 ~~Solidago~~ Spergula arvensis L
edge of field, same 861

864 Hypericum perforatum L
Rocky hillside, same 861

865 Dryopteris novaboracensis
Rocky hill, aspen-spruce-fir. same 861

Danthonia spicata
Rocky hill, aspen-spruce-fir. same 861

867 Solidago ~~rugosa var.?~~ ulmifolia Mill
Rocky hill, same 861

~~Mint~~ Blephilia ciliata (L) Raf
Rocky hill, same 861

867A = S. rugosa Mill

2-26-38
Labels typed
Scott

Earl Brooks, Noblesville

from Lyon

WALTER H. BAKER, M. D.
SURGERY
FRED R. CLAPP, M. D.
OBSTETRICS AND GYNECOLOGY
R. V. HOFFMAN, M. D.
DIAGNOSIS AND SKIN DISEASES
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CARROLL C. HYDE, M. D.
UROLOGY

THE SOUTH BEND CLINIC
122-124 NORTH LAFAYETTE BOULEVARD
SOUTH BEND, INDIANA

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EYE, EAR, NOSE AND THROAT
C. L. VAN SKYHAWK,
BUSINESS MANAGER

March 2, 1938.

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

Dear Friesner:

Thanks for your recent kind letter and encouraging remarks. I think this is a case of a fool rushing in where angels fear to tread.

If you have never studied your pollen spectra in the Butler University Botanical Studies, November 1937, under a hand lens, you will be surprised how clearly all the little details of pollen distribution stand out. I am going to make a simplified, twelve times enlargement of the Fox Prairie Bog spectrum, because it shows so clearly the decline and fall of firs and the rise of oaks. I am putting into it only pines, tamaracks, spruces, firs and oaks. The other trees are in such small proportion, and the curves criss-cross one another so frequently that I am afraid anyone but a critical student would miss the idea. I think anyone, however, can stand five trees. The three papers in that number are so interesting and complete that I could talk almost as long as Hitler. I shall try to cut it down to thirty minutes.

In regard to your offers, I shall take them up in the same sequence you sent them to me:

1. Not having found as yet any suitable pictures of pollen grains, I could use your drawings by having lantern slides made of them, provided our X-Ray department isn't working too hard. The grains desired I have already indicated; and you might throw in a birch and a willow. I prefer to use them on lantern slides rather than pass them around, as something might happen to them.

2. I would be delighted to have the cylinder and the handle of your boring apparatus as Exhibit A. In case you care to send it, please be sure that it is properly packed and well insured. I will be glad to pay all the charges, in fact you would better send it by express collect; and I will return it to you express prepaid. The only hitch in this is that my date is April 5; and probably Potzger will be wanting to use it for his talk at Kokomo at that time, or else be actually putting it to use in

a bog. Use your own judgment as to whether you can spare it conveniently at that time or not. If I can have it, all right; if not, I'll tell about something that I have never seen. I hope that Potzger will be able to round up a picture of you and him using the apparatus.

3. I can use the graphs; but I do not think it advisable to send them. They appear rather large from your figures; and I am going to have a rough and ready graph which will be about seven feet long by three feet wide. I spent a couple of hours sketching it out last evening; and, as long as you call them spectra, and spectrum usually means something with colors in it, I am going to use different colored crayons for the five different trees which I have already mentioned to you. I doubt if many would be interested enough in looking over a scientifically prepared graph; and, if I succeed in getting my idea across with my enlargement of the Fox Prairie Bog spectrum, I think I shall have done my duty. I remember we had one professor in biology at Brown who used to be able to demonstrate most anything with a few sticks and a pocket handkerchief, somewhat like Kipling's "rag and a bone and a hank of hair".

I will try to get Just to let me have the Botanical Gazette, vol. 87, 1930, as I don't happen to have it. The Ecology references are very à propos, because I have those volumes at home. I thought I had one or two negatives of tamarack and spruce swamps which I had taken; but I haven't been able to resurrect them as yet out of all my other photographs.

The occurrence of pine and fir in the marl stratum fits in very nicely with the occurrence of a moose skull fragment found in marl when a drainage ditch was being put in over near North Liberty. Who would ever suppose there was any relationship between a moose and pollen grain? This is not a true moose, by the way, but something pretty closely allied to the present day moose. I wonder if the poor thing became extinct as a hay fever victim from inhaling so much fir and spruce pollen.

Thanking you kindly for your suggestions and offers, I am

Very sincerely yours,

Lyon

Marcus Ward Lyon, Jr.

MWL:DK

Indianapolis, Ind.
March 3, 1938.

Dear Mr. Friesner:

When the printed announcement came on February 17, and dated February, signed by the new Academy secretary, for a meeting, I took a close look at the letter-head,- and concluded I would not reply.

Yesterday I was down town, I seldom go. I met an old friend, he was going to pass me, that is odd. I hailed him and asked, How are you? "Oh, fair. But I am so disgusted and disappointed that I dont want to talk to old friends"- meaning of course those who ask questions.

This morning an old friend returned the carbon of my Academy paper of three years ago— a paper that was refused publication. The paper was complementary to the one the year before, which wws on high blood pressure. To properly understand one requied hhe other. Well, I circulated the carbon and the last man must have been wearing it in his pocket from the looks of it-, and he had the hardihood to tell me to send it to G.A.- a literary man who is down and out on account of a low blood pressure.

I had 100 copies of the Hypertension paper and distributed them freely, to friends their friends, ad infinitum. Of course the paper ought to be expanded into a book— but I have no typist. And there is the problem of keeping body and soul together trying to complete the half-completed mss for a college textbook on education through biography.

