HOLNICOTE,
TAUNTON.

Oct 11. '81.

My dear Dr Asa Gray

I have received today your kind & welcome letter.

I shall be delighted to receive you with us Saturday the 22? and am much obliged to you for fixing time

to visit us.

I trust we shall have fine weather. If there is any one you specially wish to see, I hope you will write to me a little beforehand.

I only share the happy expectation of faithfully yours

Ashburton

I am returning home

Monday.

Sir Henry Acland

Dear Dr Gray
Very faithfully
H Acland

University Museum, Oxford,
Department of Medicine and Public Health.

Oct 24. 1881

My dear Dr Gray,

I cannot let the Post go North without a line of grateful thanks for all your kindness, and forbearance – not to say also your instruction.

The time you have

point to be feared were, I
fear, unaltered with
difficulty from your last
days in England, and
I have your goodness
& indulge anxiety. But
I hope neither Mrs Asa
Gray nor yourself will
have been the worse, and

that you will reach home
both in good health to
accompany you on the
way home.

Please give my respects
to Professor Williamson,
and with 3 hundred
wishes to Mrs Gray
I am,

KILLERTON,
EXETER.

July 13/89

My Dear Professor Gray

I noticed by little book of controversy on my table, I am much flattered by your kindness in wishing to let it follow you.

You will please understand that this I work for no love of controversy

I think there is a curious coincidence & originality about the man

He has published annually besides what I know a report of an address for agricultural research — he is giving special attention to grasses

His headquarters & chief are in Aberdeen but when an experimental farm besides which he is doing rather startling things pro papering to farm

my

or putting an to Lemuel's knowledge — but I may be harm were being done by the Lim N James for was taking, especially as he had provoked rather the anger of capable men who were doing good work.

I also caught at the opportunity to warn him the sometimes sluggish & sceptical minds of my practical neighbours to the importance of sound experiments. In this expectation I think you will be right & have not been unsuccessful as this year's journal shows.

I think which you are in Scotland it might be worth your while to learn a little more about Jamieson's work

KILLERTON,

EXETER.

without feeding cattle
the two one points
on which I think
there is truth that
the mechanical
value of food is
more important
for fertility than its
chemical compo-
sition

J. Shaw Greenley

value any further
hints about what
is doing in America
on Agriculture Rep
we could reprint
for the instruction
of the Old Country
Farm also
in N. Zealand also
who is on the Lyttle

two Cornwall &
other concerning
May please the
Way story
Play steam &
pasture my cow
Elements & Mrs
Gray — your very
Green in great
Elements

Yr. truly
T. A. Edmunds

Sir Thos Gelaud

KILLERTON,
EXETER.

Nov 1/87

Dear Professor Gray

Your kind reminiscence of your visit here (first at Christmas) is very gratifying

But I had already received a copy of your Science & Religion during

Creeds at the end must to all church men be very satisfactory

You will doubtless find Prof Huxley in the new No. of the XIXth Century, or perhaps you have read it

Oct 29

A review in the Spectator of Rd. Wilson's Essay

You will be glad to look at it

America

The copy which has come to my hand I see attributes the name of my brother (though not exactly) his name is Henry Wentworth Acland. Though I believe his family sometimes

add Dyke.

I have been recommending the book to Bishops & Clergy & Laymen.

It happens to me just the most complete & well balanced statement of the question, & his reference to the two

Lemon of Religion
I may be able
I wish papers
on. If I shall
not go to Lum
the duplicate copy
should be well
circulated.

Write soon thank
I am your very tired

T. Ireland

I write to you
thinking you are
still in London,
~~I wish to be~~
on looking again
at your letter I am
my mistake
I wish to be
my brother
may I so far

Gentlemen, I hope
on your kind wish
as to add that any
articles of any
American publication
bearing on Agriculture
specially on the
practical bearing
of scientific knowledge would be
most welcome as
a contribution to
our West of England
journal.

KILLERTON,
EXETER.

I am hoping to
go on Wednesday
from your Botany
but I have been
very much occupied
and unlucky
Perhaps I may from
you that you have
already sent
a copy of your

D. L. Adair

Office of CORRESPONDING SECRETARY OF

The North American Bee-Keeper's Society.

Hawesville, Ky. January 31 1873.

Prof. Asa Gray

Dear Sir. At the meeting of the North American Bee Keepers society at Indianapolis in December, the question was asked, "Is there such a thing as honey?" and also, "What is honey?" Some very odd if not original answers were elicited. (I send you a copy of the American Bee Journal containing the Transactions.)

My object in writing to you is to get some information that I do not know where else I can find. And if it would not be taxing you too heavily I would like to have you write a short article on the elaboration of sugar (sweets) not only as it appears in the nectaries of the flowers but in the sap and fiber of plants, as we know it exudes from the leaves and young wood of the Lime (Tilia) and other trees, and is secreted in the cells of the sugar-cane. and

THE First National Society of Bee-Keepers was organized at Indianapolis, Ind., in December, 1870, under the name of North American Bee-Keeper's Society—Rev. L. L. Langstroth, President—with a representation from fourteen States and Territories.

In February, 1871, a rival Society met at Cincinnati, Ohio, of which Mr. Langstroth was also elected President. It had about the same representation, and took the name of American Bee-Keeper's Association.

On the 6th day of December, 1871, both Associations met at Cleveland, O., formed a union under the name of "The North American Bee-Keeper's *Society*," and elected Mr. M. Quinby, of New York, Prest.

The Second Annual Meeting of the Society was held at Indianapolis, Ind., on the 4th, 5th, and 6th days of December, 1872. Rev. W. F. Clarke, of Ontario, Canada, was elected President; Rev. H. A. King, of New York, Secretary; D. L. Adair, of Kentucky, Corresponding Secretary; Hon. M. L. Dunlap, of Illinois, Treasurer, with Vice Presidents from 26 States, Territories, and Provinces in which the Society has a membership.

The Third Annual Meeting will be held at the City of Louisville on the first Wednesday, Thursday, and Friday of December 3d to 5th, 1873.

All persons interested in the development of the interesting science of Apriculture are solicited to attend.

other plants. It is also produced by the sprouting or germination of many seeds, as in barley before malting

The use I will make of the article will be to publish it in "The Annals of Bee Culture" for 1873, an annual publication I have been editing since 1869. I send you the last volume, with this that you may see the character of the work. You will see that it numbers among its contributors the most eminent Apiculturists and also some prominent Naturalists.

Bees use any and all of the sugars, and from them generate wax, rear their young and subsist, equally well

Can you throw any light on the process by which the different species of Aphides produce what is called honey dew, or on its origin otherwise?

D. L. Adair,
Cor. Sec. N. A. B. K Society.

C F Adams
b

Adams Building,
23 Court St.
Boston.

Decr 20th/82.

My dear Mr Gray

I am editing for the Prince Society, Thomas Morton's New English Canaan, a book written in 1634, and describing New England before the settlement. In it I find a very short chapter on herbs of the country. The subject is one that I know absolutely nothing about. I enclose you a galley-proof of this chapter. May I ask you, in

cause of good editing, to write a few brief notes, giving the scientific and present popular names of the various herbs mentioned?—

By so doing you will greatly oblige

Yours very sincerely

Charles F. Adams Jr.

Prof. Gray

Cambridge.

Adams Building,
23 Court St.
Boston.

October 7, 1891

My dear Sir:

The Committee of the Board of Overseers for nominating the visiting committees of the several departments of the University for the present year, has been appointed.

Will you be so good as to inform me at your convenience whether any, and, if so, what action has been taken by the committee last year appointed to visit the Herbarium?

Would you also advise me whether in your opinion any changes in that committee are desirable, and, if so, what persons you think might be dropped without injury to the committee, and what other persons placed upon it?

An early reply will oblige, as the Committee of the Overseers is desirous of completing the work of revision of the visiting committees at an earlier date this year than it was completed last year.

I remain, etc.,

Charles F. Adams

Dr. Sereno Watson,

Cambridge, Mass.

Henry Lee
F. L. Ames
H. H. Hunnewell
H. P. Walcott
Aug. Lowell
G. G. Kennedy
Wolcott Gibbs
N. T. Kidder
N. C. Nash
F. A. Osborne
B. P. Cheney
G. W. Hammond
T. F. Allen

A Adams

Harv: Coll: 22 April 1871.

Dear Sir

It is very important that the North American should have a proper estimate of the late books of Mr Darwin and Mr Mivart. After the most careful enquiry I can find but two persons competent to do it; yourself and Prof. Wyman. The latter is out of the question, and I have no choice but to make it a matter of conscience with you. If you refuse, the subject must be put into hands which will do no good and will perhaps do harm.

I would like a long-article of 30 pages, to be ready certainly by the 20th May. Failing that, I would like one of 20 pages. If this is impossible, I would

be glad of a book-notice of fifteen pages;
and, to conclude, I will publish with
pleasure any notice, of whatever size,
you will consent to give me.

I am very truly Yrs
Henry Adams

Prof. Gray

H Adams

91 Marlboro Street. Boston
8 April. 1874.

Dear Sir

The North American Review ought to contain a notice of the life and works of Agassiz. The task is so difficult and delicate a one that it cannot be trusted to an inferior hand, and I prefer not to have it undertaken if it is not to be properly done. Yet it furnishes so fine a field for good work that I am unwilling to leave it unattempted. You are the only critic I know, competent

to deal with it in such a way as is required, and therefore I venture to make application to you. If you decline it, I fear I must leave the subject untouched.

Let me add that I should be very glad indeed to have anything else which you may feel disposed to give me for publication.

I am

Yr obt. Servt.

Henry Adams.

Prof. Asa Gray—

At a meeting of the

President and Fellows of Harvard College

in Boston, June 1st 1886.

A letter was read from Professor Asa Gray enclosing a check for $1000. a gift from Judge Addison Brown, and Messrs William H. Deforest and Edward Livingston of New York, for "a fund for the support of an Assistant Professor, or Assistant in Herbarium work."

and it was

Voted that this gift be gratefully accepted and that suitable acknowledgement therefor be made in the name of the President and Fellows.

A true copy of Record
Attest:
J. L. Adams,
Secy. pro Tem.

Professor Asa Gray.

Lund, Sweden, 16 Dec. 1863.

Rec'd Jany 21

My dear Sir!

Your letter of the 17 Nov., enclosing cartes of Michaux and Adr. de Jussieu, reached me a few days ago; and as soon as possible I am anxious to send you my best thanks for all. I assure you that these cartes and especialy that of Jussieu, with whom I was once personaly acquainted, gave me much pleasure and I have only to lament that your letter did not contain one of yourself, which I should be very happy to have as soon as you can dispose of a copy.

From the circumstance that you had taken daguerrotypes of those celebr. Botanists I think

I may conclude that it will give you pleasure to have copy of also other Botanists; so I include also one of my Father, from a portrait that was taken in the last years of his life.

I am also very thankful for your anxiety offer to send me a copy of those of your works, which I did not already possess. The works of yours I have are the following:

Printed Wrightiana Part 1–2.
All the papers in the Lyceum of Nat. Hist. of New York
Bot. memoirs extract. from Vol. VI. Americ. Acad. of arts and Sciences.
Note on the genus Graphephorum.
List of dried plants collected in Japan.
Statistics of the Flora of the North States extract. from Vol. XXII. & XXIII.
Botanical contributions, from the V. Vol. of the Proceed.
Notes upon some Rubiaceæ – Proceed. Vol. IV.
On the spec. of Sabbatia ibm.

Torrey and Gray
Reports of the expedit. for a railroad from Mississippi to the Pacific.
Viz. near the 32 parallel. – pag 159–128.
41. 38 39 } Vol. pag 119 – 132. Part X.

I have directed a copy of the wanting part of Species Algarum to be sent to you via Leipsic.

With high regard I remain
My dear Sir
Yours Obt. Svt
G. Thurber

Select & send out.

Zurich L. A. Agassiz

Dec 29/73

My dear Mr Gray

There are among father's books a number of botanical works for which I have no special use. You may find some use for them in the Herbarium Library & shall be glad to send them to you. There is also a copy (complete?) of the Flora brasiliensis and of the Flora Fluminen. which I can send you if they belonged to father? & are not already in the Library - perhaps you can use it as a duplicate. I'll tell my father you mentioned to you that he presented the books I am under the impression they were his own.

Yours truly
Alex Agassiz.

A. Agassiz
Newport R.I. Mar 21/74

My dear Mr Gray

Your kind remembrance of father's birthday found me on my return home from Columbia. Shall I send it to the general fund or the teachers fund?

always gratefully
Alex Agassiz

Professor Asa Gray.

A Agassiz

MUSEUM OF COMPARATIVE ZOÖLOGY,
CAMBRIDGE, MASS.

My dear McKay

I hardly know how to express my feelings of regret at the action of the Trustees of the Peabody Museum in sending the name of Putnam to the Corporation as Professor of Archæology.

While fully realising the difficulties of the case and the peculiar relations of the Trustees to the University I cannot help looking at his appointment as a distinct lowering of the standard of a scientific Professorship to this University. For me it would be a sad thing to admit that I am

the excellent qualities of Putnam as a collector and as a Curator nor do I wish to detract in any way from his devotion to the ~~best~~ interests of the Peabody Museum but are you ready to reward mere industry, devotion by promotion to a Professorship above of all others requires that its incumbent should have the widest possible culture? of this is to represent the scientific world American archeology as it should be represented. Surely the grounds on which this nomination is urged have not yet sanction as representing the highest interests of science and you cannot be ready to place in Wyman's professorship a many Putnam's

calibre? The establishment of a Professorship is not going to alter Putnam's relation to the Peabody Museum while it does not meet as is so often the case with other appointments — a crying want. There are no students or pupils clamoring for instruction and asking to have the machine kept going by the appointment of the best available man. The Museum will be as well taken care of by Putnam as Curator — and I cannot help feeling that such an appointment is offering a premium to direct mediocrity and is to a certain extent a mark of want of

appreciation on the part of the governing Board of the little work which is attempted here.

I have been perfectly frank with you in this matter as I do not wish to seem to you or to any other members of the Trustees to be acting in an underhand way or my opposition to their action.

Yours truly
A. Agassiz

Rufus Ashley.
Cambridge.

Harvard C

MUSEUM OF COMPARATIVE ZOÖLOGY,
CAMBRIDGE, MASS.

Nov 22/86.

My dear Mr Gray

I need no urging to lay the claims of your curious specimen before the Corporation and you may be sure that in Faulwe's case I shall do all in my power to bring the Corporation to your views. There is no one among the trustees that who deserves a full salary more than he does and no one who ought to be considered as formally as I can do, for his devotion. The letter is more than

enough. Remember I do believe in Faulwe's coming forward the next Corporation meeting and I hope you will be able to pick out a successor

Yours truly
A Agassiz

E C Agassiz
3

Quincy Street,
Cambridge,

Jan 5th 1886

My dear Dr Gray

It gratified me very much to see your article about Agassiz's Life and letters in the Andover Review — and to-day I received a copy which I think may come from you — let alone credit I thank you for it — and am very much pleased that you agreed to write the notice

With cordial regards

and best wishes of the
kind year to you and
Mrs Gray believe me

Most truly yours
E. L. Agassiz

P. S. This note was written last
eve. in preparation for the
morning mail by which comes
your announcing the Bereavement
With renewed thanks

Most sincerely yours
E. L. Agassiz

Agassiz

My dear Gray,

Thousand thanks for your valuable remarks, I should have saved you some hesitation by stating more distinctly that I did not intend to institute a comparison of the Lake Superior plants with those of Europe generally, but simply with those of the Jura & Alps. My special knowledge is too limited to undertake so vast a task. Your difficulties about the separate lists might also be removed on considering what I remarked of the greater difficulty to draw lines over flat countries; I have allowed myself often to be determined by the well ascertained limits along our slopes of the analogues, corresponding to those found on this continent. Again there should be no great objection at finding some of these plants extending very far south, as it is a peculiarity of this continent to send forth its northern species far southwards, animals as well as plants. Many identical birds of the arctic fauna which never cross the Alps in Europe, reach the gulf of Mexico in their migrations in America. This again influenced me. The 2d list you should I think acknowledge, as the aquatic flora form really everywhere peculiar features in the countries where they occur, though it is sometimes very difficult to draw the lines. In the 3d list I have strictly american types, i.e. sub. genera peculiar to america, or typical species which have no representatives in Europe, and although 2/3 of the plants of the first list are as you say also strictly american, they may be considered a part & partaking more generally of the character of the cold temperate zone as such, as they have corresponding representatives in Europe & Asia. which those of the 2 lists have not

But of course I am not in every instance sufficiently familiar with all the analogues or subanalogues to pick out the closest resemblance. Your extensive knowledge affords therefore indispensable aid for which I can not enough express my thanks, I shall have another proof & the doubtful species for you. If you had a moment we might run through my parcels & you could take what you want.

Your friend

Agassiz

Monday night.

2

Dr Asa Gray

Botanical Garden

Cambridge

My dear friend

We have decided to leave for Niagara on Monday next to travel about for 3 weeks or more, and so I find I have so little time before me to prepare work for Mrs Tappan & for my assistant and to keep every thing going, that I must give up the pleasure of being introducing to your fair Lady, till I come back. I will thank you for all assistance you or Mr Carey will give Charley when he comes for your plants in the Garden

Yours truly

J H Gaines

Thursday Morning

[Gift of Susan Loring, June 27, 1984]

Dr Asa Gray

Cambridge.

East Hebron Me.

26th July 1889

Dear Sir

I send you, in the absence of Prof. Goodale, some seeds from a place called Succotash Valley on the headwaters of the Nisqually River twelve miles from the base of Mt. Rainier, gathered by Prof. C. H. Allen. He calls one sort Dicentra formosa? The other is a coarse swamp plant probably biennial with spikes of spurred flowers and seed pods that snap like Impatiens. If at any time you should find it convenient to employ me, I would like to work in the Herbarium again. I am still without occupation of any consequence

though I can not be sure
how long I will continue so.
I for got to say, the seeds are from
Washington Co.

Very truly yours

John A. Allen
East Hebron
Maine

East Hebron Me. 13th Aug. 1889

Mr. S. Watson Cambridge

Dear Sir

Some years ago I sent a Nitella from a large spring in a peat bog here to Mr. J. H. Allen, who thought it might belong to a new species. It was very sterile. This year it is fruiting. I have not now Mr. Allens address so I write to you though perhaps it is rather out of your line. If there is anyone now in Cambridge who is authority on Characeae, please refer it to him. If not, please send it on to Mr. Allen, whose address I suppose you can easily obtain. If the plant is of interest to anybody, I will make a number of good specimens and send. I can also send some of the fresh plant if desirable.

Very truly yours
John A. Allen

East Hebron
Maine

	9		16/64	4/21	114	1262											
	3				333												
	5				141												
	107				656												
	637																
					67	1	43	1	54	103	15	4	Losses				
					69	31	44	1	106	109	16	12					
0	31	35	3		69a	2	45	27	107	1	17	7	1	5			
1	3	36	2		70	2	0	1	108	10	18	1	2	6			
2	11	37	3		72	1	116	119	110	6	19	43	3	11			
3	2	38	47		73		49	36	112	87	20	1	4	1			
4	14	39	18		75	1	51	5	113	2	21	5	6	1			
4½	2	40	1		76	2	52	1	114	9	22	6	7a	25			
5	2	43	8		[illegible]		[illegible]		[illegible]	2	24	[illegible]	7	28			
6	2	44	45		0	45	53	1	116	1	25	2	9	74			
7	17	47	6		0	[illegible]	54	1	117	1	26	2	8	37			
8	2	48	4		4	1	55	5	117	4	27	5	9	5			
[illegible]	5	49	64		[illegible]	2	56	2	120	7	28	1	9	1			
10	[illegible]	49	9		7	9	57	2	121	11	29	4	10	1			
11	1	50	6		5	3	59	7	122	2	0	[illegible]					
13	27	51	3		9	1	[illegible]	3	124	1	0	133	[illegible]				
13	[illegible]	52	[illegible]		10	[illegible]	61	10	125	43	136	[illegible]	8				
14	7	53	[illegible]		[illegible]	[illegible]	62	2	126	26	4	107	1	57			
15	9	53	66		13	12	63	2	127	1	5	[illegible]					
16	1	53	17		13	2	64	5	128	8	0	41	[illegible]	1			
17	11	54	13		14	3	65	5	130	6	7	7	[illegible]	23			
18	61	[illegible]	10		15	3	66	1	131	4	8	73	Fracture				
19	11	56	9		18	11	[illegible]	1	133	23	8	119	0	1			
20	20	57	2		19	2	70	35	134	53	8	111	[illegible]				
21	12	58	44		20	[illegible]	75	4	134	26	8	138	3	95			
22	19	56	82		21	6	77	2	0	18	8	87	4	[illegible]			
23	13	56	12		22	3	78	3	Lytic	[illegible]			3	82			
23	1	58	32		24	2	8	1	[illegible]		8a	86	8	2			
24	11	58	37		31	60	87	3	1	11	8b	27	9	2			
27	12	58	58		31	23	81	4	1	42	10	52	10	2			
28	1	58	60		25	1	9	2	2	11	11	4	12	10			
[illegible]	[illegible]	[illegible]	52		26	7	9	7	3	4	13	26	14	1			
30	53	58	19		27	13	75	21	6	6	14	13	15	2			
31	57	59	53 6 3		28	7	94	32	7	4	16	13	16	5			
90	54	61	17		29	2	16	23	8	7	17	7	[illegible]				
3½	1	62	3		30	1	101	4	9	158	18	1	17	15			
0	10	64	6		33	8	102	8	10	106	19	2	Succulent				
31	4	65	1		34	7	103	4	11	6	20	38	0	29			
32	23	65a	1		35	6	104	1	12	27	21	10	1	4			
33	3	66	7		36	10	104	22	13	2	22	4	2	1			
34	1	66a	2		38	56	106	73	14	5	0	6	3	50			

PIERRE de P. RICKETTS, Ph. D.
JOHN H. BANKS, E. M.
METALLURGISTS, CHEMISTS AND MINING ENGINEERS.
TELEPHONE CALL, "39TH STREET, 143."