And just now I found an Almanac at the door (Morse and Indian Medicine) On the inside cover cuts of Indian tepees and tall city buildings, in between "The American Indians Taught Us A Lesson In Living". The brief text set up a train of ideas: Indian Medicine of the past vs Indiana medicine of today,- and how the medicine men, both patent and proprietary, flourish. And what great efforts are made to find, discover, invent new preparations. Cures? Yes, but more and more synthetics to give relief. And the patent medicine men in their ads no longer use the littlwgy word Cure.

And here for many years I have been writing and publishing papers and trying to more and more advance the biologic viewpoint— educate, seek to avoid, avert, prevent, vs the medical viewpoint- treat.

My paper before the AAAS on "Man's Place In the City" is still in its interlined state, awaiting an expert typist. Yesterday I made a few remarks on The Pigeon's Place in the City— and tried to keep out of the newspapers. And just now as I again look at the Academy letter head, and, tell it not in Gath, I wonder how a man and his company feels when flanked by the names of college professors, some of whom at least are "carrying on research" that is not on a patent medicine plane.

And having said this much, there comes that old question: shall I drop it in the mail box?

And I just looked over Hooten's APES, MAN AND MORONS. In reading about archeological collections I thought of a collection of patent and proprietary medicine ads. Here as elsewhere an evolution is going on.

Well I just had to relieve myself— and I want at least one man at the meeting to understand why I am not present. Keep it sub rosa.

Will try to come out to Butler sometime soon,

Yours sincerely

W Hutchin

March 3, 1938

Mr. Charles M. Ek
1812 North Purdum Street
Kokomo, Indiana.

Dear Mr. Ek:

Your letter of Jebruary 24 to Dr. Potzger has been referred to me. While I would be quite sympathetic toward accepting your work on the flora of Howard County as your thesis for the master's degree, you would still have, under our rules, so much course work to be completed that I hardly feel that it would be worth the effort and expense in your case.

We allow only ten hours of credit for work done on the thesis. This leaves twenty hours of credit to be done in technical courses in botany. I have no doubt in my mind as to your ability to do the course work, but I feel that it would entail a financial obligation on your part that you probably would not be willing to meet.

I hope you will feel that we are sympathetic toward your aspirations and that we are very grateful to you for the many plants which you have sent us for our herbarium, but it would not be possible to modify the regular university rules regarding requirements for the master's degree.

Very truly yours,

Ray C. Friesner

RCF:VC

March 5, 1938

Dr. Marcus Ward Lyon Jr.
The South Bend Clinic
122-124 North Lafayette Boulevard
South Bend, Indiana.

Dear Dr. Lyon:

In response to your letter of March 2 we are sending you under separate cover the pollen drawings of the species referred to. I am also preparing the peat borer and the handle for mailing to you.

Dr. Potzger will need the borer for a talk at Noblesville (instead of Kokomo) on April 8. If you were to send the borer to Dr. Earl Brooks, Noblesville, it would be there in time for Dr. Potzger to use it, and still allow you an opportunity to use it for your paper on the fifth. If you can see your way clear to loan Dr. Potzger your lantern slides, you might also mail them to Dr. Brooks. We are very glad to be of some little help to you in your efforts to "educate the people".

Dr. Potzger asked me to ask you whether you thought the poor moose died of hay fever or of drowning. At least, he thought maybe there was enough pollen there to have some part in the demise.

Very sincerely yours,

Ray C. Friesner

RCF:VC

GEORGE WASHINGTON HIGH SCHOOL
INDIANAPOLIS, INDIANA
WALTER G. GINGERY, PRINCIPAL

March 7, 1938

Dr. Ray C. Friesner
Butler University
Indianapolis, Indiana

Dear Dr. Friesner:

Enclosed please find check to pay for the bottle of peptone Miss Gunder brought out Monday. I appreciate very much your letting us have it. I wonder if I could find out where you buy your peptone. We have had considerable trouble in locating it at wholesale drug companies.

Sincerely yours

James H. Otto

JO:DA
Enc:

WALTER H. BAKER, M. D.
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C. L. VAN SKYHAWK,
BUSINESS MANAGER

March 9, 1938.

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

Dear Friesner:

Thanks for your recent letter. I shall await the arrival of the bog borer with interest in order to see how long it takes to get here. The two dates, April 5 and April 8, when Potzger wants to use it as Exhibit A, are dangerously close together. I shall be unable to get it into the mail before the morning of April 6, which ought to get it down to Noblesville in time for Potzger.

The only lantern slide I have actually on hand now is a rather crude map of the Wisconsin ice sheet. I do not know its source; but it looks reasonably authentic. I am trying to get made the following lantern slides:

1. A group of the various pollens from alder to pine. It lacks only tamarack. The differences between pine, fir and spruce are almost inconsequential. I was surprised to see in one of Professor Just's books a figure of tamarack pollen. That is certainly far removed from the pine group. What a wonderful taxonomic character pollen must be, although some one has said that the pollens of oak and violet are very similar. I suppose that is merely a case of parallel convergence, as they say in mammalian paleontology. This is going to be a good, snappy lantern slide, provided I get it made. I have the negative all ready.

2. A diagram from the New Phytology, showing the correlation between the rise of mankind and the decline of the pine pollen in Europe.

3. Another diagram from the same book, showing the correlation between the state of the Baltic Sea, the climate, different kinds of pollen, et cetera.

4. A picture of the little tamarack swamp bog and lake in Pokagon State Park.

5. A picture of a white pine and paper birch swamp at Mineral Springs, Ind.

she had in her office!

I did intend to have one more picture of a spruce swamp bog and little lake in the Muskoka region of Canada; but either I or Friend Wife has put the film away and can not resurrect it. As it is, I fear I have too much material.

A fellow can not do more than get the general idea across. After reading all the references that you and Just have given me, I have concluded that I have less than a general idea of the situation. The fact is that I am so busy that I wish I had never agreed to talk about anything. Still it is a good plan to get away from the interminable, uninteresting, so-called science of medicine. Some of it is highly scientific; but most of it, just plain drudgery like teaching freshmen botany.

I shall not forget to send your equipment and lantern slides to Earl Brooks of Noblesville, because Bill Engels and I went down there one night to honor Amos Butler with a five minute speech on my part.

Unless you have already sent the sketches of pollen, I would suggest that you change your mind. I am dreadfully afraid to have so much foreign material in my possession, although I promise to take the best care of it, and to show the women what fine work Butler University turns out. The lantern slide I am preparing will cover the ground.

With kindest regards to you and Potzger, I am

Very sincerely yours,

Lyon

Marcus Ward Lyon, Jr.

MWL:DK

March 9, 1938

Mr. S. J. Newlin
115 S. Ritter Avenue
Indianapolis, Indiana

Dear Mr. Newlin:

I have at last found a few spare minutes in which to send you the notes regarding Black Rock. You probably know more of the early history of this region than I do and you may care to weave some of it into your article. Please feel free to use any part of the material I have sent you in any way you may see fit.

With best regards and an appreciation for your always-encouraging fellowship.

Sincerely,

Ray C. Friesner

RCF:VC

Newlin
9-III-38

On the west side of the Wabash river between Greenhill and Independence stands a high sandstone bluff known as Black Rock. The top of this bluff extends westward from the river and merges into upland plateau reaching off into the prairies of western Indiana and Illinois. Streams have cut deep ravines back into the plateau so that Black Rock stands today as an isolated memento of what was once continuous sandstone cliffs for miles along the river.

A botanical excursion was made from the Botany Department of Butler University to Black Rock on July 3, 1937. The bluff was found not only to offer unparalleled views both up and down the river valley, but also to contain many interesting plant species. Over sixty species of plants were noted during the short stay of three or four hours which included the lunch period. Among the interesting fern species found were the Walking fern, the Maidenhair fern, the Woodsia fern, the Virginia Polypody fern, the Bracken fern, the Broad-leaved Beech fern, the Ebony Spleenwort fern and a rare little Selaginella or club moss. It is of scientific interest to know that this is the farthest northern station for the Walking fern and the farthest southern station for the little club moss, characteristic of granitic mountains in New England, in Indiana.

Other interesting species noted were: the hairy twig Chokeberry, a shrub characteristic of peat bogs of the northern half of the state; the wild Columbine, so characteristic of rocky river bluffs but here growing on sandstone instead of the usual limestone; the wild Hydrangea which is extensively used in ornamental plantings; the Huckleberry so typical of bogs of the north but also occurring on dry wooded hill-tops in the unglaciated part of Indiana; a rare form of the Black Sugar Maple not known elsewhere in the state. Other species, interesting but perhaps of less scientific importance were: Buchanters Nightshade, Sleepy Catch-fly, Butter-and-eggs, Hairy Shullcap, Venus Looking-glass, hairy Beard-Tongue, Mountain Mint, St. John's-wort, Shad-bush, Spiderwort, Bitter-sweet, Wild alum, Wild Gooseberry, Old Hen and Little Chickens, two species of Rock Cress, Wild Sweet Pea and Pinweed.

Among the trees were Black Oak, Sassafras, Black Sugar Maple, Red Maple, Dogwood, Service Berry, and Wild Cherry.

March 10, 1938

Dean W. L. Richardson
Butler University
Indianapolis, Indiana

Dear Dean Richardson:

I have your note regarding the program of the Indiana State Regional Conference of the Progressive Education Association to be held in the Claypool Hotel on Saturday, March 19.

I shall be very glad to cooperate with you in any way you may see fit, and I may be able. I am too busy at present to even try to think of any suggestions regarding the general technique to be employed. As I become more familiar with the purpose and the general plan of the meeting, I may be able to make some suggestions.

At any rate, you can count on me to do whatever I may be able to do.

Sincerely yours,

Ray C. Friesner

RCF:VC

WESTERN STATE TEACHERS COLLEGE
KALAMAZOO, MICHIGAN

March 12, 1938

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

Dear Professor Friesner:

I just rediscovered your letter of November 17th, which I did not receive until I returned from Mexico and the Indianapolis meeting, December 31st.

I am sorry that my knowledge of floral distribution in northern Michigan is not very definite. I remember seeing black spruce in a bog in Newaygo County. I think white spruce and fir do not come in till one reaches a more northerly latitude, but I have no definite information. Dr. Ehlers could tell you more about it, and perhaps Dr. Bessey or Dr. Darlington would know.

Trusting you will pardon my delay in replying I remain

Very truly yours,

L. A. Kenoyer

WALTER H. BAKER, M. D.
SURGERY
FRED R. CLAPP, M. D.
OBSTETRICS AND GYNECOLOGY
R. V. HOFFMAN, M. D.
DIAGNOSIS AND SKIN DISEASES
MILO K. MILLER, M. D.
PEDIATRICS AND ALLERGY
CHARLES C. TERRY, M. D.
SURGERY
CARROLL C. HYDE, M. D.
UROLOGY

THE SOUTH BEND CLINIC
122-124 NORTH LAFAYETTE BOULEVARD
SOUTH BEND, INDIANA

E. J. LENT, M. D.
EYE, EAR, NOSE AND THROAT
C. A. BISHOP, M. D.
DIAGNOSIS AND INTERNAL MEDICINE
M. W. LYON, JR., M. D.
PATHOLOGY
D. H. CONDIT, M. D.
OBSTETRICS AND GYNECOLOGY
W. H. CLARK, M. D.
EYE, EAR, NOSE AND THROAT
C. L. VAN SKYHAWK,
BUSINESS MANAGER

March 16, 1938.