CABLE ADDRESS, "RICKETTS," NEW YORK.
CABLE CODES,
CLAUSON-THUE'S "A. B. C."
MOREING'S "MINING."

~~EAST FORTY-NINTH STREET, CORNER OF FOURTH AVENUE,~~

Allen

NEW YORK, Sept. 11th 1891

Mr. S. Watson Cambridge

Dear Sir

I am considerably discouraged because it appears that I cannot live decently here on twelve dollars a ~~month~~ week while the smaller sum answered perfectly well at Cambridge. I shall hunt up the man who got me this place on Sunday, and if he does not advise against it, and the firm is not disposed to pay living wages I think I shall write and

ask if you can give me the Ball job again in case you have not got anyone else for it. It makes a great difference with ones' peace of mind whether he gets five dollars a month more or less than just enough to live on, and I feel as if I had made too great a sacrifice in changing the wrong way merely for a chance of permanency. If I could see any way to follow up botany as an occupation I would drop chemistry altogether. I have sometimes thought that perhaps I could get a living as a collector in tropical and uncivilized countries. I will write again Sunday

Very truly yours

John A. Allen

care Ricketts & Banks
104 John St.

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~~EAST FORTY-NINTH STREET, CORNER OF FOURTH AVENUE,~~

Dr. J. Watson Cambridge

NEW YORK, Sept 13th 1891

Dear Sir

In accordance with the advice of my friends here I today asked this firm to pay me sixty dollars a month. They postponed decision until Wednesday before which time it would not be practicable for both members of the firm to discuss the matter together. If you have not yet looked up anyone for the Ball job,

could you postpone doing so until then so as to give me a chance to ask for it?

Very truly yours

John A. Allen

care Rickette & Banks

104 John St. New York N.Y.

PIERRE de P. RICKETTS, Ph. D.
JOHN H. BANKS, E. M.
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CABLE ADDRESS, "RICKETTS," NEW YORK.
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CLAUSON-THUE'S "A. B. C."
MOREING'S "MINING."

~~EAST FORTY-NINTH STREET, CORNER OF FOURTH AVENUE,~~

Allen

NEW YORK, Sept. 16th 1891

Dr. S. Watson Cambridge

Dear Sir

I have decided to take advantage of your kind offer in respect to the Ball job. I shall start for Cambridge some time within a week. I will write again as soon as I know the exact day

Very respectfully yours
John A. Allen

Dear Sir -

I am just in receipt of your note of Sept. 24, having just returned from the west. The package to which you refer has not as yet come to hand, but is probably in New York, in the U.S. Custom House - As soon as it comes I will have it sent to you -

Very truly yours
J. A. Allen -

Mus. Comp. Zoölogy,
Oct. 14, '73 -

R. longifolius — Lvs. broadest at base, abruptly truncate or cordate — without glands. (Twist lvs. often? ovate or elliptic. All much lvs. undulate in our specs than the foreign, the lower larger, and the veins more strongly marked. —

R. Patientia — Lvs. broadest above the base, subattenuate or subcordate — more or less glandbearing. (Achenium perhaps rather narrower in proportion than that of R. longifolius.) —

S.W. — Jan 5 1874.

SHEFFIELD SCIENTIFIC SCHOOL OF YALE COLLEGE,

New Haven, Connecticut, Feb. 18th 1882

Mr. S. Watson

Dear Sir I have just forwarded to you by Express specimens of the plants which you marked in a list sent you by Dr Gray. We added a few more and also some which we could not name, chiefly species of Arenaria - If you can give us names for these we shall feel under much obligation to you — Arenaria is a hard genus - for me — Prof. Eaton who has often assisted us in working out hard things did not seem to be much attracted by the Arenariae —

If on looking over the named species you observe any obvious error please let me know. Among them I have a shade of doubt about the following: Astragalus oxyoides. Artemisia Canadensis? Plantago aristata, Arnica alpina. and Oenothera octopetala var. Drummondii. and Hippuris vulgaris? for I have never seen specimens of them — It is rather difficult to travel in the Shickshocks and no collecting of any account has ever been done there — We hoped therefore to

find some arctic flora there

Snow stays till August on Mt Albert and Table Top Mountain which are supposed be the two highest points in the range — We camped five nights on each — But on account of bad weather we could not explore Table Top satisfactorily — This mountain was never visited but once before — about 20 years ago by Richardson an explorer in the service of the Canadian Geol. Survey It affords upwards of 50 ~~square~~ square miles of alpine ground and many deep ravines. Doubtless many interesting plants grow there.

Yours Truly

Ch. D. Allen

P. S. — Notes

Viola renifolia is very common, more abundant than the violets in all the wooded region we saw between Little Metis and St. Anne des Monts, and it flowers with large reniform common leaves — ~~whereas~~ in flower only in high ravine on Mt Albert along with V. palustris.

Lonicera oreophila with Albert above the fruiting line and taken on alpine form, of reaching about 5 or few inches high along with Betula glandulosa &c.

Coniferous Cercidence is very abundant on the mountain above ~~been~~ and also Nardosmia palmata, the latter stunted — We saw it in fruit on low ground.

I think the Dryas octopetala var. is only common, we saw it few places amplely covering the ground on the ~~top~~ Cornu Peak of St. ~~Anne~~ Anne ~~for the~~ but not where else

T. F. Allen, M.D.
St. Clair Smith, M.D.

10 East 36th Street,

New York Jan 30 1880

Prof. Lewis Watson

Dear Sir

Let me thank you for your interest in my works on the Characeae – I have worked at them many years – formerly corresponded with Prof. A. Braun and have collected a large number from different parts of the country. At present I am writing up the Characeae of the Canadian surveys for Prof. Macoun; they are most interesting having some new and transitional species; one I have named C. evoluta.

More than 20 years ago Prof. A. Braun named a Tolypella Californica from the Pacific coast and several rare species are known from there, for example N. clavata from the San Francisco water works. It would give me great pleasure to write up the western species for you, or to name and return any you might like to send me & I am, naturally, desirous to obtain all the species of the continent for my work, which already embraces over fifty species and distinct varieties – Tolypella prolifera Ag. from the upper Missouri (Hayden) I am anxious to obtain, can you put me in the way of it?

The late Prof. Braun wrought order in the Characeae which were in a chaotic state and his system of classification, based upon morphological characters seems to stand the test – I regret that Mr. Halsted in his brief

and imperfect account of our species saw fit to follow a trivial classification devoid of any principle. His work is deserving of severe criticism. The worst errors are as follows.

Nitella capitata in Halsted should be N. glomerulifera Alb.
" gelatinosa var gigantea " " " N. prolongata Alb. 1852
" intricata " " " " N. megacarpa Allen - (This species is a representative of the polyglochin series which characterise the Nitella of this continent, we have also of this series N. microcarpa Alb. and N. aligaspira var wrightii Alb. of the Mexican boundary survey and other varieties of the polyglochin series. These occur also in Asia but not in Europe

Chara ceratophylla is doubtful the Florida forms belong to C. Hornemannii
" Hakenii Halsted is the old C. Hydropitys which I knew from New Jersey and the west; Nordstedt thinks our forms are sufficiently distinct to be named var. septentrionalis (see my Exsiccatae). I visited Appomattox purposely to identify the species there.

Several distinct varieties of C. gymnopus named by Braun in Plantae Lindheimeri and elsewhere are entirely overlooked by Halsted. The Gymnopodae are strongly marked on this continent. Those of the Unistipulatae C. Hydropitys (monoecious) and C. Hornemannii (dioecious, are well represented.
of the Bistipulatae C. gymnopus with its varieties, and C. sejuncta are widely known and diffused ~~all~~ these Gymnopodae are also found in Asia but not in Europe.
So we are beginning to trace the distinguishing features of our American Characeae.
There still remain some points in the development and nutrition of these plants to be elucidated. I am trying to do something in this direction but shall not "rush into print" yet.

Yours —
J. F. Allen

Allen

T. F. Allen, M. D.
10 East 36th Street,
New York, Feb. 1st 1881

My Dear Sir

It will give me the greatest pleasure to determine your Character - I will attack them immediately on the completion of my work on the Canadian Survey. and return them in good time.

Very truly Yours -

T. F. Allen

Mar. 27 1882

My Dear Sir

You could hardly have sent me a more interesting plant: (label enclosed) - It is to be compared with Wright's specimens from N. Mexico in herb. Gray, but has larger nuclei.

I have an article in type for the Am. Naturalist on the N. Am. varieties of this ~~plant~~ species - which I will send you as soon as it is published, with specimens -

Fasciculi 2 & 3 are nearly ready & will soon be forwarded you -

I wish you had "grabbed" a hundred or two of this plant it is a nice form -

Yours -

T. F. Allen

To
Prof. S. Watson

No. 10 East 36th Street,

New York, Aug 19 1889

My Dear Sir

The Charaxes jasius sent is Vitella flexilis, Sg. very common –

In regard to inserting the Characeae in the new ed. of the Manual I must say that it would afford me great pleasure to write them up for you, I have the American species pretty well "in hand" and think they could be presented concisely and intelligibly still a plate should be given two plates better or even three for some of the diagnostic features are puzzling to those not used to microscopic work. I start for Cliff

for the Toronto convention taking in Lake Reuka on the way (that lake is full of most interesting characts)

I will set at work, evenings during my absence, on the pages for you and will submit my ms. to you in a short time

I presume this ~~description~~ contribution would in no way interfere with the publication of the II part of my Characs of America which will contain descriptions of all American species N. and So. America."

Yrs T. H. Allen

I return in two weeks.

Dear Sir

Fort Gratiot Mich
24th Aug. 1849

I am indebted to the courtesy of some friend at Cambridge, perhaps Prof. Longfellow or yourself, for a copy of the Evening Traveller of the 16th inst. containing the proceedings of the Scientific Convention on the first day.

I am pleased to learn that you have in your Botanical Gardens a specimen of the Silphium Laciniatum. My object in writing is to request that you will take the trouble to make the experiment alluded to by Dr. Hare of seeing if its leaves can be moved under the influence of "a powerful steel magnet or an electro-magnet". I always wished to do so, but never had the opportunity on the frontiers where I saw the plant. Delicate instruments to test the presence of magnetism in minute quantities could also be applied. The latter experiment might be most satisfactory, ~~as a powerful magnet might well find in many plants something to be attracted~~.

My main object was to give facts not a theory. I shall be glad to see any exact solution of the phenomenon; & to yield more conjectures at once.

You state in your remarks before the Convention that the fact of its tendency to point North & South is probably to be accounted for by the action of light, "leaves being disposed

as is well known to turn their upper surface to the light". — Answer. If this tendency existed in the Silphium laciniatum, should not the leaf present its face to the sun at mid-day when the light of the sun is most intense?. On the contrary it turns its faces towards the rising or setting sun when its rays are most oblique and least intense. At noon its plane passes through the sun, as it were shunning instead of seeking, its fiercest rays. (This I suggested in my first comm.n to Nat. Institute in 1842.)

— However, the fact of the radical leaves in the Botanic Garden not exhibiting the peculiarity would favor your idea as it is probable that in that garden it is not subjected as regularly and completely to the action of the sun's light as on the prairies. Your suggestion "that vertical leaves tend to take a position which exposes the two surfaces equally to the light of the sun", may be the true explanation of all the phenomena. This tendency (I suggest) would be different from a disposition to present the surface of the leaf to the strongest light, as alluded to above.

I used the phrase "polarity" only with reference to the tendency of the leaf to arrange itself north & south, without reference to the cause for the same. The name "Polar Plant" was the one I first heard given to it by the officers of Dragoons in 1839 west of Arkansas, where I first saw it, & it is the name used by Major Nathan Boone with whom I conversed about it. The words Polar & Polarity are I think often used in a sense not alluding to the presence of magnetism, as in your Manual p. 12th, par. 16th.

If the plant was caused to grow on the top of a house perhaps it would exhibit the same peculiarities as on the prairie, & that would confirm your theory, or suggestions.

I will beg your permission to add a few lines on the subject of my suggestion as to electrical currents. I did not (as your remarks would convey the idea) suggest that the resinous matter of the plant would conduct such currents. The fluids of the plant might conduct them. It is found in Electro-magnetism that there are many arrangements of electric currents in one plane (turning on a vertical axis) which would cause that plane to point north & south. Also all students of Electro-magnetism know that electrical currents sent through a spiral coil (what Ampere calls an "Electro-dynamic coil") will cause that coil when revolving on a vertical axis to arrange itself north & south. Now botanical works inform us that plants are made up of minute cells permeable to fluids, that they often have (see your Manual par. 9) spiral vessels, or elongated cells, or ducts, made up of a coil of delicate fibre. In another part you speak of the medullary sheath consisting of an "extremely delicate ring of spiral vessels, the earliest formed part of the woody system". In par. 56 you speak of the woody tissue as also entering into the composition of leaves. — Again the experiments of Faraday & others have led to the supposition that the number of substances in nature in which electric or galvanic currents can be excited are very numerous, see p. 99 of Dr. Roget's treatise on Electro-magnetism.

I must therefore be allowed to say that

the idea is not to be at once rejected that electric currents might permeate the plant, conveyed by its fibres -- The modus-operandi is another thing -- (The action of the Torpedo in giving electric shocks is not yet fully explained see Sir Humphry Davy on Rogets Galvanism pov. 89) Resinous matter is a substance in which electricity is easily excited by friction, but it would remain still to show how galvanic currents were established -- I referred to the existence of resin in the plant, without stating how its presence would act, but as a notable fact —

The testimony of Prof. Morris would appear to be conclusive as to the peculiarity of the plant as he states that when as a surveyor he was running with compass in hand, East & West lines, he would uniformly see their broad faces -- This confirmation, with that of Mr. Lapham in his communication to you, together with what I have adduced, would seem to leave no room to doubt of the reality of the phenomenon —

I hasten to write you as if you shall concur with my request to make the experiments above alluded to, it should be done as soon as possible, before the plant loses any of its vigor by the approach of autumn — It will confer a favor if you will permit me the result of such experiments.

With high respect
I remain very truly
Your obt Servt

Benj. Alwood

Prof Asa Gray M.D.
Harvard Univ, Cambridge
Mass

American Book Company,

PUBLISHERS OF SCHOOL AND COLLEGE TEXT-BOOKS, CHARTS AND MAPS.

New York, Cincinnati, Chicago.

806 & 808 BROADWAY,

New York, Oct. 7, 1890.

Professor Sereno Watson,

Cambridge, Mass.

Dear Sir:-

Shortly after you left our office, this morning, the enclosed note was received from the State Librarian of New Hampshire, asking for information on several points connected with the botanies. We have tried to answer his first two questions as far as our information went, but you may be able to give him more definite information than we have on these points, and also to answer his question with regard to the botany of California.

Allow us to express our gratification at your call upon us this morning, and to thank you for the very satisfactory statement of your plans in the revision of the Botany We shall be glad to receive your memorandum on the matter, and shall endeavor to do what we can to carry out your revision to a satisfactory conclusion.

Very truly yours,

AMERICAN BOOK COMPANY,

A. D. Hanscom

for Editorial Committee.

Oct. 10

I send you by this mail a copy of Gray's manual in which I have marked the desired corrections to be made in the plates. There are additional genera & species that should be included, & some more extended corrections that are desirable, which will be very easy to add four pages of "further additions & corrections", as pages 735a, 735b, 735c, 735d, which will simply necessitate the overrunning of four leaves instead of two as at present.

There should also be on the blank page following the Contents a "Note" respecting the emendations made.

With your approval I will perfect this matter at once for the printers.

I enclose memorandum as to the Revision of the Field, & also [illegible] Botany [illegible]

typed +

[illegible]

Memorandum.

HERBARIUM OF HARVARD UNIVERSITY,
BOTANIC GARDEN, CAMBRIDGE, MASS.

Oct. 10th 1890

In the revised edition of the Field, Forest & Garden Botany it is understood that the purpose & scope of the work shall be essentially the same as outlined by Dr. Gray in the preface of the present edition, excepting the extension of the territory to include the States bordering the Mississippi on the west, Tennessee, & the more elevated portions of the S. Atlantic & Gulf States. The number of pages should not exceed five hundred. The revision will be begun at once by Prof. C. R. Barnes, with the expectation of its completion & the

issue of the book by the end
of the coming year

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[illegible]

American Book Company.

PUBLISHERS OF SCHOOL AND COLLEGE TEXT-BOOKS, CHARTS AND MAPS.

New York, Cincinnati, Chicago.

806 & 808 BROADWAY,

New York, Oct. 11, 189 0.

8 + 21 x 24 + 4 x 16 + 4

Sereno Watson, Esq.,

Cambridge, Mass.

Dear Sir:-

We have your favor of the 10th inst., advising us that you have sent a copy of the Manual, with corrections indicated, and also enclosing the memorandum in regard to the revision of the one for Forrest, Field and Garden Botany.

We shall at once have the corrections made in the plates of the manual, and if it is possible to add the four pages of further additions and corrections, we shall do that also. The only difficulty is that the book now prints in regular forms, and it might break the order of printing and necessitate an additional form, to add the pages indicated. If the Glossary could be thrown ahead one page, to begin on page 739 and end on page 748, and then, if, by any possible condensation, the List of Orders on pages 736 and 737 could be brought down to one page, we could thus gain two pages. Could not all the additions and corrections beginning with page 733, be set in somewhat smaller type, so as to make these two additional pages answer for all your needs at the present time? If it is a matter of necessity to have these additions included, and if there are likely to be further aditions and corrections from time to time, considerably increasing the pages, we will take the additional space, even at the necessity of adding to the number of forms of printing, but if

the matter can be met in the other way suggested, of course it would be preferable to do so. We desire to make the book thoroughly satisfactory and to keep it entirely abreast of the times.

Yours truly,

AMERICAN BOOK COMPANY,

N. D. Hancock

for Editorial Committee.

Oct 11/90

American Book Company.

PUBLISHERS OF SCHOOL AND COLLEGE TEXT-BOOKS, CHARTS AND MAPS.

New York. Cincinnati. Chicago.

806 & 808 BROADWAY,

New York, Oct. 14, 1890

Prof. Sereno Watson,

Cambridge, Mass

Dear Sir:-

The copy of the Manual with corrections as suggested in your recent letter, came to hand yesterday and the changes in the plates will be made at once. When you have decided as regards the further corrections and additions of which you wrote, we shall be glad to give them also, immediate attention.

Your plan to push the work upon the Field, Forrest and Garden Botany, so as to have it ready in ample time for the botany work of 1892, is an excellent one, and in order to be sure to have it ready for that season, it would be necessary to begin the work of type-setting early next summer, and we hope that Mr. Barnes will be able to put the work in shape for that purpose.

The size of the book should be, as you indicate, about 500 pages. Even forms run 480, 504, and 528 pages, so that we should aim to average about 500.

Yours truly,

AMERICAN BOOK COMPANY,

H. D. Hancock

for Editorial Committee.

Oct 14/90

American Book Company,

PUBLISHERS OF SCHOOL AND COLLEGE TEXT-BOOKS, CHARTS AND MAPS.
New York, Cincinnati, Chicago.

806 & 808 BROADWAY,

New York, Oct. 17, 1890.

Professor Sereno Watson,

Cambridge, Mass.

Dear Sir:-

We have your favor of the 14th inst., and would say in reply, that the additions and corrections to the Manual, will be made as you suggested. It was only on the supposition that the matter proposed could be brought into the present space by a little re-arrangment, that we made the suggestion of condensation. There is no reason why the book should not be thoroughly accurate and comprehensive, and so it will be done.