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

Dear Friesner:

Exhibits A and B arrived safely. The drawings of pollen grains are exquisite. I shall take the best of care of them. I shall also take care of the handle and the borer, neither of which appears to require the care and attention that the drawings do. I have arranged with my secretary to pack both packages and mail them to you on the morning of Wednesday, the sixth in case anything happens to me. I shall enclose the postage in currency in an envelope which I shall place in the boring box.

The lantern slides are coming slowly, if at all. Professor Mahin is making one, and that will be ready. That is the one with all the different pollen grains on one plate. I think it will make a nice, snappy picture. The others are awaiting the convenience of the X-Ray Department, or my enthusiasm to go down some evening or Sunday to make the lantern slides myself. I suppose the unfinished ones will become finished.

I will have all the packages addressed to Dr. Earl Brooks, Noblesville, Ind.

Do you want me to send the colored chart to Brooks?It is three feet wide and about seven feet long, and has Abies, Picea, Pinus, Larix and Quercus. I won't guarantee the strict accuracy of the chart, but think it is approximately correct and at least gives one an idea. So if you wish that, I will try to get something to roll it up in and mail that, too. Considering the time at my disposal I have learned a great deal about these bog explorations.

Thanking you kindly for all your suggestions, apparatus and pictures, I am

Very sincerely yours,

Marcus Ward Lyon, Jr.

MWL:DK

TELEPHONES: OXFORD
2931 ADMINISTRATION
3131 GENERAL

IMPERIAL FORESTRY INSTITUTE
UNIVERSITY OF OXFORD

Parks Road, Oxford,

17 March 1938

Dear Sir:

I have to acknowledge with many thanks your kind letter of 5 March containing the information I required concerning the reprints of certain papers which appeared in the Proceedings of the Indiana Academy of Science. It was very good of you to transmit my request direct to the author, from whom I have received a full set.

I am most grateful to you for your helpful co-operation, and I hope that you will call upon me to render a similar service, should the occasion ever arise.

Very truly yours,

G. Quincy.

Librarian.

Dr. Ray C. Friesner,
Head, Botany Department,
Butler University,
Indianapolis,
Indiana,
U.S.A.

THE UNIVERSITY OF HAWAII

HONOLULU, HAWAII
March 18, 1938

Head of Botany Department
Butler University
Indianapolis, Indiana

Dear Sir:

I am writing to inquire if you have any recent graduates, or seniors ready to graduate, in botany, whom you could recommend for an assistantship. We want two men with good training in general botany.

The openings are fellowships in botany. They involve handling laboratory sections in our beginning course. Approximately half time will be available for advanced work in botany or related lines. The appointment will be for one year, but, upon mutual satisfaction, will be renewed once, so that the assistant can complete work for a master's degree. The salary will be exemption from tuition and about $540 for nine months, beginning September 1.

Passage here from the Pacific coast is from $85, second class, to $125 first class. Living expenses here are about the same as in San Francisco or Seattle, except at certain expensive tourist resorts. As every one will tell you, Honolulu is a delightful place. The islands are a veritable botanic garden, with a native flora some 85% endemic and with a large introduced flora of economic or ornamental tropical species.

The University of Hawaii has 2500 students and it offers a good program of courses. Dr. H. F. Clements gives work in plant physiology; Dr. O. N. Allen in bacteriology; Dr. C. K. Parris in plant pathology; D. M. Weller in histology and cytology, while I teach taxonomy and ecology. There are three experiment stations here, which are affiliated with the University, so that their numerous experts in cytology, genetics, pathology, horticulture, forestry, etc., are usually willing to direct the work of advanced students. I think I would prefer assistants majoring in taxonomy or physiology, though the other branches are not excluded. There will be two fellowships.

If you have any candidates to suggest, will you kindly send me a letter of recommendation, ask the student's major professor to write one, and ask the candidate to write, giving his personal statistics, his college record, his interests, his experience, his publications, and enclosing a photograph.

Sincerely,
Harold St. John
Harold St. John
Professor of Botany and
Head of Department

March 19, 1938

Dr. Marcus Ward Lyon Jr.
The South Bend Clinic
South Bend, Indiana

Dear Dr. Lyon:

Thanks for your offer to send the large colored chart of pollen grains. I judge that it so large that you will have difficulty finding a means to mail it. I am sure that Dr. Potzger could make use of it, but I feel that the trouble involved in getting it to him would be too great, and therefore will ask you to send merely the lantern slides and the peat borer, together with the pollen grain drawings, to him in care of Dr. Brooks.

I am glad that there is at least a little compensation to you for the hard work you are doing, by way of increasing your knowledge of natural history.

Very sincerely yours,

Ray C. Friesner

RCF:VC

March 19, 1938

Mr. James H. Otto
George Washington High School
Indianapolis, Indiana

Dear Mr. Otto:

This will acknowledge receipt of check for the peptone taken to you by Miss Gunder.

We purchase our bacteriological supplies through Kiefer-Stewart in Indianapolis. They usually order our material sent direct from the manufacturers, though the order from us goes through them. Of course, you can purchase it direct from the makers whose name is on the label of the bottle.

Very sincerely yours,

Ray C. Friesner

RCF:VC

March 19, 1938

Dr. L. A. Kenoyer
Western State Teachers' College
Kalamazoo, Michigan

Dear Dr. Kenoyer:

Thanks for the information in your letter of March 12. We wanted the information for a paper which was read during the science meetings here in Indianapolis, but we managed to get along all right even though we did not hear from you in time.

We appreciate very much the trouble you have taken in even attempting to reply to our request.

Very truly yours,

Ray C. Friesner

RCF:VC

University of Saskatchewan

Saskatoon, Saskatchewan

DEPARTMENT OF BIOLOGY

March 21, 1938.

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

Dear Dr. Freisner:

I received your letter of February 26 and the copy of the changes and additions to "The Genus Solidago in Northeastern North America". You state that you are forwarding a copy of this paper under separate cover. I regret that this copy has not come to hand. So much time has elapsed that I conclude it must have been lost in the mail.

I shall be very pleased if you can forward another copy, which I hope will have better luck in transit. I thank you for your letter and for your kindness in mailing the paper. I regret that it did not arrive.

Very truly yours,

W. P. Fraser.

March 24, 1938

Indiana Botanical Gardens,
Indianapolis, Indiana

Gentlemen:

The use of red clover, huckleberry leaves and horse tail grass has been recommended to me for diabetes. If you have any circulars or printed matter dealing with the use of such herbs, will you please furnish me with a copy, or advise the price of each per package.

Thanking you for any consideration you may give this request, I am,

Very truly yours,

Mrs. T. E. Manley

(Mrs) T. E. Manley,
329 Spring Street,
Dunmore, Pa.

March 26, 1938

Dr. W. P. Fraser
University of Saskatchewan
Saskatoon, Saskatchewan

Dear Dr. Fraser:

I am sorry that the paper on Solidago in Northeastern North America failed to reach you. I am sending you another copy under separate cover.

In case this does not reach you within a week, please let us know and we will keep on until we get a copy to you.

Very truly yours,

Ray C. Friesner
Head, Botany Department

RCF:VC

April 4, 1938

Mrs. T. E. Manley
329 Spring Street
Dunmore, Pennsylvania

Dear Mrs. Manley:

I have your letter of March 24 regarding the use of red clover, huckleberry leaves and horse tail grass for diabetes.

I know of no such use for any of the plants you have mentioned. I am quite sure that your safest procedure would be to consult your family physician, and strictly follow his advice in the matter.

Very truly yours,

Ray C. Friesner
Head, Botany Department

RCF:VC

DIVISION OF BOTANY

H. T. GÜSSOW,
Dominion Botanist

DOMINION OF CANADA
DEPARTMENT OF AGRICULTURE

DOMINION EXPERIMENTAL FARMS
E. S. ARCHIBALD, B.A., B.S.A., LL.D., D.Sc., *Director*

ADDRESS REPLY TO:—
DOMINION LABORATORY OF PLANT PATHOLOGY,
C/O UNIVERSITY OF SASKATCHEWAN
SASKATOON, SASK.

Saskatoon, Sask., April 8th, 1938.

Dr. Ray C. Friesner,
Butler University,
Indianapolis, Ind.
U.S.A.

Dear Sir:

If you have any spare copies of "The Genus Solidago in Northeastern North America", I should be very pleased to receive one. If there is a charge for them, I will remit same promptly.

We find it very hard to separate several of our species in this region and desire to know more about the genus.

Thanking you in anticipation, I remain,

Yours very truly,
R. C. Russell.
R.C.Russell,
Plant Pathologist.

RCR:CS

April 11, 1938

Dr. R. C. Russell
Plant Pathologist
University of Saskatchewan
Saskatoon, Saskatchewan

Dear Dr. Russell:

I have your letter of the eighth regarding a copy of my paper on Solidago. I am pleased to send you a copy of this paper, and I am also sending under separate cover a copy of corrections and additions to date, which you will probably find it convenient to copy into the paper at the proper places. These changes and additions are made necessary as a result of new publications in this field, and also as a result of changes in my own interpretations.

Very truly yours,

Ray C. Friesner
Head, Botany Dept.

RCF:VC

April 11, 1928

Dr. B. A. Krukoff
New York Botanical Garden
Bronx Park, Fordham Branch
New York City, New York

Dear Dr. Krukoff:

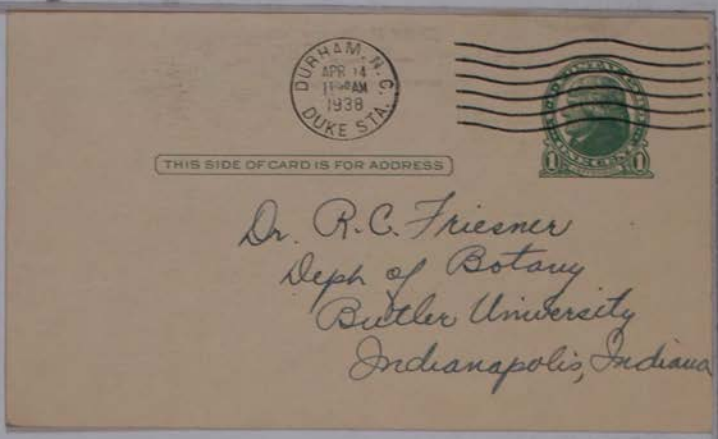
Your list of new determinations of the specimens which you have sent us in the past reached us today.

Thank you very much for your kindness in sending this list.

Very sincerely yours,

Ray C. Friesner

RCF-vc



Duke University
DURHAM
NORTH CAROLINA
DEPARTMENT OF BOTANY

Apr. 13, 1938

Dear Dr. Friesner:

Acknowledging receipt of 55 specimens of your collections and applying upon our herbarium exchange. Many thanks.

Yours truly
Henry J. Oosting

CABLE ADDRESS - MUSEUM, CHICAGO

FIELD MUSEUM OF NATURAL HISTORY
ROOSEVELT ROAD AND LAKE MICHIGAN
CHICAGO

OFFICE OF
THE DIRECTOR

April 14, 1938

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

Dear Professor Friesner:-

Receipt is acknowledged of the shipment of 63 plant specimens announced in your letter of April 11, and these have been accessioned in continuation of exchanges. Your courtesy in forwarding this new material is sincerely appreciated.