We are in receipt this morning, of a communication from Mr. Barnes of Madison, informing us that he intended to begin upon the work of revision of the Field, Forrest and Garden Botany, at once. We send him, at his request, three copies of the present edition, and shall be glad to know of the progress of the work, from time to time. We trust there will be no question about our being ready to begin the composition at such time next year, as to have the new book out by the 1st of January, 1892. Additional plates of revisions and corrections will be made in Cambridge, and we will communicate with Messrs John Wilson & Son, requesting them to forward the work as rapidly as possible.

A new edition of the Manual goes n the press in the course of a week or two, so we should like to have this matter forwarded to us

as rapidly as possible. The plate correction which you send, will be attended to at once.

Yours truly,

AMERICAN BOOK COMPANY,
A D Hancock
for Editorial Committee.

06/6/1990

EDITORS' ROOMS
American Book Company
806 AND 808 BROADWAY, NEW YORK CITY

Nov. 14, 1890.

Prof. Sereno Watson,
Cambridge, Mass.

Dear Sir,—

Your favor regarding the changes in chemical plates came duly to hand. As to the corrections being printed on separate sheets for those who have bought the first edition we can easily print a quantity of the extra pages which you have had set up giving additional corrections to follow page 735. For the other corrections we do not see how it will be practicable to do it. Further it is very difficult to reach those who have the book. The large majority have dropped the study and are, as they think, graduated to higher studies. If we could reach the few who preserve their books for future study it would be worth while to do so. We shall be glad to have any suggestions you may offer in this matter.

As to charging even a small price for corrections of a text book we hardly think it wise to do so.

Yours truly,

AMERICAN BOOK COMPANY,

A. D. Harrower
for Editorial Committee.

American Book Company

PUBLISHERS OF SCHOOL AND COLLEGE TEXT-BOOKS, CHARTS AND MAPS

New York, Cincinnati, Chicago

EDITORS' ROOMS

806 AND 808 BROADWAY, NEW YORK, Mch. 17th, 1891.

Prof. Sereno Watson,

Cambridge, Mass.

Dear Sir:-

The new edition of Gray's Manual was put upon press in November, and copies were out soon after the first of January. In printing the book we omitted the line calling attention to the fact that this was the second issue of November, 1890, as we have found this notification to be very embarrassing in many cases,-parties desiring to return books which in some cases were purchased a year or two previously, and demanding the new edition in place of said books. We therefore simply put the book out, and trusted to those capable of appreciating the difference between the present edition and the former one understanding the points in its favor, and finding the corrections and additions when needed in their research.

The copy which you requested to be sent to Mr. Weigel of Leipsic, Germany, was ordered sent, but through a misunderstanding of our Mailing Department was not forwarded at the time. We have sent the same, and trust it will reach your correspondent in due time. The delay was really due to an over cautiousness for fear

EDITORS' ROOMS
American Book Company
806 AND 808 BROADWAY, NEW YORK CITY

that the wrong edition would be sent, so that the matter was laid aside and overlooked. We send you two copies, and also a copy to Professor Barnes, as requested.

Yours very respectfully

AMERICAN BOOK COMPANY,

[illegible]

Mar. 17/91

American Book Company.

PUBLISHERS OF SCHOOL AND COLLEGE TEXT-BOOKS, CHARTS AND MAPS.

New York, Cincinnati, Chicago.

806 & 808 BROADWAY,

New York, May 4, 1891

The Estate of
Prof. Asa Gray –

Will you kindly inform us if you have for sale any copies of Prof. Gray's Flora of North America in two vols, or either of the vols? –

If not do you know of any to be had? – We have enquiries for them and are under the impression that Jas. Blakeman & Co. (whom we succeed) bought all you had.

Yours truly
American Book Company
by Bridgman

1 in sheet
6 of 1°
6 of 2°
26 of lessons

American Book Company

PUBLISHERS OF SCHOOL AND COLLEGE TEXT-BOOKS, CHARTS AND MAPS

New York, Cincinnati, Chicago

EDITORS' ROOMS

806 AND 808 BROADWAY, NEW YORK, June 10, 1891.

Mr. Sereno Watson,
℅ Harvard University,
Cambridge, Mass.

Dear Sir:

Your favor of the 8th is at hand this morning, and we are very much pleased with your favorable comments on the Tourist's Edition of Gray's Manual.

This book has been received favorably by botanists who have seen it, and we are endeavoring to call the attention of specialists to this form of the book. The sales of the Manual should be considerably increased by reason of the adaptation of the work to the use of the field botanist by this compact and convenient form of publication; and we hope that botanists will accord to the newly organized Company some portion of the credit for this attempt to meet their wants.

Very respectfully,

Taylorsville, Indian Valley,
Plumas Co., Cal. July 6th, 1895.

Dear Dr. Gray;

Your kind note and the report on plants was received last mail with many thanks. I went up in the mountains this forenoon in search of the Lycoglossum but could not find a solitary specimen. I felt so sad and disappointed about it that I could have sat down and cried. I had but a single specimen — the one I sent you retaining only a leaf and blossom by which to identify the plant.

This specimen was collected some four or five weeks ago and since then the sheep have had a wide range and have absolutely devoured almost every ~~plant~~ thing. I know

(16 miles away)

of a locality on the summit between this valley and Honey Lake where I know I can find it if the sheep have not eat it all up. But there's a band of 2,000 (sheep) there now & I fear if I may not be able to find it again this summer. I do not however despair & will not give it up.

~~Dr~~ Calomotis lasiantha, Euphorbia, Lonicera, Styrax, Pedicularis, Pachystima Sorispora Nigricensis, I collected in April in Butte county a few miles from the Plumas county line.

I shall mail you another small parcel in a few days & will include Darlingtonia & blossoms.

I recd and answered your request for specimens for Miss Darlington. I wrote you at the time but thinking you might not have recd the letter I mention it here. Mr Lemmon visited ~~our~~ us a week ago and will be in Greenville (Indian Valley) to-day or to-morrow en route to Lassen's Peak. He had a splendid collection with him when here — a wagon full & will, I know, when he returns from Lassen have to make two or more trips to convey all his plants home. He is looking quite well. I was delighted to observe in Nelson's "Revision of the Genus Leonotus & descriptions of new plants" Silene Lemmoni.

I have ~~not~~ written to my mother to collect for me fruiting specimens of the Euphorbia. She will most willingly do so as she is visiting in the section where I collected it.

Most Respectfully Yours,
Mrs E. Pulsifer Ames.

Indian Valley, Plumas Co.,
Cal. Aug. 16th 1875.

Dear Dr. Gray:

I send you the pericarps I promised you, of Darlingtonia. I have also put a few for Miss Darlington which I forward by same mail, so that you may keep them for yourself.

I exceedingly regret that I cannot find the lignoglossum in fruit and shall have to wait until another season.

I will send you fruiting specimens of the Tetranthera.

Very respectfully Yours,
Mary E. Pulsifer Amos.

P.S. I shall be able to send you

a number of fruiting specimens of the Euphorbia you wished, with a package of other Butte county plants which my mother collected for me. The Erythronium is my last I collected in Butte co., in Apr. together with the Pedicularis. I hope to have the package ready for mailing by the last of this week. I see by a local "Rural" that Mr Lemmon goes to the Big Trees, to make, or ascertain their correct age, at your request. You could find no better or closer observer than he to accomplish this.

In great haste

M. E. Peck

Taylorsville, Plumas Co.,
Cal. Apr. 8th, 1876.

Geo. E. Davenport —

Dear Sir;

I have not yet mailed the package I spoke of in my last letter. The condition of the road over the mountains preclude the possibility of any regularity in the arrival or departure of the mails, which still continue to be brought over by men on snow-shoes.

Please accept my sincere thanks for four copies of the Medford Chronicle containing your excellent, instructive and interesting articles on the "Flora of Medford;" and also a Catalogue of the North American Ferns which you presented to the

Mass. Hort. Society. A Bulletin of the Torrey Botanical Club contained a notice of this valuable collection and your generous donation of it to some of the Hort. Society.

I am indeed very grateful to you for a copy of the Catalogue.

It is with mournful regret, I learn of the destruction of the Old Elm on Boston Common. I learned to love it as a dear and valued friend and never went to Boston without paying it a visit. To me it possessed a wondrous charm and often when standing beneath its grand and stately shade have I wished it endowed with the power of speech — what "a tale of the times of old" could it not have told!

Was the Old Elm ever photographed? I have some splendid seeds of the silvery Gymnogramme for you which I shall mail you soon as I think it safe to do so. The package I shall also send when the weather be me better.

Very respectfully Yours,
Mary E. Palmer-Jones.

Taylorsville, Indian Valley,
Plumas Co., Cal.
May 23rd. 1876.

Prof. Watson –

Dear Sir;

I mail you to-day a few fruiting specimens of the new Dentaria. They are some I found since I wrote you a few days ago. The fruit of those I am cultivating is not yet mature, but I watch over them with tender solicitude. It is difficult to find it in fruit as some kind of bird or insect manifests a special fondness for it and eats off the blossoms and fruit leaving only the stem and leaves.

I have a few more in reserve

Sapindus acuminata, Raf. Atlas F. C. 3. 22 '36

Anthyllis (Idranthemum) podanisia, 30

arenaria, 31

Ceanothus officinalis, Raf. 54 (= americ.?

globeratus, 55

latifolius "

herbaceus " (parvus Ph.

ellipticus 56

vir, ~~atrus~~ " (intermedius, Mull

? atropurpureus "

sanguineus, Ph. 57

glandulosus " (ovatus, Desm

(Forestia thyrsoides, Raf. 1806)

bicolor, 57 (thyrsiflora

microphyllus, 58

rufipilifolius, 58

Euonymus cuneatus, 59 Oregon

heterophyllus " alleg.

acuminatus " "

muricatus " (Americanus

sarmentosus 60 " var.

angustifolius, Lyon "

atropurpureus, Jacq. "

obovatus, Mutt. "

Didiplis linearis, Raf. Nov. 71. 4.9 Peplis diandra, Mutt.

'36

Diplophia cymosa, Mss. "

~~Plumbago~~ — 4.10

~~Discopis serrata, 4.10 — What?~~

~~Littorella flexuosa, 4.12~~

~~Rivina acuminata, 4.13.~~

~~Plumbago floridana 4.14.~~

obliquata

~~[illegible]~~

[illegible]

[illegible]

[illegible]

Distothecca repens. Raf. Ho. Lud. 95. Poir. in Lam. Ill. 3. 533 ??

Rosa — see Crepin

Helianthemum cucumerifolium. Gard. Chron. 2.6.201 (1876).

Taylorsville, Indian Valley,
Plumas Co., Cal.
June 24th, 1876.

Prof. Watson —

Dear Sir,

I mail you to-day a fruiting specimen — the most mature I have been able to find — of the Lordomine.

I thank you most sincerely for the honor — if distinct — you will confer upon me. Allow me, please, to repeat the request expressed in regard to the Dentaria viz, — that it bear my maiden name in honor of my dear dead father.

I shall search more closely for mature specimens but scarcely hope to find them, the season is so far advanced. Gratefully and sincerely yours, Mary E. Pulsifer — Ames.

Erchtites procalta, Raf. Poir. in Lam. Ill. 3.687.
Tachysandra procumbens, Mx. " 3.704, t.994.
Crotonopsis linearis " 3.709, t.995
Schisandra coccinea " 3.710, t.995
Chimanthus amygdalina, Raf. Fl. Ludov. " 3.710.
Cladium amaniana. " 3.713.
Dilleptium diffusum o. prunus, Raf. 3.661.
Stanleya pinnata. 3.655 [Cleome lanigera, Sol. Am. Bot.]
" gracilis, Dr. "
Dyzosmon anomum, Raf. Fl. Ludov. 48. 3.653. (aff. Bignonia.)
Synandra grandiflora, Poir. 3.648. (Lab.)
Macbridia pulchra, Mutt. 3.646.
Hydropeltis purpurea. 3.645, t.967
Achlys triphylla. 3.641.
Stylophorum diphyllum o. pilosum 3.638.
Prenospora andromeda 3.623.
Schweinitzia odorata 3.622
Adnoria odorata, Raf. 3.621 = Styrax Americ.
Myrocarpum ligustrinum 3.616, t.952
Erigonum tomentosum 3.609, t.947.
Plicatemifolia, " "
Elliottia Muhlen. 3.603.
Suprazia scoparia, Raf. Fl. Lud. 55. 3.597. ??
Diphysia cymosa. 3.595, t.937.
Caulophyllum thalictroides 3.595, t.937.
Ananthopus clandestinus o. cordatus, Raf. l.c. 21. – 3.594. ??
Stylandra pumila, Mutt. 3.585 Adept
Amsonia angustifolia. 3.584.
Euclenia albida 3.583.
~~Colon~~ Selenia bibractata ~~Raf.~~ (Euclenia, Raf.) 3.582.
Antenoron racemosum. Poir. Raf. l.c. 28. – 3.556. l.c. 35 Acanth? Polygonum?
Uralepis purpurea, Mutt. 3.546. Gram
Triplasis americ. 3.545, t.912.
Streptogyna crinita. 3.545, t.912. Gram
Onygopis capuifolia 3.539, t.907.
Trichodium laxiflorum 3.538. "
" pumilum "
Muhlenbergia diffusa o. sinuata 3.536, 537, t.907
Hemianthus micranthemoides, Mutt. 3.533.

over

M. E. Plumes

Auburn Cal.
June 27 st. 1886.

Dear Dr. Gray;—

To-day I send you a parcel of plants for determination.

The Brodiæa I suppose to be B. Bridgesii. The flowers are a beautiful reddish-purple which does not show in the dried specimens. It is rare here. I found these specimens on the American River hills.

Should there be any in the parcel that you would like more of please let me know and I shall be very happy to send them to you.

With sincere regard,
Mary E. Pulsifer Ames.

Auburn, Cal.
July 24. 1890.

Dear Mr. Watson:

Many thanks for your very kind note of the 16th. inst. which is just received. I regret the plant did not prove to be new; but as you say, it is very much better to have learned this now than later.

I thank you most kindly for giving me its name.

Gratefully Yours,
Mary E. Pulsifer Ames.

Auburn, Cal.
Dec. 1st. 1891.

Dear Mr. Watson:-

Returning, after a five weeks visit in San José, I found your kind note and the determination of plants awaiting me.

Arabis (36) I found on our place. Had not detected it before till this Spring. Zinnia pumila, Gray, is from Arizona, but

all the others except the following I found in or near Auburn.
Ranunculus alismaefolius, Geyer. Lake Tahoe.
Polemonium humile, Willd. var. pulchellum, Summit.
Phacelia humilis, T.&G. "
Streptanthus campestris, I fail to find among my numbered specimens, but it is undoubtedly the one I have from near Iowa Hill – Placer Co. –
I remember that I thought of sending it because I could not decide upon the species.
Lychnis Githago grew on our place, and Bidens fundosa in Auburn Ravine.

Thanking you most kindly, I remain

Sincerely Yours,
Mary E. Pulsifer Ames.

Recd. April 9th

Carson City Nevada Territory
March 9th 1864

Prof. Asa Gray, Dear Sir;
To-day I start by Wells & Fargo's Express a box containing a collection of plants made principally in this vicinity. I do this principally at the suggestion of Horace Mann who visited me a few days. I trust the action will be agreeable to you. I have numbered such as I would be glad to have you name for me, keeping duplicates, marked so that I can refer to them. This mutual exchange will be very satisfactory to me and I hope you will be recompensed for the trouble it may give in finding something new.

Very Truly &c
Chas. L. Anderson

P.S. Charges on box are all paid here to your place.

Please let me know when box arrives.

Cuzco [illegible] Apr. 14 '66

Asa Gray M.D.

Dear Sir

I returned a few days ago from a trip of 3 weeks to the south east and was happy to find your letter of Feb. 24th awaiting me. I was too early in the season to find many plants of that region you might advance in [illegible] purposes. Old winter still held them in his grasp. Consequently my attention was directed almost exclusively to geological observations. I collected 3 or 4 specimens of plants unknown to me which I will send by mail soon.

In regard to the parcel sent you I wish to explain and apologize for my neglect. It was put up with the expectation of having to pay letter postage on it. The P.M. told me I could send

it as "seeds, cutting, &c.", when I took it to the office. I had it mailed as such, not thinking of the writing that had been enclosed. Of course I shd. have put it up properly had I taken a sec. and thought. I trust you had no extra expense if so let me know and I will make all right. In future I will be more careful.

The pamphlet containing account of n. sp. &c. of which you speak has not been rec'd. I am very sorry if it is lost, for I value your favors of that kind very highly.

That "pigmy lupine" No. 20 of last parcel is found in fissures of rocks near summits of mts. in this vicinity — if I remember correctly. I have taken it for a dwarf but being found so regularly of the size sent you and in localities away from other lupines I did not feel certain.

It was Mr. Shelton who promised me specimens and sent to Dr. Torrey. He has rec'd. appt. as "State Mineralogist" of Nevada lately, and is now on a tour of exploration to the south east part of Nevada. He is an Englishman, has a fair knowledge of the Natural Sciences, and withal a pleasant and rather promising young man. His facilities for collecting plants are not good, owing to his attention being taken up with mines and not having apparatus for carrying botanical specimens. I think however I can arrange to have make his position of service in a botanical point of view during the coming season.

I will soon make up another parcel and the "Amygdalus?" will be attended to

Ever Yours

E. L. Anderson

Santa Cruz Cal. Ap. 25 '73

Dr. Asa Gray

Dear Friend

I mail to-day a box of roots for you. You may thank your friend Foster, who presented his letter yesterday, for being instrumental in securing these things. I went out collecting with him and remembered you when I came to the Whipplea. I put in some roots of that and cuttings a few. I think they will grow. There are several scraps of other things - two roots of the Trillium ovatum - two or three of the Clintonia Andrewsii - some roots of the Viola sarmentosa and ocellata - may be something else that I have forgotten. But I think

you have these things already in your garden. Let me know what you would like for your garden and I would be happy to send it.

Mr. Foster came in a good time to get the flora of Santa Cruz — and he has loaded himself with specimens.

Kindest regards &c

E. L. Anderson

P. S. The little white Bulbs are our Fritillaria. Foster thinks you have it not in your garden.

I have just rec'd. a letter from Mr. Bebb of Ill. I have sent him our Willows and he thinks one is a new species. He will doubtless send to you for your determination.

I will make up a little package of our species and varieties here and send you I think. We have 3 quite distinct species; and there are, as I think, 2 very doubtful species. I must study them a little more and send notes with the specimens.

If new Mr. Bebb thinks it a "splendid acquisition." But we shall see — and between you and me I am pretty confident we have but the 3 sp. and the other forms are either hybrid or vary on account of locality. It was new nevertheless. MBB

I enclose 3 forms of leaves. No. 3 grows in the running water on the edge of streams. No 2 grows on banks and hillsides away from water but shaded. No. 1 is near the water in sand and near sloughs not shaded. I have not been able to compare the fruit but I feel pretty sure they are the same species. But these characteristics are persistent only according to the place I find them growing.

growth of No. 1. But without fruit I am not able to compare the two.

No. 7 Only the ♀ plant. Silky Canescent. What is it? I thought it was the Bigelovii growing in running water as I found it at first. But yesterday these specimens came from a locality distant from water, and just as silky as the others.

Can't you help Mr. Bebb and get out of the Willows and give us firm ground. I know they are quite a troublesome family and there are hybrids and many varieties, but this No. 1 is so characteristic that it is strange if it has not been described ere this

Yours &c

E. L. Anderson

Santa Cruz Cal
April 29/73

My Dear Prof.

I wrote you the other day and sent a box of roots etc. – I spoke of sending you some willows. I now mail you a package in a very unscientific way – green specimens of our Willows all done up in a bundle. It is an experiment and I do not know whether they will reach you in good order. But the willow being a very flexible and tenacious plant cannot be injured so that you may not be able to find out something about it. You will find

numbers tied up with each little package.

No. 1 Is the female plant of willow which Mr. Bebb is so elated about. He thinks it is new, and a "splendid acquisition" if so. It is rather late to get good specimens. It forms a fine vigorous tree, bark rough and in seams. Mr. B. will doubtless write you, hence I send these specimens If it is new Brewer should get it into his Botany. What do you think of it?

No. 2. The male of No. 1. You will find an anomaly in this parcel, a small branch with male and female aments.

In both these I have inclosed some branches that would grow if set out and cared for.

No. 3 This Mr. Bebb calls S. Bigelovii. He is right doubtless The male catkins have all disappeared as it blooms very early. These are female only.

No. 4. Mr. B. thinks this is the S. Sitchensis. I send ♂ & ♀. It blooms late and just now the specimens are fine. There are cuttings of this also that might grow.