Very truly yours,

CCG/B

Director

April 15, 1938.

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

Dear Sir:

Herewith is enclosed a list of recent determinations of plants of my collections, some duplicates of which are deposited in your herbarium.

Very sincerely yours,

B. A. Krukoff

B. A. Krukoff.

BAK:ebc.

Enc.

April 15, 1938.

The determinations on the enclosed lists are by the following specialists:

Anonaceae	- R. E. Fries
Compositae	- S. F. Blake
Euphorbiaceae	- F. Steyermark
Flacourtiaceae	- H. Sleumer
Menispermaceae	- B. A. Krukoff and H. N. Moldenke
Vochysiaceae	- A. Ducke

List Checked 4-16-1938
5 specimens. Labels completed. Reference made as to the determiner if needed. Type collections noted.
Scott

Krukoff VI and VII. Supplementary list of determinations. Apr. 15, 1938.

7535 Chondodendron limacifolium (Diels) Moldenke Not Chondodendron polyanthum
7536 Telitoxicum minutiflorum (Diels) Moldenke Not Anomospermum reticulatum
7559 Telitoxicum minutiflorum (Diels) Moldenke Not Anomospermum reticulatum
7560 Telitoxicum minutiflorum (Diels) Moldenke Not Anomospermum reticulatum
7561 Telitoxicum minutiflorum (Diels) Moldenke Not Anomospermum reticulatum
7562 Telitoxicum minutiflorum (Diels) Moldenke Not Anomospermum reticulatum
7563 Telitoxicum minutiflorum (Diels) Moldenke Not Anomospermum reticulatum
7564 Telitoxicum minutiflorum (Diels) Moldenke Not Anomospermum reticulatum
7565 Anomospermum sp.
7566 Telitoxicum sp. of T. minutiflorum (Diels) Moldenke
7568 Telitoxicum sp. nov. (?), aff. T. Duckei (Diels) Moldenke et T. minutiflorum (Diels) Moldenke Not Abuta
7569 Telitoxicum minutiflorum (Diels) Moldenke Not Anomospermum minutiflorum
7574 Chondodendron limaciifolium (Diels) Moldenke ?
7575 Chondodendron limaciifolium (Diels) Moldenke ?
7576 Chondodendron limaciifolium (Diels) Moldenke ?
7577 Chondodendron limaciifolium (Diels) Moldenke Not C. polyanthum
7578 Chondodendron limaciifolium (Diels) Moldenke Not C. polyanthum
7579 Chondodendron limaciifolium (Diels) Moldenke Not C. polyanthum
7582 Elissarrhena sp. cf. E. grandifolia (Eich.) Diels Not Abuta
7640 Abuta bullata Moldenke
7641 Abuta grandifolia (Mart.) Sandw. Not Abuta concolor
7812 Abuta grandifolia (Mart.) Sanw.
7822 Abuta Grisebachii Triana & Planch.
7823 Chondodendron limaciifolium (Diels) Moldenke ?
7824 Chondodendron limaciifolium (Diels) Moldenke
7825 Chondodendron limaciifolium (Diels) Moldenke ?
7826 Chondodendron limaciifolium (Diels) Moldenke
7828 Chondodendron limaciifolium (Diels) Moldenke
7954 Casearia cf. adstringens Martius
7956 Telitoxicum minutiflorum (Diels) Moldenke
7960 Abuta Grisebachii Triana & Planch.
7961 Abuta sp. cf. A. macrocarpa Moldenke
7976 Abuta Grisebachii Triana & Planch.
7984 Ryania cf. pyrifera (Rich.) Witt & Sleumer
7994 Abuta sp. cf. A. macrocarpa Moldenke
7998 Abuta grandifolia (Mart.) Sandw.
8020 Sciadontenia similis Moldenke Type coll.
8027 Piptocarpha cf. macropoda (DC.) Baker
8030 Abuta sp. cf. A. Grisebachii Triana & Planch.
8033 Telitoxicum minutiflorum (Diels) Moldenke
8047 Justicia comata L.
8049 Melanthera nivea (L.) O. E. Schulz
8085 Casearia negrensis Eichler
8149 Unonopsis venosa ciosum (Mart.) R. E. Fries
8185 Casearia javitensis H. B. K.
8209 Lindackeria maynensis P. et E.

Krukoff VI and VII. Supplementary list of determinations. Apr. 15,1938. (2

8233 Lindackeria maynensis P. et E.
8243 Sciadotenia solimoesana Moldenke
8279 Sciadotenia Eichleriana Moldenke Type coll.
8281 Lactia procera (Poepp.) Eichler
8343 Plukenetia polyadenia Mull. Arg.
8344 Casearia macrophylla Vahl (?)
8345 Casearia javitensis H. B. K.
8348 Casearia negrensis Eichler
8354 Casearia? Pitumba affinis celtidifoliae Poepp.
8370 Chondodendron limaciifolium (Diels) Moldenke
8376 Sciadotenia Eichleriana Moldenke
8385 Sciadotenia solimoesana Moldenke Type coll.
8394 Casearia arborea (Rich.) Urban
8434 Casearia negrensis Eichler
8462 Hasseltia floribunda H. B. K.
8498 Carpotroche longifolia (P. et E.) Benth.
8522 Chondodendron limaciifolium (Diels) Moldenke
8530 Lindackeria maynensis P. et E.
8549 Chondodendron limaciifolium (Diels) Moldenke
8564 Casearia negrensis Eichler
8605 Alissarhena grandifolia (Eichl.) Diels
8612 Banara aff. guianensis Aubl.
8660 Abuta Grisebachii Triana & Planch.
8665 Carpotroche amazonica Martius
8713 Chondodendron limaciifolium (Diels) Moldenke
8814 Casearia javitensis H. B. K.
8821 Elaeophora abutaefolia Ducke
8840 Telitoxicum minutiflorum (Diels) Moldenke
8924 Hyperbaena solimoesana Moldenke Type coll.
9001 Carpotroche amazonica Martius
9004 Casearia arborea (Rich.) Urban
9045 Anomospermum Dielsianum Moldenke Type coll.
9118 Anomospermum chloranthum Diels

Krukoff

New Determinations

List of Plants Sent to Dr. R. C. Friesner 4-15-38

MOUNTED DUPLICATES

1. Tradescantia bracteata
2. Lilium michiganense
3. Smilacina racemosa
4. Polygonum pennsylvanica (as "Persicaria")
5. Polygonum virginianum (as "Tovara")
6. Clematis Pitcheri (as "Viorna")
7. Iodanthus pinnatifidus
8. Polanisia graveolens
9. Spiraea alba
10. Rosa serrulata
11. Prunus virginiana
12. Desmanthus illinoiensis
13. Geranium maculatum
14. Tribulus terrestris
15. Acer negundo var. violaceum
16. Impatiens biflora
17. Hypericum punctatum
18. Osmorhiza Claytoni
19. Asclepias verticillata
20. Ellisia nyctelea
21. Physalis subglabrata
22. Ipomaea pandurata
23. Sambucus canadensis var. submollis
24. Antennaria plantaginifolia
25. Ratibida pinnata
26. Sitilias caroliniana

UNMOUNTED DUPLICATES

27. Thelypteris marginalis
28. Ophioglossum Engelmanni
29. Equisetum laevigatum
30. Selaginella rupestris
31. Juniperus virginiana
32. Typha angustifolia
33. Arundinaria macrosperma
34. Panicum linearifolium
35. Koeleria cristata
36. Agrostis scabra
37. Danthonia spicata
38. Panicum Werneri
39. Festuca octoflora
40. Diarrhena americana
41. Aristida purpurascens
42. Echinoclea crus-galli
43. Panicum virgatum
44. Panicum dichotomiflorum
45. Panicum perlongum
46. Panicum Hellerl
47. Panicum sphaerocarpon
48. Panicum implicatum
49. Carex mesochorea
50. Carex varia
51. Juncus interior
52. Juncus brachycarpus

UNMOUNTED DUPLICATES (cont.)

53. Tradescantia occidentalis
54. Tradescantia virginiana
55. Quamassia hyacinthina
56. Allium canadense
57. Sisyrinchium campestre
58. Nemastylis acuta
59. Juglans cinerea
60. Celtis laevigata var. texana
61. Ulmus americana
62. Celtis georgiana
63. Ulmus fulva
64. Commandra Richardsiana
65. Silene antirrhina
66. Arenaria serpyllifolia
67. Arenaria patula
68. Silene virginica
69. Alsine media
70. Cerastium brachypodum
71. Delphinium Treleasei
72. Thalictrum dasycarpum
73. Ranunculus fascicularis
74. Ranunculus Harveyi
75. Ranunculus abortivus
76. Delphinium Treleasei
77. Myosurus minimus
78. Delphinium tricorne
79. Aquilegia coccinea

UNMOUNTED DUPLICATES (cont.)

80. Delphinium virescens
81. Sassafras officinale
82. Sanguinaria rotundifolium
83. Corydalis flavula
84. Corydalis aurea
85. Arabis laevigata
86. Barbarea vulgaris
87. Leavenwothia torulosa
88. Erysimum Arkansanum
89. Selenia aurea
90. Draba caroliniana
91. Sophia brachycarpa
92. Cardamine arenicola
93. Draba brachycarpa
94. Denataria laciniata
95. Arabis virginica
96. Draba cuneifolia
97. Potentilla recta
98. Physocarpus intermedius
99. Amelanchier canadensis
100. Geum vernum
101. Rosa carolina
102. Rosa Lyoni
103. Rubus alumnus
104. Crataegus crus-galli, f. spinulosa (flowering)
105. Crataegus crus-galli, f. spinulosa (fruiting)

UNMOUNTED DUPLICATES (cont.)

106. Crataegus Mackenzii
107. Prunus lanata
108. Cercis canadensis
109. Baptisia bracteata
110. Amorpha fruticosa
111. Trifolium incarnatum
112. Trifolium reflexum
113. Astragalus crassicarpus
114. Astragalus distortus
115. Astragalus mexicanus
116. Astragalus mexicanus
117. Oxalis Bushii
118. Oxalis violacea
119. Geranium maculatum
120. Andrachne phyllanthoides
121. Tragia ramosa
122. Rhus canadensis
123. Rhus trilobata
124. Ilex decidua
125. Acer nigrum
126. Acer saccharinum
127. Ceanothus pubescens
128. Berchemia scandens
129. Rhamnus caroliniana
130. Vitis cordifolia
131. Callirhoe digitata
132. Callirhoe alceoides

UNMOUNTED DUPLICATES (cont.)

133. Viola papilionacea
134. Viola papilionacea x triloba
135. Viola pedata
136. Viola triloba
137. Mentzelia oligosperma
138. Polytaenia Nuttallii
139. Cornus asperifolia
140. Cornus florida
141. Cornus paniculata
142. Cornus paniculata
143. Vaccinium crinitum
144. Evolvulus pilosus
145. Dodecathon Rugeri
146. Dodecathon Meadei
147. Phlox pilosa
148. Phlox pilosa var. arkansana
149. Phacelia Purshii
150. Lithospermum incisum
151. Onosmodium subsetosum
152. Blephilia ciliata
153. Blephilia hirsuta
154. Hedeoma hispida
155. Lamium purpureum
156. Monarda Bradburiana
157. Monarda dispersa
158. Scutellaria ambigua

UNMOUNTED DUPLICATES (cont.)