It grows scarcely S.W. of Sitchensis never whole

No. 5. This fruits very early and no catkins can be found now. Mr. B. thinks this is lucida or lanceolata. I cannot decide It has slender drooping branches of a dark brown. I half suspect it is but a weaker rather S. argusta

Santa Cruz Cal Sept 2/75

My Dear Prof.

To-day I mail for you a pkg. of the new Arctostaphylos, which you so kindly propose to name for me, containing fruit, flower buds, new and old leaves, etc., all but flowers which I could not find at this time, but shall send you in a few weeks. This plant grows in the "Big Tree" grove near Santa Cruz. I have never seen it anywhere else, but presume it is found other places in Cal. In growth and habit it resembles the Arbutus Menziesii growing 6 - 10 feet high erect with paler colored stems than the other "Manzanitas". In this pkg. you will find a few specimens of the A. tomentosa that you may compare them. The new one grows in rich moist shady places on the north side of a high hill among Redwoods, Oaks, Hazels, and Ceanothus. I cannot find A. pungens or glauca. In your letter which I rec. 2 years ago you called one specimen I sent A. pungens - but I can find no difference from tomentosa. The leaves vary considerably but they all seem to be one species. I should like a specimen of pungens or a brief description. No Phacelias have come in my way except those already sent you. I am very glad to learn of your good health. Kindly remembrances to yourself and wife in which Mrs. A and myself heartily join.

Ever truly Yours
C. L. Anderson

(over)

P.S.: Looking at my Nevada collection I find what you called Arctostaphylos pungens var glauca, No 102 of my coll. sent you. If this is A. pungens I certainly have not seen it growing about Santa Cruz. S. Watson's Description of glauca is good for the Nevada specimens.

Yours &c
C. L. A.

Santa Cruz Cal.
Feb. 15th 1876

My Dear Prof.

Yesterday I took a walk into the mountains above the Powder Mill to get willows for Bebb and chanced to find a small tree of the new "Manzanita." It was beautiful to look at all covered with flowers at this season and remembering that I promised you some for your herbarium I herewith send you a lot. They may curl up a little on drying altho' I put them in papers and tied the package tight so as to act as a press somewhat. You will see the old leaves are still on the

stem. – On my return I found your letter in reference to your niece. I have no doubt she would be a valuable addition to our corps of teachers and I wish I could say come at once. But our school opens in about two weeks and there would not be time for her to get any kind of certificate, without which we could not employ a teacher. The only certificate recognized by our State from abroad is a State Normal School Diploma. I think this law will be changed very soon so as to include competent teachers from other states.

Better defer her coming until next summer or autumn for this reason. Altho' if here now I could find a place for her soon after the examination of teachers which takes place in March.

We have built a large school of 12 rooms and are very anxious to have it open well and with good teachers. There is scarcely a doubt but Miss Bragg whenever she thinks best to come would find employment soon.

The pay for teachers in places like Santa Cruz is about 60$ to 80$ per month.

Now we have over 30 inches rain at Sta Cruz. Good for other parts of State but not for Santa Cruz. We generally have too much when they only have enough back from the coast.

Yours Truly

G. L. Anderson

Anderson

Santa Cruz, Cal.
Oct. 15th 1877.

Prof Asa Gray,
My Dear Friend,

I was in hopes you would not be hurried so much, and that you might find time for a few days at Santa Cruz. It is true the season was unfavorable for Botanical work, but the trees are always fresh and interesting. I had nothing new however to offer you. For some reason I had no chance to even write to you, so that your movements were nearly all executed before I knew what they would be. I might have looked across to Monterey, or possibly run around and shaken hands with you, but you were gone like a beautiful dream before I awoke to a reality of your presence so near.. This everlasting

hurry takes away so much of the pleasure of life. But then, "Art is long and life is short" and we must hurry through. As we grow older the work accumulates and overcomes us with its magnitude. Of the great field before us widened beyond the reach of mortal eye, and lengthened away into eternity, we can only take up a little flower here and there, and by and by the sun goes down and the landscape fades from our sight and we look upward at the stars as we wend our way across the dark valley, guided by one little glimmering star away in the distance, which we can only see by the eye of Faith - hoping all the while that somewhere and sometime a bright day shall dawn, and that little star will become a sun, and the landscape shall glow with a lustre never seen on this little

sphere of ours! — But I am wandering a little beyond the domain of science — where Tyndall would call the "region of theory" and of which he would speak as "a mere figment of the intellect" — "a theoretic conception".

I trust ere this you have safely arrived at home and with your good wife are enjoying the rest and retrospection of your long trip.

I read Lemmon's letter in the Rural Press of a visit with you and Dr. Hooker in the Sierras (near my old home at Carson) with much interest.

I hope you may have time some day to write me a letter, or at least should you publish anything let me have the pleasure of seeing it.

I am still quietly worked at algæ and other little things at Santa Cruz.

I have heard nothing from

Dr. Farlow directly for 2 or 3 months
I understand he is not going on
the Woodruff Expedition and that
he is up somewhere in Maine.

My wife joins me in very kindest
regards to self and Mrs. Gray.

Ever fraternally yours &c.

C. L. Anderson

C. L. ANDERSON, M. D.,
Office and Residence: Front St., Between City Hall and Covered Bridge.

Santa Cruz, Cal., Dec. 3rd 1888

My Dear Mrs. Gray,

In due time I reached home, and have fallen into the grooves of business as comfortably as a boy tumbles from his bicycle. I can scarcely imagine that I have been away down east — even to the city of Boston, for every thing goes along as of yore, and my absence certainly did not impede the progress of the seasons or interfere with the "procession of equinoxes". One lady in Sunday School yesterday ~~thought~~ said it was very convenient to have me back; another wished to amend by saying pleasant as well as convenient. Whether the amendment was adopted or not I did not stop to ascertain. One thing however I am quite confident of: I had an excellent visit at Harvard, and I feel very thank-

ful to the friends there who made it possible for me to enjoy it. At present I can but wish you the richest of blessings. I wish I could send you a good slice of our lovely weather that we are having just now – in fact almost ever since my return. It does seem a real comfort and both "pleasant" and "convenient" to have such a "glorious climate." In coming home I travelled one night and part of a day between Cheyenne and Ogden in snow drifts and a heavy snow storm. So that when I got home my voice was sub-base and my head a base ball in sensation, (i.e., as I imagine a base ball feels after being clubbed) I had so much cold that I could spare a large share for my wife and daughter which they have been enjoying ever since. Wasn't I generous?

That lunch basket and glass of quince marmalade were substantial things that I will not soon forget – unless I forget the happy things, and the good things, before I do the evil ones. The evil men do lives after them, we are told; some wicked fellow punched a hole in the basket in the wicked city of Chicago, and that hole I brought with me, and I shall always remember that in association with the good things in the basket – and may it not be a good thing – that evil done to the basket – if it should only serve as a continual reminder of the donor of that basket and the quince marmalade! But I am

C. L. ANDERSON, M. D.,
Office and Residence: Front St., Between City Hall and Covered Bridge,

Santa Cruz, Cal., 188

sure now that I do not need such a reminder.

I imagined I could see Dr. Farlow and Prof. Watson holding on to their hats and ears during the late blizzard in the dark that the papers tell about. It must have been a fearful storm. Did you feel it at Cambridge very much?

Excuse so much nonsense. I only intended to announce my safe arrival at home, and express my thanks for your kindness.

Kindly regards to Profs. Watson and Farlow and Miss Gray, and please accept the same for yourself.

Hoping to hear from time to time of your welfare.

I remain Sincerely
Your Friend
C. L. Anderson

Great Falls, Montana.
Lock Box 77.
July 6/89.

Dr. Sereno Watson,
Cambridge, Mass.

Dear Sir:- A recent letter from Prof. John M. Coulter contains the probable name of a new Eriogynia found last year by my friend the Rev. F. D. Kelsey, of Helena, Mont., in the Cañon of the Missouri. Prof. Coulter writes for more material of the plant. I have written to Mr. Kelsey to send all he can spare of his own small specimen accompanied by as full notes as possible on the mode of growth and general habit of the plant. We have not had opportunity of obtaining any specimens since Mr. K. found the original one.

Our Roses here have perplexed me sorely. Prof. Coulter told me to write to you for your Revision of N. A. Roses. Kindly drop me a card, when you have time, stating price & postage of the work and I will remit for a copy of the same.

Very truly Yours-
W. Anderson.

R. Anderson

Missionary Rooms, Boston,
Feb. 1. 1837.

Asa Gray, Esq.
New York City.

Dear Sir,

Your favor of the 26th ult. has been duly received, & is very thankfully acknowledged. We have from the first been anxious to secure, by means of this Expedition, that specific information concerning the islands of the Pacific, which is so essential to the extending of our operations among them. But, though confident of the friendly disposition of Capt. Jones, we had not, till your letter arrived, seen how we were to obtain it. We gladly receive your offer, & shall avail ourselves of it.

With our numerous avocations, it will require a few days to draw up the inquiries we wish to place in your hands. The object of these few lines is merely to acknowledge the receipt of your letter & inform you of the reason why

The answer is delayed.

I am, Dear Sir,

very respectfully yours,

R. Anderson,

Sec.y of A. B. C. F. M.

Paid

To BOSTON PAID

Asa Gray, Esq

New York City.

Sept.

Miss.ry Rooms, Boston, Dec. 5, 1837.

My Dear Sir,

Yours of the 4th was rec.d this morning. The ship Osage is to sail from Philadelphia about the 10th inst.r for Madras. We have sent a man to Phil.a to make shipments for the mission, & I expect to be there myself about the last of the present week, though not on that account. I will, however, see that anything sent to the care of Mr. Henry Perkins, 134 Chesnut street, is forwarded.

I am happy to be informed by you that Mrs. Dr. Torrey is a sister of Mrs. Ward. By some means I had been in ignorance of the fact. I hope to see you in New York.

I am most truly yours, R. Anderson,

Rev. Dr.

To

Dr. Asa Gray,

New York City.

Single

Sir!

The 4th May last year expired here in Stockholm Professor J. E. Wikstrom, during a long time very suffering and ill. I was by the royal Academy of Sciences instantly appointed his successor, and knowing how much friendship you, during the time of the now deceased W., bestowed upon our botanical Museum, which received from you many great and beautiful collections from North America, I take myself the liberty to address you any few lines, asking from you the honour ~~that~~ you may favour also me with the same kind sentiments.

I have 1851–1853 made a voyage round the world in the Swedish frigate Eugenie and brought home several collections, in the arrangement and determination of which I am now occupied. As we touched many of those places visited by the great United States Exploring Expedition I find in your

admirable work of the Botany of this Expedition many and valuable informations respecting the plants, who have been collected by me. I should therefore be very glad if you would send me a copy of this Botany – as I do not know how I shall get it else, for Prof. Fries is wanting his complete for himself – and I will be very happy to return to you my treatise on the Flora of the Galapagos-islands and the following parts of the Botany of our Expedition. My adress is only "the royal Academy of Sciences at Stockholm".

Perhaps you have got already the greatest part of our Swedish plants. If not, it should make me a great pleasure to send you whatever you wish to obtain from this country. And you will also permit me to add some plants from my voyage (as from the Galapagos-islands, Strait of Magellan &c.) and from Sorcyit. As soon as you have informed me what it may please you to require from here, I will directly send it to you.

In the hope that you may forgive me this trouble and not believe me too impudent in asking your work from yourself, but only take it as a desire to get into communication with you

I remain yours

Stockholm d. 17 Febr. 1857.

Prof. A. J. Andersson

If I shall be from preparing, since a time ago, a manuscript of the Coleoptera, it should be of a very great consequence to me if you could furnish me with the Nort American guide. Whatever you may please to lend me shall be carefully used and sent back again.

Professor Asa Gray

of Cambridge University

Boston

United States.

(Forente Stater af Nord America)

FRANCO

Recd Aug 6
under cover to
Hooker

Honoured Sir!

I have had the great honour to receive from you a letter, dated the 14 April l.a. and I by ~~pardon~~ you pardon me that I not yet have answered you. But my time has been employed in arranging and preparations for a tour through Europe this summer; and the first cause will be sufficient - I hope - for indulging me.

It is extremely pleasing for me to see that you will be so kind to go in botanical communications with me; and I shall be very glad to furnish you with all duplicates we can possess. As I already have told you I hope to procure some from the collections of my voyage and from Brazil, ~~collected~~ brought home by Dr. Widgren, and what else I can find you it will make me very happy. But I may say you that it will be very difficult for me to prepare anything this year. I turn back from my voyage in October; and will be very much busy to bring in order what I can have brought with me from that little tour, and in writing the annual report of the progress of botany, to which I am obliged as professor by the Academy of Sciences.

The course of our voyage with the swedish frigate Eugenie was the following. from ~~Cat~~ Carlskrona in Sweden the Copenhagen, Norway and Portsmouth. Madeira (2 days) Rio Janeiro (17 days) Montevideo and Buenos Ayres (3 weeks). Through the Straits of Magellanes,

(where I made very pretty collections), Valparaiso (8 d.), Callao and Lima (4 d.) Panama (6 d.) Galapagos Island (10 d.) Honolulu (8 d.) St Francisco (12 d.) Honolulu (9 d.) Tahiti (6 d.) and Eimeo, Savage island, Foua (Friendly isl.), Sidney and Wollongong (14 d.) Ascania (Clarence isl.) Graham (Mariana isl.), Canton, Manila (whence I made an very interesting tour into the interior of Luzon), Singapore, Batavia, Keeling island, Mauritius, Cape of Good Hope and St Helena. The voyage lasted 22½ months; the best collecting I made were from Straits of Magelhaen, Galapagos island, California, New Holland and Cape of Good Hope.

You have been so kind to offer me copies, not only of your admirable Botany of the United St. Expl. Exp. but also of other publications of yours. I do not possess. This promise I gladly should accept if I had any of them already; but as I want them all (in regards I had occasion to see them by my esteemed teacher Fries!) I am too ashamed of your liberality, to ask. But if you will permit me to find you books from here it would perhaps make me more trading to accept your generous offer.

As I am going to paris and Kew especially to make preparations for a Monography of Salices it should be of a very great value for me if I could receive contributions from the North America where this genus, it so nattly distributed and from which possibly many species yet are unknown to me. Whatever you may think proper to send me – and as soon as possible – I will be very much obliged and make use of it so, that you may find me not at all unworthy your assistance and friendship.

Hoping that you may forgive me an trouble I am making you

I beg to be believe

Your most respectfull

N. J. Anders

Stockholm d. 7 Juni 1857.

LYALL PLACE

1857
13 JUL
BREMEN-NEW-YORK
AP CR
JUN 30
24

Professor Asa Gray
Harvard University College
Massachusetts, Boston
(Nord America)

Answ
June 4th

Dear Sir!

When I at the end of July last came to Kew I got a letter from You through Sir William Hooker, informing me that You had sent me a parcel of books and also your collection of Salices. When I had returned to Sweden in the first days of October I got another, informing me that the books were sent in a package from the Smithsonian Institution to the royal Swedish Academy of Sciences and that You had not thought it worth sending your Salices, as You believed I would see all the species in Sir Hookers herbarium. Now, to day, I have been happy to receive all these books,* all these pamphlets and publications of such an value from so eminent an author; and if I not now make any endeavours to tell You how glad, how honoured I am You may be so kind to believe that I feel it impossible for me. In Swedish it were very, very difficult; in english it is quite impossible.

I don't really know any way how to show you my gratitude. What I yet can send you is so little, so unsignificant; and yet I should be very happy if You would accept that little, and wait for

* with exception of the plates to Your Botany of the N.-V. Expedition. These they last to You! I have not seen any in the parcel.

other years, when I may have to show better fruits.

Meanwhile I never will forget how kindly you have endeared me, and I will ever try to show myself worth your kindness.

As to the Salices I really know a very great deal of Northamerican forms by Sir William. But in studying the European species I have been convinced how necessary it is for the just idea of a species to see large masses of forms. I have not yet made up my notes of these species; but if it should be permitted to me I would express for you my belief that the greatest part of your species is nothing but analogous forms of the ones. F.i.:

S. discolor (eaje forma videtur S. eriocephala)	ann.	S. daphnoide	antea analoga
S. cordata (" " " S. angustata)	"	S. hastata	" "
S. lucida ———	"	S. pentandra	" "
S. pedicellaris ———		S. myrtilloides	" "
S. rostrata ———		S. depressa	" "
S. Barratiana & Richardsoni ———		S. lanata	
S. desertorum ———		S. glauca	&c. s.p.

I have this summer had occasion to see several of the alpine species in Switzerland (e.g. Salix glauca, S. lapponum, S. myrtilloides &c.); and I have found them to the exterior so very differing from our Lapponian types, that I can easily understand how the have got peculiar names in these southern regions (S. incana, hastata, Jacquiniana &c.). So there must also exist a greater similarity between the northern regions in America and Europe; there must be a greater part of original species of shrubs common for them both coexisting with peculiar forms (S. speciosa, S. spinosa, S. longifolia &c.). But now there is with us another thing, making much confusion: the theory of hybrides. It can't be denied that hybrides exist in our countrys, if not to plenty as is believed by Wimmer. Are they not yet created in the New World?

Considering all this I am really in great confusion if I may venture to publish anything over a genus, and no doubt even so common in another part of the world as by us, and which part I have learnt to know only by some very defect collections. On the other hand I have had occasion to see the most and greatest collections, to study all our species state viventi and in the most variable localities, so I could rather believe one have any right to pronounce some idea of the arrangement of the species.

I have got the collection from Mr. De Candolle and promised to work out that genus for his prodromus. Now I think to do so the following: when I have my little treatise completed, I will beg leave of you to send it to your approbation. Perhaps I may in many things have erred; if so, you will be kind enough to correct me.

I should be very glad if you would procure me a little room in any American Journal for an Synopsis of the American species. This may be believed the best way to hear how the matter ~~the~~ may be ~~long~~ thought ~~be~~ to have been treated.

But as I have promised Mr. De Candolle also to give an enumeration of the Populi I should be very happy if you ~~could~~ would send me all species you can procure. Without this assistance I ~~dare~~ believe it will be possible for me to carry out my undertaking.

Early the next spring I will prepare a little collection of various plants for you (containing also Galapagos-plants). As I have selected for me the Gramineæ to work at, you should favour me very much in communicating to me what you can of this interesting family.

I most sincerely thank you for the precious books and treatises I have this day received from you, I and I beg you to be confidence

Yours most thankful

N. J. Andersson.

Stockholm d. 2 Decemb. 1857.

Stockholm th. 18 Febr. 1858.

Sir!

I have been happy to receive your kind letter of the 4 January last. As soon as it has been received by me I put myself to work out an Index of the North-American Salices known to me; but finding that it will take more time than I at first thought — having to go through not only my remarks on the herbarium of Hooker, but also the specimens of De Candolle, Vienna and Berlin, newly sent to me — (in order that this list may be as complete as possible) and, moreover — finding that such a list ~~as~~ not will be well understood ~~only~~ if only a "mere catalogue", I have thought it proper to put forth — at some length — my views of these species and give short characters for the new. I hoped to get it all ready to be sent very soon to you, that it ~~might~~ might be published and serve to some indications in collecting new materials for a more complete knowledge of this genus. But as I find it will take perhaps one or two

weeks to have my little treatise revised and written so that you may easily read it – I now take the opportunity to inform you, that I will send at the end of this month this "Synopsis Monographica Salicum et America borealis cognitarum" – and beg you to announce such a little work that, in the beginning spring, the botanist, who will favour me with some contributions may be aware to collect flowering catkins, young and old leaves and specimens of the same shrub in many stadia of developement. In herbaria the specimens generally are very incomplete, and it is extremely indispensable to have fine and good specimens if anything can be understood of foreign Willows.

As to the Atlas of your Botany of the Exp. Exp. there certainly were announced in the list of books sent from Smithsonian Institution to "Mr. Andersson 2 (two) parts." But only one was found. I think I suppose that the other may have been forgotten in America.

I think it will in any case be best to send all to me or to you through Mr. Röding in Hamburg. The communications from Smithsonian Inst. are (as says our librarian) very irregular and deficient. Almost every time there is anything wanting.

I remain for me Your most obliged

N. J. Andersson.

Mr Asa Gray

Botanicus Professor at the Harvard University at

Cambridge

Boston

(United States) North-America

North American Willows.

~~On north-american willows. By Prof. N. J. Andersson, Stockholm~~

In attempting an enumeration of the Willows of North-America every author must feel himself rather at a loss. Any acquaintance, even the most superficial, with the different species of that genus is sufficient to ~~prove~~ show that ~~to get a perfect knowledge of the same it is quite necessary~~ a proper treatment of the subject ~~demands~~ requires not only ~~I have~~ access to the richest collections, but also an opportunity of seeing almost every shrub for many years. Distributed over a great part of the surface of the globe, inhabiting a great variety of localities, ~~Not~~ the species of this ~~wide~~ genus are exposed to the most heterogeneous influences from all kinds of ~~a~~ soil, ~~weather, temperature &c.~~ (and all variations of climate), thus presenting a greater multiplicity of forms than most plants now known. The literature of the subject also proves how very difficult it has been, and perhaps ever will be, to establish ~~a~~ certain determinations. While some authors believe that there are only ~~a~~ few species, others (as Schlechtendal, Tausch, Hook, ~~Arnott~~ &c.) seem to think: "species ~~tot~~ numerantur, quot creavit sunt individua".

If then a botanist ~~well prepared to find his way out of the labyrinth formed by~~ most favorably situated for the purpose finds it no easy matter rightly to understand and the Willows of his own limited native country, how embarrassed must not a stranger be, who tries to form an exact idea of this intricate genus in a distant (and) extensive part of a new World, ~~where~~ which he ~~only~~ has ~~seen~~ seen only in one spot (California), and for ~~such~~ a few weeks. – But, as it ~~may~~ perhaps always be impossible for ~~to~~ one person ~~to take a few notes of the~~ fully to examine, in a state (and in their native regions), the Willows living, ~~parts~~ of Lappland, Switzerland, the Pyrenees, Siberia, Himalaya and North America (not to speak of the tropical regions); and as it nevertheless is of ~~some~~ advantage to science to have a Synopsis of all the known species, contructed

upon the uniform ~~same~~ principles, a botanist may hope ~~not~~ to be ~~too hardly~~ favorably judged, when he undertakes to publish his views of these plants, after having studied them in several of their natural districts and in the largest collections.

For two years I ~~have~~ acquired myself with the Willows in various regions of Lapland; I ~~have~~ afterwards collected them in the Riesengebirge (Silesia), in Switzerland, and in many parts of the Continent and in England; I have consulted the herbaria as well as the botanical gardens at Paris, Berlin, Vienna; also the herbaria of Mr. De Candolle and Sir W. Hooker (the latter the largest now existing and especially rich on plants from North America). For many years I have wished to publish some general remarks upon this genus, and Mr. De Candolle has lately honoured me with an offer to expound it for his celebrated Prodromus.

But, in arranging my annotations for such a work upon the northern species, I could best know how imperfect is our knowledge of the North-American forms. As the Willows especially belong to the cold regions, why should they not be as numerous ~~found in the same great quantity~~ in America as in Europe or Asia? As they are with us ~~here~~ so extremely subject to variations ~~from the largest to the smallest form in every part~~ and to hybridisation (a fact now generally acknowledged), must it not be the same in the New World? To answer these and similar questions, our materials in Europe are not sufficient, and all the determinations, ~~only~~ founded upon them alone, must be ~~more or less~~ imperfect and liable to mistake. In this ~~dioic~~ diœcious genus, it is very important to be sure that the ~~frequent~~ specimens, both of leaves and flowers, belong to the same species and that the foliage, flowers and fruit should be taken from the very same shrub. ~~But~~ But in the herbaria the primary-

gathered by travellers who generally care ~~but~~ little for ~~of the genus~~ Willows, often are so ~~illegible~~ imperfect, confused and miserable, that they only serve to make the study more difficult ~~and~~ uncertain.

If we look into the American Floras, published by various Authors since the time of Michaux, we find that ~~the~~ indigenous ~~the only species~~ ~~species~~ species of America ~~Salices~~ (with exception of few of the most arctic) all have named totally differing from the European species. Now this was hardly to be expected, when the well-known fact is considered! ~~Now I think there is one thing to be considered. It is well known by experience~~ that the vegetation of a large part of ~~about all~~ the northern regions is, I dare not say quite identical, but very uniform or homogeneous all round the world. Hence, although the indigenous ~~we may therefore conclude that~~ Willows in America generally are confident different from those in the Old World, ~~there may however be a greater~~ (we should look for a ~~closer~~ greater resemblance than has yet been recognized, not only in the higher arctic regions (partially shown in Hooker's Flora Boreali-Americana), but also in the more ~~southerly parts~~ southern parts.

And, in fact, my inquiries have persuaded me ~~that~~ the similarity or analogy in this respect is greater than is generally supposed. With my experience of the European Willows, which frequently vary from one extremity of size, form ~~and~~ colour to the other, according to the area ~~of the species~~ (e.g. S. reticulata), and which in different countries not seldom have the most different aspects ~~shapes~~ (e.g. S. Lapponum and S. glauca in Lapland and Switzerland), I could not be surprised to find many American Willows equally varying ~~different~~ from ours, ~~as many fine variations~~ ~~have~~ although certainly belonging to European types, or at least ~~to find them~~ so analogous to their European relatives ~~forms~~ that they might be considered as ~~[illegible]~~ subspecies of them, till we ~~may~~ discover ~~those~~ the intermediate forms, which are the connecting links of that unbroken series, which we may consider as constituting a true natural genus.

This idea, is it anything more than my individual opinion? It must be proved by others; it must be ascertained by diligent, ~~super~~ unprejudiced and accurate researches upon the living species in America and especially by a botanist who has acquired a profound acquaintance with the european species as also in the history of the science.

My esteemed correspondent, Professor Asa Gray ~~to whom I am highly indebted not only for the most liberal communications of his admirable publications, but also for his generous~~ (who has kindly) promised to assist me in procuring materials for a more complete treatise of this very difficult genus, has encouraged me to send him an enumeration of the American species, already known, which I may bring to the notice of botanists of the United States generally, in the hope that they may be induced to make research and critical observations upon the species in dispute around them, and also to favor me with contributions of specimens which are so greatly needed to perfect my contemplated revision of the entire genus for De Candolle's Prodromus.

I have tried to lay before the reader some of the reasons, why I must consider several American species as very much allied to or perhaps identical with those in the Old World. But neither time at present nor the space at my command has permitted me to treat the matter at the requisite length to prove the correctness of my opinion. I have also been obliged to restrict this communication to short diagnoses only for the new species here proposed, and to a few synonymes, from the principal American Floras. Should this essay fulfil its purpose of directing the attention of the botanists of the United States to this difficult genus, and bring forth the materials and the observations needed to dispel the many remaining doubts, the author may, perhaps, hereafter find an opportunity of publishing, in the New World, a complete monograph of the North American Salices, and thus: "sedet ad Dominum quod fuit ante omnem."

Stockholm, March 4, 1858.

Enumeratio Salicum nobis ex America boreali cognitarum

A. Americae Fr.

I. Australes. Hae tribus, staminibus numerosis, filamentis subfasciculatis basi saepius hirsutis, antheris minutis rotundatis, squamis rotundatis tomentosis, capsulis plus minus longe pedicellatis et ovato-globosis, nectario subaciculari insignis, Amygdalinae omnino analoga, regionibus meridionalibus et tropicis fere prima videtur. Hae pertinent species omnes Africae et Americae indigenae, Indiae orientalis et Peruae plerique (S. Humboldtiana et affines) ~~et Peruae~~; nonnullae (S. Humboldtiana, S. Humboldtiana, S. Hartwegi) v. Americam centralem ~~tog~~ transgredientes etiam Mexico australem incolunt.

1. S. nigra Marsh. – Asa Gray Manual 2 Edit. p. 417 n. 16. Hook. fl. Br. Amer. II. p. 148 n. 18. – S. ambigua Pursh. S. Houstoniana, S. caroliniana Mehx – S. falcata Poh. (S. Purchiana fp. S. tigustrina Mehx. f.).

2. S. longifolia Schuttlew. – pentandra; amentis lateralibus, pedunculatis, laxis; pedunculo foliato; capsulis ovato-globosis, glabris (pedicello nectarium bies superante, stylo subnullo, stigmatibus brevibus indivisis; foliis lanceolato-oblongis, demum glabris, subtus glaucis, reticulato-venulosis exstipulatis.

– pubescens (S. gemmiplocarpa Shuttl.): capsulis subcrassioribus, et ad fere longius pedicellatis; foliis utrinque hirsutis.

Hab. prope St. Marks, Florida. leg. Rugel.

Utraque forma non parum cum priori congruit, multis autem notis (foliis et stipulatis &.) ab ea differt. Ob id praesertim memorabilis videtur, quod S. nigram cum formis australioribus (S. Humboldtiana, S. occidentalis et S. Humboldtiana) aperte conjungit.

3. S. amygdaloides n. sp. ~~amentis~~; trianda; amentis lateralibus, pedunculatis, ~~fragilis~~ rigidiusculis; pedunculo foliato; capsulis ovato-conicis, glabris; pedicello nectarium series superante, stylo subnullo, stigmatibus brevissimis partitis; foliis late lanceolatis, utrinque glaberrimis, subtus pallidioribus, margine glanduloso-serratis, exstipulatis.

Hab. Missouri, Fort Pierre (Prince Neuwied) " Hb. Lindb.

Hac species prae ceteris affinibus, S. amygdalinam nostram latifoliam refert. Habitu quasi hybrida ex S. lucida et S. nigra, huic fructibus, illi foliis omnino similis.

II) Fragiles Fr.

4. S. (pentandra ×) lucida. – S. lucida Mühl. Asa Gray l.c. p. 417 n. 17. – Hook. l.c. p. 148 n. 17.

– latifolia, foliis apice plerumque longe cuspidatis.

– ovatifolia, foliis non ~~aut~~ vel abrupte ~~acum~~ cuspidatis

– dumiflora: capsulis conimatis majusculis, squamis subpeltatis.

In ripis lac. Winipeg. Hb. Bentham.

– angustifolia

– lasiandra Bth. squamis ament. glandulosis, filamentis basi hirsutis (California Bigelow. Whipples Expedition.)

*foliis subtus passim rufo-pilosis.

-pilosa: Columbia - river. Winipeg - lake. Fort Franklin.

Primo obtutu hac species a nostra S. pedunculata non parum differt; comparatis autem formis e variis partibus Americæ et Europæ, affinitas ne dicam identitas negari non potest. Etiam apud nos folia adsunt longe cuspidata, sed et in America folia obtusiuscula, non lucida.

5. S. Fendleriana n. sp. (3-5-andra; amentis pedunculatis, foliatis, erectis; squamis amentl masc. magnis, margine glandulosis; capsulis ovatis, glaberrimis, pedicello nectarium bis superante, stylo evidenti, stigmatibus minimis integris; foliis ovatis, acutis, utrinque glaberrimis, crebrissime glanduloso-serrulatis; stipulis sat magnis, glanduloso-serratis.

Hab. in Mexico nova (Fendler: pl. Neo-Mex. n. 816) et "Rocky mountains" (Geyer n. 287.)

Habitu toto cum S. lucida maxime congruit, sed differt: capsulis brevibus et longius pedicellatis nec non foliis crebrius glanduloso-serrulatis, omnibus notis etiam a S. amygdaloide dignoscitur, cui omnino analoga.

6. S. Wrightii n. sp. (vide infra.) > S. amygdaloide dignoscitur, cui omnino analoga

7. S. alba L. - Asa Gray l.c. p. 416. n. 14.

- vitellina Sm. (= S. Pancochiana Barratt sec. Asa Gray - quem tamen ad S. fragilem sec. Greenindey cerem.)

- cærulea Sm.

8. S. viridis Fr. - S. fragilis parvifolia Barratt in Hook. herb.

A S. alba differt amentis longis acutis et flexuosis, ramulis omnibus pendulis, foliis latioribus, utrinque viridibus et lucidis. A S. fragili ramulis tenacibus, pendulis, foliis cuspide recta acutatis, maturis consistentia densioribus non nigrescentibus, amentis erectis.

6. S. Wrightii n. sp. amentis pedunculatis, pedunculo foliis 2-3 oblongis obtusiusculis incluso; squamis fusciis, deciduis; nectario basin pedicelli semicirculatim cingente; capsulis ovato-conicis glaberrimis, sat longe pedicellatis, pedicello capsulam dimidiam superante, tenui gracili; stigmatibus sessilibus, integris; foliis anguste lanceolatis, longiusculis, tenuissime glanduloso-serrulatis, utrinque glaberrimis, petiolis pulvinis, stipulis caducis; ramis erectis, pallide luteo-fuscis, nitidis.

Hab. in Nova Mexico (n° 1877 C. Wright. Coll. Neo-Mexic. 1851-1852.)

A cæteris hujus tribus speciebus differt foliis angustissimis (2-3 pollicaribus, vix 4 lin. latis), utrinque glaberrimis, amentis brevibus et ex parte erectis (vix pollicaribus). A S. alba vitellina - cui sane proxima - foliis et capsulis longe pedicellatis facillime dignoscitur.

8. S. fragilis L. - Asa Gray l.c. p. 416. n. 14. Hook. l.c. p. 148 n. 16.

- decipiens Hoffm. foliis obtusiusculis; cortice ramulorum pallide testaceo.
- Russelliana Sm. arbor excelsa; foliis maximis, acutissime serratis

III. Longifolia. Amenta in ramulis lateralibus annotinis solitaria foliatis terminalia; squamis gratulato-bilobatis, apice sæpissime glanduloso-ciliolatis (Folia primaria pinnato-incisa?)

9. S. longifolia Muhl. - Asa Gray l.c. p. 417 n. 18. Hook. l.c. p. 149 n. 20. - S. nubra Rich. (sec. Hook.) et S. vegante

Jam cognitum est, nullam fere aliam Salicis speciem (S. cordata forte excepta) in America crescentem tam mire variationibus hinc. Statura nunc bipedalis, nunc 4-5 pedalis (quidem in California ipsa visis), nunc fruticosa vel arborea, ramis longius virentibus aut brevis subtomentosis cortice vario obducti; folia latitudine et longitudine, indumento et serratura ceterum varia ut etiam amenta. His omnibus perfectis speciei segnentes (S. sessilifolia Nutt. et S. Grindeliana et S. taxifolia) tantum ut formas australes et occidentales per Americæ regiones latissime dispersæ speciei proponere volui; quem autem in serie contigua a formis maxime latifoliis et vegetis ad minimas, microphyllas et pumilas adhuc desiderantur nomulla, eas seorsim describi duxi, quod hic autumari, omnibus id expertum. In formis autem numerosissimis Salicis vere longifoliæ hæc præsertim notanda:

- angustissima: amentis laxifloris et ceterum remotifloris; capsulis squamas acutiusculas hirsutas primo non excedentibus, basi parum gibbis, subglandulosis, densissime sericeis, breve pedicellatis; foliis angustissimis et acute dentatis, exsiccatione fusco-nigrescentibus.

Hab. in Texas (Herb. Berland. n. 911, 3019, 2341, 2368) et Mexico nova (n° 1875. Coll. C. Wright.).

10. S. sessilifolia Nutt. (herb. Hook.), amentis masc. unciialibus, crassiusculis, cylindricis, acutis, densifloris; squamis oblongo-ovatis, filamentis triplo brevioribus et

pilis albis staminibus brevioribus dense vestitis, antheris post anthesin fulvescentibus; foliis palliçaribus, sessilibus exacte lanceolatis, medio semipollicem latis, acuminato-cuspidatis, utrinque dense griseo-tomentosis, pilis sat longis subadpressis semivestitis, integerrimis.

Hab. in Oregon (Mr Lobb. 1852).

× Heidsiana Benth. pl. Hartweg. et Hub. – amentis brevibus (vix semipollicaribus), squamis acutiusculis dense tomentosis, antheris pallide flavis, capsulis breve pedicellatis e basi gibba longe vestitis rugulosis glabriusculis; foliis angste lanceolatis, medio 2½–3 lin. latis, margine integerrimis utrinque adpresse sericeis.

Hab. in California (Hartweg).

Ad eandem seriem hac ultima, regionum subtropicarum incola etiam pertinet:

Salix taxifolia HBK. Nov. Gen. & Spec. pl. II. p. 22 (1817) – S. microphylla Schlechd. & Cham. Linnaea VI. p. 354. (1831) – pulcherrima ~~species~~ forma, et mihi videtur formis supra memoratis haud dubie in S. longifoliam serie abiens.

B. Helix Fr.

12 11. S. purpurea L. – Asa Gray l.c. p. 415 n. 8. Hook. l.c. p. 148. n. 15.

13 12. S. vimialis L. – Asa Gray l.c. p. 415 n. 9. Hook. l.c. p. 148 n. 14.

C. Vetrix Fr. Wimm.

I. Temperata (Subdaphnoidea).

14 13. S. acutifolia Willd. – Ramum foliatum tantum vidi.

15 14. S. (daphnoides ×) irrorata (n. sp.) amentis sessilibus, pedunculis ~~tantum~~ maximis primo bracteatis, valde condensatis, masculis brevibus, femineis horizontalibus, elongatis, densifloris; capsulis sessilibus, crasse coniçis, glaberrimis, stylo productis, stigmatibus integris; foliis lanceolatis, utrinque viridibus; ramis densissime glauco-irroratis.

Hab. in Mexico nova (Coll. Fendler. n. 812).

Nostra S. daphnoidi ita est similis, ut nullis notis nisi amentis eximie condensatis et foliis (novellis!) integerrimis utrinque viridibus ab ea distingui possit. Squamis amenti masc. pilis brevibus aureis vestitis, squamis amenti fem. pilis sat brevibus griseis ciliatis, unde amenta fem. non ut in (vera) S. daphnoide longe pilosa conspicuntur.

15. S. eriocephala Mchx. - Asa Gray l.c. p. 414 n. 5. ~~Hook~~

E Salicibus americanis hac vicis ~~valde~~ fere maxime obscura. Specimina numerosa, inter se etiam ~~differentia~~ diversa, nunc S. eriocephala Mchx, nunc S. grossa Barratt, nunc S. principes Pth (~~Hook~~. l.c. p. 150 n. 23), nunc S. conifera Wied. nunc innumeris S. myricoides inscripta a me examinata, confusionem tantum adhuc majorem reddiderunt, nec e diagnosibus auctorum quidquam certi eruere potui. ~~Sunt~~ Exstant specimina gemmis maximis, oblique ~~ac~~ conicis, stipulis semicordatis et serratis, foliis tot longe petiolatis (petiolo basi dilatato gemmam amplectente), demum rigidis, subtus glaucis, margine argute serratis, supra saturate viridibus et lucidis nervis conspicuis percursis, amentis omnino nudis, masculis e gemmis emergentibus pilis fulvo-aureis densissime villosis squamis et staminibus pilis chryseis absconditis, am. femineis pilis cinerascentibus obtectis, stylo elongato v. ita omnino cum nostra S. daphnoide congruentia, ut formis numerosis quibus ea apud nos virorum in modum ludit, perspectis, hanc ut formam parum aberrantem ~~tantum~~ haberem. Obstant autem ramis rarissime glaucescentibus, foliis margine denticulis serrata, praeque autem capsulis multo angustiores, distincte pedicellatis et sericeo-pubescentes. ~~Sunt~~ Exstant etiam specimina quaedam, ad S. discolorem non indubie transeuntia, amentis magnis laxis et ramifloris, capsulis tot longe pedicellatis, foliis fere ut in S. grandifolia nostra, obovato-elongata, margine repando et sinuato-dentatis. Maxime autem memorabilis videtur forma quaedam grisea foliis utrinque hirtis subtus sub ferrugineo-pilosis, ramis cinereo-villosis et amentis iis S. cinereae similibus sed stylo producto distincta. — ~~His~~ Quibus omnibus sequitur me de hac specie vix quidquam certi cognoscere, quare omnes rogo velint specimina varia, diligenter et accurate observare!

16. S. Wigelovii Torr. & Gray (~~Hb. Hook.~~); amentis sessilibus bracteis facillime deciduis paucis suffultis; capsulis ovatis, brevibus, ~~obtusiusculis~~, glabris, ~~glabris~~ pedicello nectarium bis superante squamam subrotundam pilosam subdupante, stylo

longiusculi, stigmatibus brevibus, erectis, bipartitis; foliis ovali-oblongis integerrimis, subtus adpresse flavido-tomentosis, nigricantibus. esquamatibus.

Hab. in California: Hoglow. 1857.

Quoad foliorum formam et indumentum (quod tamen fusco-flavescens) et amentis bracteatis semillem similitudinem quandam cum S. Coultri habet; capsulis autem iis S. hayfatae similiores. Unicum tantum specimen vidi.

17. S. Casioleyis Kunth. Pl. Hartweg. et herb. – amentis sessilibus nudis adpendentibus; squamis cuneato-ovatis subintusis, tomento densissimo et brevi albicantis capsulas fere occultantibus; capsulis acutis, glaberrimis, praecipue nectarium bis superante, stylo mediocri; stigmatibus crassis, brevibus, integris; foliis lanceolatis vel late lingulatis, acutis, supra glaberrimis, subtus ferrugineo-glaucis, margine subsinuatis.

Hab. in California (on the banks of the rivers Salinas & Carmel near Monterey): Hartweg. n. 1955 (167).