159. Scutellaria parvula
160. Cunila origanoides
161. Calaminthe Nuttallii
162. Physalis virginiana
163. Veronica peregrina
164. Collinsia violacea
165. Gerardia tenuifolia (as "Agalinis")
166. Gratiola virginiana
167. Penstemon pallidus
168. Galium circaezans
169. Galium virgtum
170. Houstonia minima
171. Houstonia lanceolata
172. Houstonia angustifolia
173. Lonicera flava
174. Viburnum rufidulum
175. Solidago gymnospermoides
176. Aster anomalus
177. Antennaria calophylla
178. Antennaria plantaginifolia
179. Cacalia tuberosa
180. Heliopsis laevis
181. Verbesina helianthoides
182. Coreopsis lanceolata
183. Bidens aristosa
184. Hymenopappus corymbosus
185. Senecio aureus

UNMOUNTED DUPLICATES (cont.)

186. Senecio pauperculus
187. Senecio rotundus

26
2
52
187
239

The University of Chicago
Department of Botany

April 15, 1938

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

Dear Dr. Friesner:

I have just received Mr. Moss' letter relative to the number of hours he spent in preparing my slides. He does not feel, evidently, that he can charge me the agreed price because it runs rather higher than previously estimated. I am perfectly willing to pay him as agreed, although the total is rather more than I had anticipated.

I am writing to you to ask you what you feel would be fair. I know that the material is very difficult and, for this reason, probably took more time than you originally estimated. I don't believe that I spent this much time on the sections but I used the Dioxan technic instead of celloidon and frequently instead of either the ethyl of butyl methods. I felt that this method would be new to Mr. Moss and, because it failed to work in a number of cases for me, I could not recommend it as a regular procedure for all of the sections.

I have been very pleased with Mr. Moss' work and I know that he has been most careful. It has been worth a great deal to me and has enabled me to get my thesis in this year. I can afford to pay whatever you estimate as fair and I do not want this to enter into your consideration. As far as I am concerned, I want to pay Mr. Moss fairly for the time and effort he has expended and I know that you can give me an idea as to what this is.

I certainly have appreciated the cooperation you have given me in this matter and wish to thank you for all that you have done to help me.

136 slides; 280 hrs.
70

Sincerely,

Alice Withrow

University of Saskatchewan

Saskatoon, Saskatchewan

DEPARTMENT OF BIOLOGY

April 18, 1938.

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

Dear Sir:

I wish to thank you for yours of April 11th. Since you are interested, I shall be glad to send you duplicates of my collections of Solidago of the present season. I have a number of duplicates on hand from 1937, but I hope to get a more representative and better collection this summer and will be very pleased to send you a set at the end of the season. Last summer was so dry it was difficult to get good specimens.

I have no duplicates of miscellaneous specimens on hand, but perhaps later I may be able to take advantage of your exchange offer.

Very truly yours,

W. P. Fraser.

W. P. Fraser.

April 19, 1938

Mrs. Alice P. Withrow
1156 E. 56th Street
Chicago, Illinois

Dear Mrs. Withrow:

I have your letter of April 15 regarding the matter of compensation to Mr. Moss for the slides which he recently made for you. The whole problem is somewhat difficult for me to render an opinion, but I have tried to approach it from some commercial as well as hourly basis.

In checking over the prices asked by commercial companies, I find that stem slides are listed at 40¢ per slide. Of course, these are made by the firm in large lots and are hardly sold on the basis of making slides for special needs. At 40¢ per slide those made by Mr. Moss would amount to approximately $54.00. I should judge that, if you had sent your material to a professional slide maker, he probably would have charged you $1.00 for the first slide of each specimen and a negligible amount for the second slide. Figuring from this standpoint, the slides made by Mr. Moss would approximate $68.00. I should judge that somewhere between these two figures of $54.00 on the one hand and $68.00 on the other would be a fair price.

I feel that Mr. Moss put in a great deal more time than was really necessary. It may be that he counted considerable time while he was sitting and waiting for the processes to go on. On the other hand, he is not a rapid worker at any time, so that the small rate per hour which this sum would make should not be worried about, and he is quite willing that you pay him somewhere between the two figures abovementioned.

Very truly yours,

Ray C. Friesner

RCF-vc

JOHN S. WRIGHT
4411 Washington Boulevard
Indianapolis

April 27, 1938

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

Dear Dr. Friesner:

At the request of President Eli Lilly I have drafted a statement of my understanding of the duties of officers and standing committees of the Indiana Academy of Science and attach copy hereto, which I will be pleased to have you read, correct, and return to me, whereon I will submit such changes as may be made from the original draft to Mr. Lilly.

It has been so long since I have had occasion to follow the duties and activities of all the committees that I am likely to be considerably astray in regard to some details, in fact, in some of the important ones, and so am quite desirous of your aid in giving Mr. Lilly the information he wishes.

I am enclosing stamped envelope for reply.

Very truly yours,

John S. Wright

JSW-M

April 29, 1938

Miss Norma Stewart
R. R. 17, Box 269F
Indianapolis, Indiana

Dear Miss Stewart:

I am sorry that you were unable to find me in my office yesterday. Apparently I was either in class or in a committee meeting at the times when you happened to call.

At present I do not know of any work that would be available for you during the summer school, but I shall certainly be glad to inform you if I should find any work for you. I wonder whether you made contacts with Mr. Leonard and also with Mr. Wilson and perhaps with the registrar's office as well. I am not sure whether any of these will have work, but it will certainly do no harm to find out.

I hope you will be able to find something to earn your way this summer.

Sincerely yours,

Ray C. Friesner

RCF-vc