Pulcherrima species inter ~~Salices~~ Vetrices & Capreas quodammodo ambigua. Arbor dicitur 20-25-pedalis; rami crassiusculi, atri, novelli tomentosi. Folia 3-4-pollicaria, stipulis seminaeis latioribus, supra nitide viridia, subtus glauca integumento ferrugineo-lanato reticulato colorata. Amenta masculae fere bipollicaria erecta, subfloccosa; squamae atrae, rotundatae, basi angustatae, pilis aureo-fulgentibus vestitae; filamenta squamas duplo superantia, antherae minutae oblongae flavae. Amenta fem. vix brevior sed subangustior, squamae capsulas supra medium tegentes, densissime cano-tomentosae; capsulae lineares, flav.-virides.

18. S. Coulteri Andr. amentis omnino sessilibus, bracteis 2-3 suffultis; squamis fulvis, pilis albis longissimis dense hirsutis; foliis oblongis, supra obscure viridibus costa alba, subtus densissime velluti lucido argenteo tomentosis, integris; ramis angulatis, dense griseo-tomentosis.

Hab. in California (Coulter).

Hac species, cujus tantum tria specimina foliis vix evolutis et amentis masculis prodita vidi, non absque dubio affero; cum nulla a me cognita attamen confundenda, ob id praecipue nitjuit, quod S. eriocephalae cum S. lanatae mediantibus S. Brockenianae et S. speciosae seriem naturali aperte connectit.

II. Arctica v. Subarctica

19. S. Brockeriana Barratt – Hook. l.c. p. 145. n. 5. tab. 180.

Amentis masculis ut S. myrtilloidis similis, amentis foemineis S. herbacae, foliis autem S. lanatae!

20. S. (Lanata)[x] americana: capsulis hirsutissimis.

a. Barrattiana Hook. l.c. p. 146 n. 7. t. 181. – capsulis sericeis, foliis tomentosis magnis, amentis stipitis lateralibus.

b. Richardsoni Hook. l.c. p. 147 n. 11. t. 182 – capsulis et foliis glabriusculis, foliis minoribus, amentis nudis terminalibus.

In Lapponia S. lanata sub multis formis frequenter occurrit, sunt quaedam his americanis tam similes ut nec habitu nec notis ullis distingui possint. Extant enim quae non formae nonnullae ad S. glaucam, nec aptiae ad S. herbaceam accedunt, quarum folia glabrescunt, et amenta terminalia fiunt. Americana potius ad S. lapponum vergit; haec etiam multo humilior crescere videtur (praesertim S. Richardsoni!). E Siberia praeterea varietas ~~prorsus~~ eadem variationes habemus.

21. S. speciosa (Hook. x Arn. Vag. Beechy) Hook. l.c. p. 145 n. 6. – Salix monum Bot. of Herald p. 40 n. 189. t. 10.

Quamquam Salici cuidam, S. amygdalinae affini, hoc nomen jam 1818 imposuit Bonpl., id tamen huic speciei americanae conservandum censeo, utpote Salici omnium in regionibus borealibus crescentium facile speciosissimae aptissimum.

22. S. lapponum L. – Hook. l.c. p. 151. n. 32(?) – S. Hookeriana m. Hook. l.c. p. n. 31.

Tutum debeo me nulla specimina americana huius speciei certa vidisse. Non sine hesitatione pepercitta ~~ad~~ huc refero Salicem eam "pulchram", de

que Chamisso (Linnæa VI. p. 543), a Se in America arctica occidentali pluries lecta, mentionem fecit. Amenta sessilia, capsulæ non pedicellatæ, sed folia, fere ut in S. phylicifolia, utrinque acutata, viridia, subtus pallidiora, glaberrima, stipulæ persistentes, lineares. Unicum tantum specimen ex herb. Hookeriano vidi. Notandum est. Salicem Lapponum, aliquem summarum incolam, etiam foliis nonnunquam glabescentia.

23. S. candida Willd. - Asa Gray l.c. p. 415. n. 9. Hook. l.c. p. 148. n. 14.

D. Caprea Fr.

I) Cinerascentes Fr. Stigmata sessilia! Amenta prælocaia, vix pedunculata!

24. S. (Capraea) Capreoides And. amentis sessilibus, bracteis paucis et minutis deciduis primo tomentosis, demum glabris; capsulis pedicellum sæpe superante, obtusis; foliis obovatis v. oblongis, basi angustatis, subtus glaucescentibus, pilis mucronatis villosis, denique, nervis exceptis, calvis glabris.

Hab. in California (Coulter) et Oregon (Mr. Hook.)

S. Caprea vera europæa, quantum scio, in America nullibi reperta, hac forma tam ibi optime representat. Quod ad fructificationis partes vix ullam adest differentia essentialis. Amenta mascula tamen angustiora, ad feminea crassiora, utrique quam in nostra breviora; quando fere majores atrata, obovato-spathulata; capsulæ e basi gibba fere cylindricæ, 2½ lin. longæ, stigmata sessilia erecta. Folia novella utrinque mufo-hirsuta, subtus etiam vellere albo plus minus denso obtecta, denique denudata, integerrima, discoloria. Gemmæ ut in S. Caprea vera subglobosæ, glabræ; rami sæpius obscuri et glabri. - Proxima huic sed sine dubio est S. brachystachys; quæ tamen differt amentis adhuc brevioribus, foliis densissime subtus albo-velutinis tomentosis.

~~In herb. Hookeriano specimina~~

25. S. aurita L.?

In herbario Hookeriano specimina adsunt 2 ~~absque dubio~~ quantum videre possum ad

hanc speciem referenda, quibus amentum aut ramus foliis parvis, glabris, omnino iis S. retusae similimis obtectus. Verum ne ~~quod~~ confusione quadam commisceatur! ~~Labellum his verbis inscriptum~~ Hab.: ? thickets along rivulets Columbia-river valley near Fort Colville, 15-20 feet high, shrubby. C. et Geyer. Num S. Caprea ~~aut~~ vel S. cinerea hic crescit?

26. S.* brachystachys Benth. pl. Hartweg. et herb.-amentis sessilibus medis, brevibus (aunite*) ovatis; squamis pilis longissimis sericeis dense vestitis; capsulis villosis acutatis, pedicello nectarium 4-5ies superante, stylo nullo, stigmatibus longis, integris, divaricatis; foliis obovatis, subtus densissime velutino-tomentosis, demum glabrescentibus, nefescenti-nervosis.

Hab. in California (Woods near Monterey) Hartweg. n. 1957 (161)

Frutex dicitur 4-orgyalis. Sat similis iisdem primoribus, ne differt: amentis hiemalibus, squamis mediocribus nefescentibus pilis duplo vel triplo longioribus dense sericeis, pedicello ~~capsulae~~ breviori, foliis 1½ unciam longis supra medium uncium latis, subtus molliter velutinis. E notis speciebus in Europa indigenis S. aurita L. hic ullo dubio huic tam similis, ut hanc facile subspecieim ejus haberem.

Sub nomine S. Scouleriana Barratt - Hook. l.c. p. 145. n. 4 in herb. Brooken vidi specimina duo florentia ad S. brachystachyam absque ullo dubio pertinentia, et specimen foliatum S. hitchensis Sauj. Hoc nomen itaque e Salicum turba excludendum!

27. S. vagans Anderss.

Dum S. depressam Scandinaviae, S. Starkeanam Rossiae et Borussiae et S. rostratam Americae borealis ~~attente~~, earumque formas ~~fere innumeras~~ certa attente, nulla ~~judicia praeoccupata~~ ~~certa~~ apenime praeoccupatus, ~~et~~ comparare studet, non potest quin eas omnes ad unam eandemque Salicum speciem pertinere credat. Hoc mihi saltem, specimina fere innumera e variis terris inspicienti, ~~ita~~ omnino persuasum habeo. ~~et se~~ Nonnullis ~~quoque~~ jam allatis formis veridis ~~vivis~~ tantum ~~unitis~~ et ~~tantum~~ spectantibus, vagantes nomine speciem notare volui, quae per terras plurimas septentrionales late vagatur, quae

insuper notis admodum vago est. Variat fo statura, ut qua Linnaeus in Flora lapponica n. 361, "arbor parva", sed in Flora suecica "arbuscula ad terram depressa"; variant folia nunc glabra nunc villosa, nunc magna nunc parva, nunc lanceolata nunc ovata v. obovata; rarissime autem variant amenta laxiflora, ~~paucifloro~~ capsulis angustis (glabris v. hirtis) subcylindricis longissime pedicellatis et stigmatibus (praesertim anthe) coronatis. His praemissis hujus speciei formas sequente modo proponendas censeo:

1) Cinerascens: foliis velutinis

a. Lindiana (Cfr. Fries Nov. Mant. I. p. 59) foliis plerumque obovatis supra demum glabratis. Linn. lapp. n. 361 (teste Fries) S. livida β cinerascens Wbg. lapp. n. 273. – S. depressa α) cinerascens Fr. l.c. p. 57. S. depressa velutina Koch S. sphacelata Sm. (nomen antiquum!)

– elata: erectis. Wbg. l.c.

– depressa: "foliis crassioribus, utrinque tomentosis. S. depressa α. fl. succ. S. livida β in alpibus Wbg" Fr. l.c.

Hab. ~~in~~ Ex alpibus (forma depressa) ~~et~~ juxta flumina (forma elata) in regiones silvaticas Lapponiae descendit.

b. occidentalis: arbor 4–15-pedalis; foliis plerumque lanceolatis, demum rigidis et laevioribus, minute-crenatis (fere ut in S. Capreae). – S. velutina Rich. ex Hor Gray l.c. p. 416. n. 12. Hook. l.c. p. 147 n. 9.

Hab. per Americam septentrionalem omnem et in Siberia partibus orientalibus.

2. Glabrescens: foliis utrinque glabrescentibus, lucidis, subtus pallidioribus.

a) Intermedia: frutex parvus et humilis, foliis saepius late obovatis, subconicis, amentis masculis tumidis, staminibus flavis, pedicello capsularum nectarium bis superante.

– livida: foliis subtus livido-glaucis, capsulis glabris v. sericeis. S. livida α Wbg. S. depressa β Fr.

– bicolor: foliis subtus glaucis haud lividis. S. depressa γ Fr.

Hab. in regionibus mediis et meridionalibus (livida) et meridionalibus (bicolor) Europae.

b) orientalis: frutex altior, foliis majoribus utrinque glabrescentibus, margine sinuatis, amentis masculis crassioribus, staminibus fulvis, capsularum pedicello nectarium saepe bis superante. – S. Starkeana Willd.

Hab. in Siberia et prope Konigsberg Borussiae nec non per Rossiam mediam et septentrionalem.

Et Asa Gray et Hooker l.c. hanc speciem in America mox esse verisimilem affirmant. Formas majores foliis fere ut in S. Caprea longis (sed multo angustioribus) obovatis et acutis, margine sinuatis, textura duris, subtus tomentosis, sepe obsune viridibus in formas minores foliis lanceolatis aut obovato-oblongis, junioribus subsericeo-pellucidis, nervis subtus elevatis coftatis abire vidimus, omnino ut s. d. S. depressa in Scandinavia ubi forma cinerascens altitudinem orientalem jugiter sed forma livida vix hispidulam attingit. Hay formas lividas et bicolores ex America non reperimus. Amenta mascula (S. mutata) omnino ut in S. Starkeana i.e. quam in vera S. depressa paullo longiora et crassiora, pilis fulvis squamarum magis hirsuta; amenta feminea vero quam in nostra longiores, sed capsula omnino aequales. Etiam in America margines silvarum et pratorum inhabitare dicitur.

28. S. Geyeriana n. sp.; amentis breve pedunculatis bracteis paucis suffultis, brevibus, subcauliferis; capsulis ex ovata et crassa basi conicis, tenuiter sericeis, pedicello nectarium bis superante, stigmatibus sessilibus cruciformibus; foliis linearia lanceolatis, planis, utrinque molliter tomentosis integerrimis.

Hab. ad Missouri and Organ, Rocky mountains. C. A. Geyer. n. 286.

Priori valde similis, sed differt habitu toto, ramis interdum glaucescentibus, foliis (novella tantum vidi!) multo angustioribus nec nullo modo obovatis, integerrimis, sed praecipue amentis 4 triplo brevioribus, subtentis, nec aphyllis et capsulis e basi valde crassa acutis. Amenta mascula etiam breviora et crassiora, staminia magis aureo-fulva. Habitu amentorum propius ad S. repentem appropinquat.

II Virentes. Amenta sepius pedunculata, foliis v. bracteis suffulta; capsula breviter pedicellata, stylo producto; folia versicatione non nigrescentia.

29. S. Drummondiana Barratt – Hook l.c. p. 144. n. 2.

Species pulcherrima, ramis elongatis nitidis castaneis vel rufis, amentis sessilibus et capsularum forma, et magnitudine et indumento sequenti proxima et valde similis, ad dilatabunda foliis (quae iis S. lasandrae haud dissimilia) subtus vellere densissimo candido lanatis. Stylus in capsulis juvenilibus (distinctus) stigmatibus bifidis aequilongus, in capsulis adultis magis productus videtur, nunquam autem brevior tamen ac in S. discolore.

30. S. (phylicifolia ×) discolor — S. discolor Muhl. Asa Gray l.c. p. 414 n. 4. Hook. l.c. p. 147 n. 10. — S. phylicifolia L. Asa Gray l.c. p. 416. n. 13.?

Specimina plerique numerosa ~~americana~~, quae attente examinavi, parum differunt a vera S. phylicifolia, qualis in Europa algetibus crescit valdeatissima et semper polymorpha ~~differt~~ eique saltem exacte analoga. Folia ~~adulta tot magna~~ quam in nostra major, adulta rigidiora et margine irregulariter ad non profunde repando-serrata, stipulae in surculis et ramis novellis vegetis sat conspicuae, amentum omnino praecocia, capsulae angustae ~~dense~~ sericeae et squamae atrae, longe pilosae. In pluribus herbariis hae species et S. eriocephala confusae; nullam aliam S. phylicifoliam ex America vidi, nisi forsan sequentem. — Nonne species apud nos loca alpina potissimum amans, quae in Americae regiones magis temperatas inhabitat, hoc modo mutatur?

31. S. phylicoides n. sp. amentis subsessilibus elongatis, crassiusculis; capsulis breve pedicellatis ovatis longe acutatis, tenuissime pubescentibus, stylo elongato integro, stigmatibus brevissimis indivisis; foliis lanceolatis acuminatis basi angustatis, margine integris, subtus pallidioribus nec glaucis.

— latifolia: foliis ~~tri~~-3-4-pollicaribus, 1½ poll. latis, marg. subinvolutis.

— angustifolia: foliis 1-2-pollicaribus, ½ poll. latis, lanceolatis, integerrimis.

Hab. in arctica America occidentali (Arvatcha Bay: Seemann) ~~Hb.~~ Hook.

Ex aliarum specierum nihil valde obscurum! Sed ~~sed~~ ita inter S. discolorem et S. cordatam intermedia ut eodem jure ad quamvis ~~utramque~~ vel subspecies relata esse possit ~~sit~~.

5. Cum priori congruit amentis longis, capsulis pubescentibus, stylo producto foliis elongatis acutis basi angustatis, ne differt: capsulis multo brevius pedicellatis stigmatibus indivisis et foliis adultis vix rigidis nec subtus glaucis. Cum S. cordata communia habet stipulas basi latiores, folia subtus venulosa et capsulas viridiusculas. — Folia 2-3-pollicaria, amenta fere eadem longitudine, capsulae 2-3 lineas longae.

32. S. macrocarpa Nutt. - Hb. Hook. - amentis pedunculatis foliatis, erectis, capsulis breve ~~bi~~pedicellatis, conicis, ~~sty~~ glaberrimis, stylo mediocri, stigmatibus integris; foliis estipulatis lanceolatis integris glaberrimis subtus pallidioribus.

Hab. ad Hudson bay: Burke.

De ~~hac in dispositione~~ hac specie iterum non parum sum incertus, cui habet patissimum proxima censenda. Videtur frutex est altus, ramis glabris. Folia ei S. phylicifolia similima, 1½ pollicem longa, semipollicem lata, acuta, basi angustata, mentura rigidiuscula. Amenta feminea pedunculo foliis 3-4 vix evolutis instructo suffulta, pollicem longa subtriflora. Capsulae et in S. phylicifolia nostra, 2 lin. longae. A praecedentibus longe differt amentis pedunculatis et foliatis, cum sequentibus ~~parum communis~~ non multa communia, inter cum S. glaucae formis denudatis.

33. S. cordata Mühl. Asa Gray l.c. p. 415. n. 10. Hook. l.c. p. 149. n. 21.

In Europa hortis non rara colitur Salix haecce pulchra, foliis magnis, rigidis, basi profunde cordatis, apice cuspidatis margine acute serratis insignis. ~~et statum inde elata~~ Dum hanc formam tantum inspexit vix ullam ejus affinitatem cum S. hastata nostra ~~credent~~ sibi fingent, licet amenta et mascula et feminea huic omnino similia ~~sus~~ conspiciuntur. Ceteras autem modificationes quibus ~~statu~~ et ~~tally~~ terra americana usque ad septentrionem summum, quem ~~videat~~ adeat, facillime ~~intelligebit~~ intelliget has duas sibi valde esse analogas. Apud nos (S. hastata) frutex variat nunc erecta (in convallibus alpium) nunc (in planis campis alpium elevatis) repens

prostratus et digitatis; folia nunc latissime ovata, acuminato-cuspidata, acute serrata. Stipulis magnis cordatis ornata, nunc autem angusti lanceolata integra exstipulata. Prorsus eadem modificationes etiam ex America vidi, quare ego hoc modo disponere vellem:

S. hastata	S. cordata
~~Dodrigii folii~~	
~~vesalo folia~~ multiplex Fr.: fol. cordatis, stip. magnis =	nigricans Mühl.
elegans Hort.: fol. ovatis, stip. mediocri =	nigricoides Mühl.
~~angusti folia~~ argentea (Fr.) fol. lanceolatis, stip. nullis. =	~~subarctica~~

S. cordata autem a S. hastata plerumque capsulis longius pedicellatis signoscitur. Caetera omnibus partibus similiter, praesertim ~~foliorum~~ foliis ~~subtus~~ nigricantibus densissime vermulosis, (character ~~huic speciei~~ his speciebus valde ~~singularis~~ ~~perspicuus~~ singularis) Sub hac specie duas formas attulit Hooker l.c. 1) S. balsamifera Barratt 2) S. Mackenziana Barratt. Quantum e speciminibus in herb. Hookeriano judicare possum S. balsamifera, cujus ramus foliis ~~tectus~~ tectus tantum adest, ad S. acutifolium W. pertinet. Ramus cortice coerulescente-castaneo obductus, stipulis lanceolatis, curvatis, gemmis magnis acutis, foliis fere 4-pollicaris, seminudum lutis, argute nec remotiuscule serratis, subtus glaucescentibus. - S. Mackenziana inter hybrida proles ex S. cordata et S. ~~vetusta~~ vagante (vetusta) videtur. Et priori habet folia glaberrima, viridia, elongato-cuspidata, capsulas basi gibbas glabras, stylum brevem sed evidentem, a posteriori foliorum forma et magnitudinem et consistentiam, capsulas longissime pedicellatas.

34. S. adenophylla Hook. l.c. p. 146. n. 8.

Est sine dubio S. hastata valde affinis; congruit enim cum ea: foliis subcordatis durisque, pilosis reticulato-venosis, argutissime serratis, ~~et~~ stipulis magnis ~~persistis~~, pedunculis foliatis, capsularum forma et colore; ad differt abunde: foliis lana sericea densa primo obsitis, serraturis foliorum elongatis glandulosis, capsulisque brevius pedicellatis.

35. S. myrtilloides L. - S. pedicellaris Pursh. Asa Gray l.c. p. 417 n. 19 Hook. l.c. p. 150. n. 26.

Jam cl. Tuckerman in The American Journal of Science and Arts. Vol. XLV ~~Vol.~~ 1843. p. 34. asseruit speciem americanam cum ~~planta~~ lapponica valde congruere, nec posse quin ~~quin~~ ~~huic~~ Ei omnino assentiar. Apud nos species etiam vere elegantissima foliorum forma ~~et~~ consistentia et colore nec non capsulis statim ab omnibus dignoscitur. In America adhuc ~~maxime~~ magis luxuriosa videtur; folia nempe multo maiora et ovalia. Ad nostram certissime se habet ut ~~S. vetusta~~ ad S. depressam.

III. Nigricantes Fr.

36. S. Mackenzii ~~Hook.~~ Hook. fil. pedunculis foliatis; amentis ~~longipilosis~~ in cuspidis, diapetalis, longe pilosis; capsulis glabris, conicis, in stylum longum integrum attenuatum, pedicello nectarium vix duplo superante, stigmatibus profunde bipartitis; foliis rotundato-ovalibus, brevissime obliquo apiculatis, supra parcissime pilosis vel glabriusculis, subtus pallidioribus dense reticulato-venosis; stipulis ovatis, acutis, serratis.

Hab. in America boreali-occidentali: Kodiak (Mackenz. Hb. Hook.)

Species ob id praecipue ~~fere~~ memorabilis, quod S. hastatae, S. nigricante * amentis pedunculatis, et S. glaucae Fr. et affinis. Cum S. hastata congruit: squamis longe cinereo-pilosis, capsulis obscure viridibus glabris, stylo producto, foliis subtus subglaucescentibus et pulcherrime reticulato-vermulosis, stipulis denique latis serratis; cum S. nigricante habitu, foliis exsiccatione nigricantibus et subtus (sub lente) crebre albo-punctulatis; cum S. glauca capsulis subsessilibus, ~~amentis~~ pedunculo foliis 5-6, ceteris subsimilibus instructo, et ~~habitu~~ consistentia foliorum. Ob hanc veram affinitatem locus in dispositione methodica difficilis determinatu.

IV. Argenteae Fr.

37. S. sitchensis Sans. ex Ledeb. fl. ross. III. p. 609.

Hab. in America boreali-occidentali: Sitcha (Menzies) Oregon (Scouler) et juxta Columbia-ripa (Hind).

Jam ante S. brachystachya observavi specimina S. sitchensis in herbario Hookeriano, S. Scouleriana appellata, quam aliis ipsa confusa.

38. S. grisea Marsh. – Asa Gray l.c. p. 414. n. 6.

Locus in dispositione methodica ambiguus. S. nubra nostra primo habitu similis, ob id ad Salices interdum ducta, ab iis filamentis discretis et capsulis pedicellatis longe diversa. Amenta, pro ratione mascula, parva, subrotunda. Maxime affinis ipsi sequenti, et per eam S. repente nostra.

× amentis haud longe pilosis

39. S. petiolaris Sm. – Asa Gray l.c. p. 415 n. 7.

Amentis et foliis praesertim junioribus S. repentis L. vel potius S. rosmarinifolia L. sat similis. Capsulae, quae in S. grisea obtusissimae et stigmatibus sessilibus coronatae, in hac ovato-rotundae stylo distincto apiculatae; saepiusque in priore obtusae v. truncatae apice summo atratae, in hac acutae, saepius infuscatae.

40. S. humilis Marsh. – Asa Gray l.c. p. 414. n. 3. S. Muhlenbergiana Barratt. × S. conifera Muhl. sec. Asa Gray.

Et S. cinerea et S. Muhliana quasi composita videtur. Ab utraque foliis amentis et capsulis aliena. S. tristis, huic maxime affinis, apprime differt foliis utrinque opaco cinereis, amentis femineis subglobosis et capsularum stylo evidenti.

41. S. tristis Ait. Asa Gray l.c. p. 413. n. 2.
– microphylla: foliis seminucidibus, amentis cutis globosis. Fructus parvus.

42. S. repens L. Asa Gray l.c. p. 418 n. 21. – S. fusca (L.) Hook. l.c. p. 156. n. 28

Nullam veram S. repentem ex America in herbariis vidi. S. repens Nigel. Fl. Port. (S. fusca Oaky) quem Tuckerman l.c. p. 35 S. ambiguam Ehrh. habet, ab utraque diversissima. (

× ad S. arbusculam referenda.

43. S. gracilis And. = S. rosmarinifolia (L.) Hook. l.c. p. 148. n. 13. —

amentis lateralibus, bracteis paucis, diadelphis suffultis; capsulis (cylindricis, obtusis, tenuiter griseo-pubenulis, pedicello nectarium bies superante, squamis lingulatis apice infuscatis, stylo brevissimo, stigmatibus duplo longioribus integris; foliis anguste linearibus planis integerrimis, basi longe angustatis latitudine fere decies longioribus, subtus pilis palidis, glabris.

Hab. ad Saskatchawan (Drummond, Dr. Richardson).

× rosmarinoides: foliis apicem versus serrulatis, margineibus acutiusculis, subrevolutis.

Hab. Durham County (Ont. County).

Ab omnibus mihi cognitis salicibus bene dignoscitur foliis et capsulis. Accedit hybrida e S. vagante et S. myrtilloide videtur. A S. rosmarinifolia certissime longe recedit capsulis valde pedicellatis, a S. vagante foliis linearibus elongatis.

Varietas, ut etiam nostra S. gracilis "S. rosmarinifolia" Morrat" inscripta verum accedit. Habitant autem capsulae longissime pedicellatae!

E. Chamaelix Fr.

I Frigidae Koch.

44. S. glauca L.

Haec species in Lapponia et Silesia innumeris formis (S. lanata, nigricans, myrsinitides et aliis affinibus) ludens vulgatissima et jam in Helvetiae alpibus alpina facit (S. sericea, S. alpida × S. elaeagnoides Ser.) in arcticis regionibus Americae habitu externo vix nostra similis restat. Specimina tamen a Seemann in parte occidentali sec. non e Rocky mountains reportata et a Lyall in Dixon Island cum nostris tamen ita congruunt, ut de affinitate non dubitare liceat. Folia nunc utrinque molliter villosa et cicana, nunc demum subtus viridia, amenta semper foliato-pedunculata, capsulae brevius pedicellatae. Haec certissime ut forma tantum associanda.

- villosa - S. villosa (D. Don?) Hook. l.c. p. 144. n. 3. foliis tenuioribus supra glaucis sparse pilosis elevato-venosis, stipulis subpersistentibus lanceolato-linearibus, amentis sat longis erectis laxiusculis subaphyllis, capsulis vix demum demuditis,

stylo ~~elongato~~ producto integro, stigmatibus brevibus crassiusculis.

Hac forma species maxime vegeta videtur. Etiam in Lapponia omnino similes occurrunt specimina (S. glauco appendiculata Wahl. p.p.) ibique nullo crescendi modo a vera S. glauca distingui possunt.

~~Huc pertinet quoniam~~

+ S. alsertorum Rich. – Hook. l.c. p. 151. n. 30. amentis brevissimis (semipollicaribus) hebbosis, diuifloris, capsulis ovatis dense lanatis, stylo bipartito fusco; foliis anguste oblongis, rigidis, subtus plus minus albo-tomentosis, subglaucescentibus, costa prominente flava et nervis elevatis ~~subtus~~ subcoriaceis, supra olipuis viridibus, lucidis.

Neque sane ad formam in orbe vitae quantum scio non observata. Fruticulus videtur 1-2-pedalis; rami breves, robusti, foliis et amentis condensatis onusti. Squamae aut magnae capsulas magnam partem occultantes; stamina fulvo-aurea. Folia ut Salicis repentis haud absimilia. Transitus autem ad normalem S. glaucam non nunquam repetit ~~non raro~~. Videtur itaque hujus ~~maxime fugax~~ modificatio maxime fugax.

Monstrositatem hujus formae, ex Minto inlet ab Anderson lectam, vide, ramis elongatis foliatis apice spicigeris ~~insignem~~ aberrantem.

45. S. arctica R.Br. – Hook. l.c. p. 152. n. 37.

Species sane difficilis determinatu, quasi inter S. myrsinitem et glaucam prorsus media et formas ~~vel pluries~~ plures ambiguas ~~hucusque~~ amplectens. A S. myrsinite habit amentis plus minus elongatis (et gracilibus), squamis vulgo infuscatis, stylos semper longos, tenues, piceos vel atros, integros; a S. glauca folia tenuiora, viroescentia ~~viridia~~, plus minus hirsuta, capsulas inermes-pubescentes. Ab utraque tamen differt trunco procumbente ("frutex ~~depressus~~" Br.) ramis ~~floriferis~~ adscendentibus; foliis sparsis longius petiolatis, vere herbaceis vulgo obovatis integris, ramis parum elevatis rugulosis; amentis utrinque sessilibus ~~suaves~~ ramulos (~~pedunculos~~ spuri terminales, i.e.) brevis villosos foliatos terminantibus. ~~(idque ad glaciales nonnunquam referendi)~~

Vereor ne sub nominibus variis (S. myrsinity, S. retusa, S. polaris ~~vel~~ S. ovifolia) forma unica hujus species (ab auctoribus ~~saepe~~ descripta sit. Notabiliores sunt

– subphylicifolia: foliis angustatis acutatis, utrinque glabriusculis. – Norton Sound (Clemens).

– subreticulata: trunco et ramis longe procumbentibus, apice tantum foliferis (~~et amentiferis~~), foliis elongato-obovatis, subtus reticulato-venosis; amentis (terminalibus) 2-3 pollicaribus. – Hudson Bay, Mackenzie river etc.

– subpolaris: ~~bin~~ bipollicaris; ramis apice foliis 3-5 emittentibus, quibus equitans amentum semipollicare; squamis atris, truncatis, emarginatis. In litore maris arctici (Minto inlet: Anderson).

S. obovata Pk. (Hook hb.) a S. arctica difficilique neque.

46. S. subcordata Ands. – S. cordifolia (Pk.) Hook. l.c. p. 152. n. 36 p.p. (altera pars ad S. alsertorum pertinet!)

amentis lateralibus pedunculatis foliatis; capsulis sericeis, ovatis, sessilibus, stylo bifido, stigmatibus partitis divaricatis; foliis rotundatis v. ovalibus basi cordatis v. subangustatis, utrinque glabris, subtus pallide viridibus, venoso-reticulatis, herbaceis, stipulatis.

Hab. "Rocky mountains" Drummond.

Frutex parvus, ramis erectiusculis nitidis castaneis, gemmis nunquam. Folia adulta saepe bipollicaria, longe petiolata (petiolo flavo, lucido) costa et nervis subtus prominentibus reticulata, margine glandulose-serrulata; stipulis cordatis; amenta subpollicaria, crassiuscula. Quoad habitum quam hypsita a S. cordata (~~cuj~~ cujus folia habet ~~tal~~ ad brevium) et S. glauca (~~a quo~~ amentis!).

47. S. alpestris Ands. amentis lateralibus (vel praesertim terminalibus, pedunculatis) foliatis; capsulis sericeis, ovatis, albo-tomentosis vel subglabratis, nectario vix basin capsulae superante, stylo producto, saepe ad ~~basin~~ medium fisso, stigmatibus bifidis, laciniis revolutis; foliis oblongis v. subovalibus v. obovatis, ~~utplurimum~~ villosis, demum ~~glabratis~~ glabratis.

Hoc nomine formas varias comprehendo, quae, ad unam speciem antissime referendae, in variis terris ~~varia nomina~~ suis nominibus appellatae fuerunt; sunt:

a) pyrenaica ~~G~~ – S. pyrenaica Gouan! – In alpibus Pyrenaei

b) ~~arctica~~ helvetica – S. ovata Sér. (quam tam ad S. myrsinites ~~Wahlenbergianam pertinere existimat~~ i.e. Koch!) – In Helvetia.

b) norvegica – S. pyrenaica norvegica Fr. – In Scandinavia alpibus (Norwegia et Lapponia)

~~c)~~ americana ~~ovifolia~~ – S. cordifolia (Pk.) Hook. l.c. p. 152. n. 36 p.p. – In arctica America.

Ab omnibus S. glaucae foliis etiam pygmaeis sicut truncus subterraneis, ramis sub prostratis vel adscendentibus, foliis apice breviribus apice obliquis, rigidioribus (ut S. nivalidem ~~sim~~ ex respectu fere simulat) subtus ~~canal~~ venis elevatis ~~elevatis~~ rugulosis, demum glabratis sed margine fere semper ciliatis, amentis laxioribus omnino foliis costatis neis foliis pluribus suffultis et capsulis distinctius pedicellatis.

Idem nitidi a S. subcordata recedit; a S. rhamnifolia et S. cordifolia foliis utrinque acutis, amentis longis et foliatis; ~~foliis~~ villosis vel saltem ciliatis, capsulis pleumque villosis.

48. (?) ~~S. pseudo-myrsinites Auct.~~ — S. myrsinites (L.) Hook. l.c. p. 151. n. 29.

In herbario Hookeri et ~~fama~~ hac dubia etiam in Flora ejusdem boreali-americana, sub hoc nomine confusae sunt plures species, quas seorsim describendas ejusque:

S. pseudo-myrsinites A. amentis lateralibus foliis paucis bracteatis erectis, elongatis diucifloris; capsulis pedicellatis ~~acuto~~-conicis glaberrimis testaceis, stylo distincto stigmatibus brevibus, pedicello squamam duplo et nectarium quadruplo superante; foliis oblongis-lanceolatis, breve petiolatis, tenuiter membranaceis, utrinque glaberrimis, subtus subpallidioribus costa et venis prominulis nervosis, marg. crebre et depresse serratis.

Hab. "on the grand rapid of Saskatchawan" et in "Rocky mountains".

Frutex parvus 1-3-pedalis, ramis divaricatis, foliis 1½-pollicaribus circ. ~~tri~~pollicem latis (habitu fere S. nivalidis nostra sed minus coriaceis, neque ita venulosis et argute serratis), amentis (fere ut in S. phylicifolia) bipollicaribus capsulis testaceis. ~~Vix hic locanda!~~

S. ~~congestus~~ curtiflora A. amentis breve pedunculatis foliis 3-4 minutis suffultis, erectis brevibus; ~~amentis et~~ capsulis ovatis glaberrimis viridulis, stylo distincto, stigmatibus brevissimis conniventibus, pedicello squamam etiam apice crispato-hispidam triplo et nectarium parvum quadruplo superantibus; foliis anguste ovalibus, utrinque glabris, cetiecatione nigricantibus, marg. obtusiusculis.

Hab. "Fort Franklin, Mackenzie river" Dr. Richardson.

A vera S. myrsinitide longe distat, habitu foliis S. (cordata) tantaba vel cinnamo S.

. nigricanti (magis) affinis. Fruticulus parvus; rami vix pedales; folia hemipollicaria, 2 lin. lata, subtus punctis albis creberrimis subpallidiora; amenta hemipollicaria, rachis pubescens; capsula minuta, viridula.

49. S. arbuscula L. (see the next page!)

49.50. S. rhamnifolia (Pall.?) Hook. & Arn. Beech. Voy. p. 117. t. 26. Ledeb. fl. ross. III. p. 612 — S. Uva Ursi (Pursh) Hook. l.c. p. 152. n. 38 (p.p.?) — S. myrsinites Chamisso Linnaea VI. p. 540 (ad limum Sti Laurentii) — S. myrtilloides fol. formed 1, 2. ~~tr~~ Cham. l.c. p. 539. — Huc forsan etiam pertinet S. undaschkensis Cham. l.c. p. 541., quod tamen, notitia S. hastato-herbaceae non dissimilis (sed folia integra!), S. rhamnifoliam et S. ovalifoliam quodammodo connectit.

Nomen Salicis Uva Ursi Pursh, quod in herbario Hook. a Harrate huic specie etiam ~~impost~~ impositum (et), plane rejiciendum: 1) quod Pursh ipse specimina valde et nunc valde incerta descripsit; 2) quod species plurimae alias ex montibus albis et Labrador, ~~sed~~ valde recedentibus, fere eadem jure (si mercam diagnosin Pershii respicias) datum fuit. — Cum specimineibus Salicis rhamnifoliae a Hook. l.c. primum descriptis et depictis nostra non male congruunt, sed recedunt nonnihil foliis vix spathulato-obovatis, margine subintegris, capsulis crassioribus et brevius pedicellatis. ~~Est~~ Fuit quasi inter S. myrsinitidem (cui capsulis hebefimilis) et S. arbusculam (cui foliis) dignoscenda!

50. S. ovalifolia Trautv. - Ledeb. fl. ross. III. p. 620. — S. Uva Ursi (Pursh) Seemann Bay. of Herald p. 40. — S. myrtilloides forma 4 Cham. l.c. p. 539. — major: ramis magis elongatis; foliis majoribus elongato-obovatis, acutiusculis, subtus minus glaucescentibus; amentis & crassioribus; capsulis majoribus. — S. myrtilloides forma 3. Cham. l.c. p. 539.

Hab. ad Sinum Eschscholtz et Cap. Espenberg (Cham. l.c.) in insula Sti Pauli (Cham. l.c.), in Espenb. D. et America occident.-borali (Seemann).

A ceteris facile distinguitur ramis flabellatim procurrentibus, foliis 1/2 – 3/4 pollicem longis, vix ~~fere~~ eadem latitudine, ovalibus v. rotundis, glabris, rigidiusculis, sub-

tus apice reticulato-venosis, amentis foliis fere duplo brevioribus densifloris, squamis castaneis apice nitidulo infuscatis capsulas rufo-piceas glabras attenuatas ad medium tegentibus, stylo distincto, stigmatibus bifidis.

49 S. glacialis n. sp. amentis in ramulis annotinis lateralibus foliatis pedunculatis, ovato-globosis; capsulis ovatis sericeis sessilibus, squamam obovatam v. lanceolatam duplo superantibus, obtusissimis, stylo nullo, stigmatibus bifidis; foliis ovalibus, glabris, subtus glaucis, ~~ang. crenatis~~ integerrimis,

Hab. in lit. maris glacialis ("between C. Harrow & Mackenzie river" Capt. Pullen.)

Hac species, a Seemen l.c. S. Uva Ursi etiam ~~subtus~~ subumbrata, a primo aspectu dignoscitur foliis multo minoribus (vix ¼ uncias longis v. latis) fere omnino nitidulis, omnino integerrimis, basi latioribus fere subcordatis (quae etiam in herb. Hook. "S. myrtilloides" inscripta), amentis duplo brevioribus, capsulis ~~fusiceis~~ fusiceis et stigmatibus sessilibus. – Radix (truncus subterraneus) latissime repens, rami horizontaliter decumbentes, subdigitales.

(to be introduced before S. rhamni folia)

50 S. arbuscula L. ! – S. myrsinites (L.) Hook. l.c. p. 151. n. 29 p.p.

Forma, quam ex "Prince Alberts Sound" (H. M. S. Investigator: Mientschin) et "Rae River" (Dr. Rae) in herb. Hook. vidi a praecedente alpina differunt foliis adhuc amentiferis, squamis ament. apice fuscis, capsulis subtomentosis et stigmatibus subsessilibus. – Non possum etiam, quin ad hanc speciem illam referam formam, quam ~~Trev~~ cl. Tuckermann (Itinerary Fourn. 45. p. 35) pro S. ambigua Ehrh. designavit (= S. repens ~~Oakes~~ herb. Oakes.) Amentis pedunculatis foliatis, squamis capsulas bini tertiaries flavidis, stylo ~~distincto~~ distincto praeditis, ~~et habit~~ foliis lingulatis integerrimis et habitu toto ab omni S. ambigua dignoscitur ~~recedunt~~.

In Europa ~~nondum quidem~~ ite. Wimmer et ascherson hanc speciem e S. repente et S. aurita (quae forsan in America non inventae) proles hybridam habent.

Ad S. arbusculam tamen recedit foliis pilis longis adpressis subtus dense sericeis et integerrimis. Huc etiam referendi:

– Labradorica: foliis policiaribus, 3 lin. latis, capsulis latis flavescente subtus notatis, margine saepe remote serratis, subtus parcissime pilosis. – Labrador.

II Glaciales.

53. S. (retusa?) phlebophylla Andr. – S. retusa (L.) Hook. l.c. p. 153 n. 39. – Seemen l.c. p. 40.

– major: folia obovata, ~~subcuneata~~, integerrima, semuncias longa supra medium fere eadem latitudine, supra planiuscula subtus nervis ascendentibus elevatis striata, exsiccatione fusco-viridia, amenta pollicaria deniflora; squamae parce ciliatae; capsulae ovato-conicae, glaberrimae, rufae, pedicello squamam ~~fere duplo~~ paum et nectarium fere duplo superante pedicellatae; stylus pedicelli dimidia longitudine. – In America occident. boreali (Seemen)

– media: folia oblonga v. subovalia basi subangustata, semuncias longa, 3-4 lin. lata, nervis elevatis subangulato-parallelis utrinque costata; amenta semipollicaria, crassa subglobata; squamae obovatae atrae longe albo-pilosae, basi capsulae ~~adhaerentes~~; capsulae e basi crassa conico-rotundae, glaberrimae, rufescentes sanguineae, pedicello nectarium vix superante pedicellatae; stylus pedicello longior, tenuis, integer; stigmata ~~apice bifida~~, divaricata. ♂ Cap Mulgrave, Beechy. Arctic coast: Dr. Richardson.

– minor: folia ovalia 1-obtusa 2-3 lin. longa ~~latae~~, nervis ~~reticulatis~~ reticulatis parallelis validis percurta (qui nervi, diachymate nox toto evanescente, retis instar soli persistunt); amenta ~~min~~ minuta foliis apicalibus absconsita; capsulae glaberrimae, rufescentes, subsessiles, stylus medioci.

Has tres formas, ~~tibi~~ inter se non parum dissimiles, nullo modo distinguere valeo, quia seriem contiguam a ~~forma~~ natura majori ad minimam, punctorum efficiunt. Sed semper foliculus depressus, nervis ad maximum digitalibus plerumque subtus foliatis. A vera S. ~~retusa~~ retusa, qualem ex Helvetia bene cognosco, optime quidem nonnihil differt; haec ~~aut~~ etiam eandem ~~sti~~ habet seriem formarum a S. Kitaibeliana Wild. (foliis majoribus) ad S. serpyllifoliam Jacq. (foliis perpusillis), toto habitu, et consistentia et nervatione foliorum huic nostrae omnino analoga. – Forma major maxime ad S. rhamnifoliam habitu foliculi et foliorum accedit, sed differt: amentis exacte terminalibus, foliis nunquam serratis, adhuc rigidioribus.

54. S. Cutleri Tuckerman (Silim. Taur. 45. p. 36) S. Uva Ursi Asa Gray l.c. p. 418.

– major: foliis obovato-ovalibus fere semipollicaribus, amentis ~~cadum.~~ longitudine pollicaribus

– minor foliis 3 lin. longis adhuc angustioribus, oblongis; amentis semipollicaribus.

In specimenibus a me examinatis (et a Tuckermann ipso communicatis) amenta semper terminalia; am. mascula (quorum stamina ~~semp~~ singula s. de scribentur) non vidi; nonne ob staturam humillimam et compactam depauperata? Cum S. retusa Europæ meridionali plane nihil commune habet; potius modificatio maxime alpina S. myrtilloidis (S. pedicellaris Ch.) esset judicanda!

55. S. ~~myrtifolia~~ myrtilloides n. sp. amentis in ramulis annotinis terminalibus, foliis occultatis vix semipollicaribus; capsulis brevissime pedicellatis minutis, late viridibus glaberrimis anguste conicis, pedicello squamam angustam apice nigram glabriusculam subæquante, stylo subnullo facile caduco, stigmatibus brevissimis integris; foliis semuncialibus longis, ¼ ½ lin. latis, ovalibus, utrinque pallide viridibus et glaberrimis, margine ~~vix crenate~~ crenulato-serrulatis, novellis (nigrescentibus)

Hab. "Rocky mountains, east side, low situations" (Dr. Hook.).

Fruticulus humo parvo superne ramoso, ramis strictiusculis fere omnino ut in Myrtillo nigro, sed insuper foliis pure viridibus, tenuibus, marg. crenulatis ovali-lanceolatis eximie similis.

56. S. reticulata L. – Hook. l.c. p. 151. n. 33.

a) vestita (Poh) Hook. l. c. p. 152 n. 35 – foliis subtus pilis longis ~~sericis~~ sericeis

– grandifolia: frutex fere bipedalis, ramis strictiusculis, foliis 2 pollicem longis, ~~tum~~ supra medium 1½ p. latis, amentis fere bipollicaribus, ~~pilis sericis dense~~ subtus denique omnino glabris. (Etiam in Hibernia)

– parvifolia: fruticulus, ramis adscendentibus; foliis oblongo-ovalibus v. ellipticis, subtus densissime albo-sericis (Etiam in Helvetia)

b) normalis – S. ~~reticulata~~ reticulata L., ~~frutis~~ Gu in Europa alpibus vulgaris.

c) nana – S. nivalis Hook. p. l.c. p. 152. n. 34. – pygmæa, ramis ~~subhu~~-

digitatibus v. policaribus; foliis 2-4 lin. longis latisque hebetis etiam omnino mediis cano-albis pulchre venulose-reticulatis, amentis lucaribus e floribus 3-6 compositis, squamis obovato-rotundatis glabris venosis. – (Etiam in Grönland & Spitzbergen)

Hui hybrides formas etiam sponte facile procreatas credit formam grandifoliam S. vestita s.d. e S. reticulata et S. lanata, et S. nivalem s.d. e S. reticulata et S. herbacea ortam conjiciat. Formis innumeris hae extremae inter se connexae nullo modo specie distingui possunt.

57. S. herbacea L. Asa Gray. l.c. p. 418. n. 22. Hook. l.c. p. 153. n. 40.

58. S. polaris Wbg. Hook. l.c. p. 153. n. 41.

From this list of the North-american willows (from which I have excluded those more tropical forms growing in Central-America, the South of Mexico and Texas and the cultivated ornamental S. babylonica) we may find that they amount to a number of 58 ~~species~~ species (or ~~ale~~ rather 59, as two are proposed under S. myrsinites), while the Scandinavian – and almost all the european – very probably do not exceed 45. These 59 american species, when compared with the european as to their affinities, may be classified in the following five groups:

I. Those which are common to the old and the new world:

a) perfectly identical though very often more varying in America than here.

α) Transplanted from Europe for cultivation:

S. alba S. fragilis S. acutifolia
S. viridis S. purpurea S. viminalis

β) Arctic or alpine species

(S. aurea?) S. lanata S. arctica S. vagans S. reticulata S. arbuscula
S. lapponum S. glauca S. argentea. S. myrtilloides S. herbacea S. polaris

b) So analogous with european species, that they (at least most forms of them) can not be distinguished from ours. – From the middle parts of America.

S. lucida analogous to S. pentandra. S. capreoides anal. to S. Capsea. S. S. irrorata " " S. daphnoides S. cordata " " S. hastata

b) Having forms very little differing from the ours

(S. cinerea ?) S. glauca S. arctica

S. lapponum S. lanata S. alpestris.

II. Those which very widely distributed over the middle parts of America, seem to analogous with european species, that they (at least some forms of them) can not be distinguished from them, or may be considered as subspecies.

S. lucida analogous to S. pentandra S. phylicifolia analog. to S. phylicifolia S. capreoides analog. to S. caprea

S. cordata " " S. daphnoides S. cordata " " S. hastata S. phlebophylla " " S. retusa.

III Those which certainly in characters differ so much from european forms that they may still be considered as species, though belonging to types, which in the old world produce fewer forms:

S. Fendleriana related to S. pentandra

S. wrightii " " S. alba

S. amygdaloides " " S. amygdalina

S. eriocephala " " S. daphnoides

S. brachystachys " " S. cordata

S. discolor, S. macrocarpa } " " S. phylicifolia

S. Geyeriana " " S. vagans

S. humilis, S. tristis } related to S. repens

S. gracilis " " S. rosmarinifolia

S. subcordata " " S. glauca

S. pseudo-myrsinites, S. cuneifolia } " " S. myrsinites

S. Cutleri " " S. myrtilloides?

IV Those which may also be regarded relative to types in our regions, but with greater reason than the above enumerated must be considered different, ~~and peculiar~~.

S. Bigelovii, S. lasiolepis, S. Coultervi } belonging to the type of S. daphnoides

S. Hookeriana, S. speciosa } " " " " S. lanata

S. cordata belonging to the type of S. lapponum

S. Drummondiana " " " " " S. laurina

S. adenophylla " " " " " S. hastata

S. Barclayi " " " " " S. glauca

V. Those which certainly form types peculiar to the American regions:

1. S. longifolia, S. sericifolia (+ Rhindiana and S. taxifolia). Correspondents in Europe S. riparia and its varieties. — To which may be added S. nigra and S. longipes belonging to a type peculiar to the southern or tropical countries.

2. S. sitchensis, S. grisea and S. petiolaris compensations, as it were in America for our S. mollissima mixed with S. repentes (Obs. S. angustifolia Wulf. is by Prof. Wimmer and others considered here a hybrid of S. repens and S. viminalis!)

3. S. rhamnifolia, S. ovalifolia, S. glacialis and S. myrtillifolia purely arctic forms, only corresponding with several from the northern parts of the cold Siberia.

From all this we find that of the 58 species growing in North-America there are

12 identic with European species

6 nearly so.

6 very analogous to .....

15 distinct species but belonging to the same types as the european.

9 almost peculiar to America

10 really " " " " " " and types

If on the other hand we examine the Scandinavian species (in order to find which of them are wanting in America, we see that such are

1) 8 species, more or less generally cultivated in the whole Europe and probably of a more southern origin:

S. undulata S. nigra S. lanceolata (S. stipularis)

(S. hippophaefolia) (S. mollissima) S. fruticosa (S. holosericea)

of which the four species of some botanists are considered hybrids.

2) only one species, which grows wild in our country and here as and in Switzerland forms such a quantity of varieties, that Schleicher has formed nearly 100 species of this one, viz. S. nigricans, a really European species. (S. canescens, S. ventilata S. ambigua by many botanists are thought to be hybrid forms!) — To these may be added from the rest of Europe S. silesiaca (almost peculiar for Silesia) S. glabra (and S. pedicellata in Italy and Spain) peculiar for Austrian alps) S. grandifolia and S. serrulata (almost peculiar for Switzerland) S. riparia and S. cinerea

If ~~we~~ we now sum up the results drawn from our computations, namely, that of the 98 American species 24 are identical to the european, 24 belong to the same types and ten only, western or arctic forms, seem to be peculiar to this great continent; and further, that of the Scandinavian flora only one wild growing species or type is not yet found in America (a type which in fact looks as composed of almost every one else) but 48 more or less related species or types are common to both the old and the new world – in which (America) they are more luxuriant and varying and where we also find a number of other types –; it seems to me, that we may conclude, that America is the chief abode, and perhaps the native country of the willows; and thus it may be considered as a duty for the American botanists to apply themselves to this genus and its intricate forms.

Science, who does not like hypotheses as much as facts, has not yet got sufficient materials to tell us if and by what means and in what ways the original species first were spread from single centra over the distant parts of the earth; but all we know from the arctic and northern regions bear upon that fact, that their vegetation is very homogeneous. I have tried by these remarks to prove, ~~this~~ with regard to willows, that there any many links connecting Europe and America.

Stockholm the 6 Mars 1858.

Honoured Sir!

According to my last letter I now take the liberty to send You the list of the North American species now known to me, hoping that You will be so kind to let it be known in the way you may think most proper. If it is to be printed anywhere I only wish to have ~~any~~ some copies later sent to me; and I sincerely beg You to look it all over not only to destroy some of the greatest faults I have committed against the beautiful english language, but also to make all corrections You have the greatest experience to find necessary. Although I have made my best to write english - not to "corrente calamo" as in a letter (as this f.i.), I am very persuaded, that You will laugh very often to my english; - but if once You find us any little communication for swedish paper I will ~~make~~ give you the same service I now ask from You.

Perhaps You will not agree with me in the conclusions I have proposed, that a great part of the american willows are, if not quite identical, yet very allied or analogous to ones in Europe. I dare not say that You or Any other may believe in me as any authority; but I must sincerely assure you, that I have treated the matter with the utmost ~~conciousness~~ consciousness; and, looking over masses of specimens (some bad, some well collected) it has been impossible for me to get another opinion. But this I don't think the most essential part of my treatise; as such I consider 1) to refer the American species to the types, with with the certainly are more or less allied, that they may be considered as links in the system of Salix; 2) to put the foreign species in an arrangement adopted here by all, who have studied that genus and found it a natural one.

There is yet one thing I would ask Your kind advice about. Specimens in Herbs. American Herbs. Especially in Herbs the willows it has been impossible to me to procure full volumes of Torrey's Flora of New York (when the Salices are to make Hooker's North American Flora, and especially Barratt's Salices americanae. Our library is very poor in American literature and I sincerely beg You to procure at some price (not too high) what you may think good works.

The ~~little~~ space has not permitted me to give all reasons why I consider Your species as I do. In many parts there are many doubts left open; and I trust to your kindness that You will, through Your friend, communicate such materials to me, which may fill up these lacuna. I have described some new species; some of them are founded on few and very often bad specimens; but, after all, I think they are good species, as I never have seen such things before. I am very firmly ~~am~~ persuaded that You have in America a much larger quantity of good Salices as yet are unknown; and perhaps forms may be detected, by which any of the new proposed must be reduced; but this loss of some species is an advantage to science.

At first I only thought to send You a list of the species; but fearing that the names not should be well understood I have preferred to give a "catalogue raisonné". Then only You must consider my ~~little~~ few notes and remarks. When once I get more from America I will make ~~you~~ a better work.

I had much more to say you ~~about~~ of this matter. But I hope you will take it, not as anything worth much consideration, but as a token of the great esteem, Your kindness has called up in me. It must be considered rather as a private communication to You, submitted to Your judgment and depending on Your kindness, than a work with pretensions to be printed. I have done my best now; later it can be yet better.

When Your time will permit it I should be very happy to receive from You a few lines, informing me ~~of~~ Your acceptance of this letter. And hoping that You will in future permit me to communicate to You I have the honour to remain

Yours very obliged

N. J. Anderson.

To Professor Asa Gray. Cambridge

Honoured Sir!

I have much pleasure to inform You, that I have received yesterday that magnific Atlas to Your Botany of the United ~~Italy~~ States Exploring Expedition, which You have so liberally sent me. Really I feel myself much ashamed to accept this costly present, so much more as I know very well that it will ever be impossible for me to show you how much indebted I feel myself to You.

In looking over these beautiful folio-tables, these highly artistical performed figures, I cannot but think with a certain degree of pity on that little work on the Botany of my Voyage, just now under publication. But as your work is worthy

of United States and their Exploring Expedition, to the mine has a due reference to the little Sweden and my short town. I therefor beg You, when I take the liberty to send it to You, only consider what we are and what I can do.

I should be very glad to hear you had received my last letter, where I enclosed some remarks on north-american willows. And very happy You should make me if You could give approbation to this little essay. This summer and next winter I shall be busy in working out the Salicetum for De Candolles prodromus, and I look with much eagerness for that collection of willows You will be kind to communicate with me.

As I see in our herbarium that You sent to Mr. Wikstrom many plants from America I am very sure You have received some collections from Sweden in return. Nevertheless it will make me very happy to prepare for You the next month a collection. If there is anything you do not wish to keep for your own herbarium, perhaps You will be so kind to give it to some young botanist, who is desiring to exchange plants from Europe. Our collections in Stockholm are especially wanting plants from North-America; and I should ever consider it as a great service done to us, if You could bring me in correspondance with ~~some~~ any botanist in your country for the above-named purpose.

Permit me, honoured Sir, now again to express to you all sentiments of gratitude Your kindness and liberality have caused in me. I should be most happy if I ever could get any opportunity to return to you any part of that, You have given to me.

I have the honour to remain

Your most obliged

N. J. Anderson.

Stockholm the 22 April 1858.

To

Mr. Asa Gray, M.D.

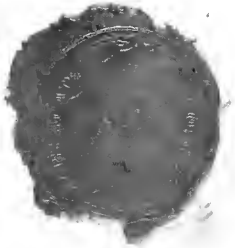
Professor of Natural History at the

Harvard University

Cambridge, Boston

United States.

FRANCO



Dear Sir!

I have been much charmed to receive your kind letter of the 12 April, and to see that you have got already my remarks on the north-american willows. Surely I am very obliged to you, that you have been pleased to accept them. It will be of a high interest for me not only to have your own collection but also all the ~~pub~~ pamphlets you send me, where I also find something about the willows by Torrey.

As I already have written I have got your magnificent Atlas of U. St. Expl. Exp. Botany.

Mr Asa Gray
Professor of Natural History at
Harvard University Cambridge
Boston United States
America.

Now – ~~when~~ as You have been so kind to send another copy – ~~as~~ I ask: what to do with it? Do you wish to present it to the Royal Academy of Science, or to be sent back again?

I should think it very ~~my~~ unpropely to try to say you how very obliged I feel myself to Your liberality in communicating my so many useful and precious writings of Yours. Especially as I know how very little I can send You again. As You have the kindness to ask me, if You have not your Genera pl. Am. Bor. Or. – I must say no – but I am almost ashamed to suppose that You will send it.

You should oblige me and the Academy very much if You could procure, as any American botanical books. If Michaux Flora is to be had at 12 dollars I should be glad to receive it. Also Torrey, flora at 15 dollars &c. Another time I will send You a catalogue of American book we have; but I fear they are very few.

At last You have told me that will just Gramineæ – I wonder if You will not soon be tired to give, and only give.

You will find how many reasons I have to remain your most obliged

Stockholm 14 Maj 1858. N. J. Andersson.

Free
G. N. Abbot.

Mr Asa Gray
Professor of the Natural History of Harvard
University, Cambridge
Boston
United States

Dear Sir!

You must be kind enough to excuse me that I have not before acknowledged the happy and pleasant receipt of the case You have sent me through Mr. Rüdig in Hamburg. I have been very glad to peruse your beautiful Collection of Salices, and I hope to send it back again very soon, with some remarks on the determinations.

I thank You also most sincerely for the

books you have now again given to me. As you have sent another copy of your beautiful and remarkable Atlas I beg to ask you, if you permit that it may be handed over to the Roy. Acad. of Sciences at Stockholm. The pamphlets for Fries and Agardh have been sent owing to the adresses.

I now prepare a collection of Swedish and Galapagos plants which will, I hope, reach you very soon. As we especially want North-American species you should make us a great service to give me the adress of some Botanist, who might exchange the forms of his country to those from the country of Linnaeus. I can promise a large and beautiful collection.

I shall be very glad to hear from you, and especially so if you will give me some hope to see, in the future, your Populi.

In my family happy changes have great disturbances. A little son was born to me the last month, and this little man has already grown to some importance in the household-business.

I remain for now your most obliged and respectful

Stockholm th. 5 July 1858.

N. J. Andersson.

The plants are chiefly from the ~~neighbourhood~~ environs of Upsala, and may therefore be considered as types for the Linnean determinations. As I have noted what I now find, I can communicate later a complement-collection.

From St. Petersburgh I have obtained very rich collections of willows from Siberia and the Russian possessions in America. Having studied these forms I hope to enlarge my knowledge of this Genus very much.

Pray let me have so soon as possible Barratts Salices, Nuttalls Salices and what work of Michaux and Torrey you can procure. By your notes I see how much yet is wanted!

If there is anything I might be happy to do at your command, I assure my willingness.

I am your

N. J. Anderson.

Stockholm d. 7 September 1858.

Honoured Sir!

It is now some weeks since I had the pleasure to receive from You 20 copies of my notes on the north-american willows and also Your admirable Genera. How much I am indebted to your generous kindness, I cannot but fail to tell you as I would do it. In adding some corrections to my bad english style You have favoured me much; but as there are any few errata in the latin I beg to send You a list of them. I am not Professor of Bot. in the University of Stockholm, but at the Royal Academy of Sciences and keeper of the herbarium.

I should wish to send You a collection of swedish plants; but as You might have received many from Fries and Wikstrom, and as You have told me to have Gramineæ and Cyperaceæ, I only have put these species aside for You. The collection is not yet a very complete one; but I will take another opportunity to get it richer.

I now send this week a case under Your adresse to Boston, containing 1) these Gramineæ and Cyperaceæ; 2) a collection of plants from Galapagos islands; and 3) a collection of upwards 800 Scandinavian species.

The Gallapagos plants I hope You will find acceptable. I have taken them out from my own herbarium, as it was impossible for me otherwise to procure such a collection. You are the first and the latest botanist who have received these plants to complete; but yet I don't know how to quit my great debt to You. Probably You will find these species worth to be added to You herbarium. I also have prepared a very small collection for Mr. Engelmann, which I hope You will find any opportunity to forward to him.

The collection of swedish plants You may think inferior to them possessed by You before; but I hope there will be found among your botanist, who will keep them, and give me ~~send my~~ north american plants in return. With exception of these we have in the time of Wikstrom, obtained from You, our northamerican collections are very poor, and I should be very glad to hear that You would procure me a correspondent in America for future exchange. What I now send may be considered as a beginning towards it.

Sir!

It is already some weeks since I intended to write to You, thankful for the arrival of the 20 copies of my Notes upon the north-american willows and the 2 volumes of your admirable "Genera". But I have been obliged to wait till I could inform You, that I had sent that case, which I hope you will receive in safety in short a time. The ship is Marathon, Capt. Vandyke, addressed to Mess. Morris Wain & Co Philadelphia *

I was only the evening before informed that the ship was ready for sail, so I was much hurried in packing what just was ready. Otherwise I might have added some plants and a few books; as it now is I am obliged to postpone it to another opportunity. Probably this autumn I may find any occasion for it.

The case contains 1) a collection of upward 300 Swedish plants, 2) plants from the Galapagos islands. I have sent only to two other private men such a collection of these rare plants, viz.

* I hope You will inform them Mess. that a case, addressed to You in Cambridge, is left on the bord the ship, and that it may be sent to You from Philadelphia.

to Mess. Decandolle and Sir W. Hooker, and you is the completest.

It should make me much pleasure to hear that You have been pleased to obtain these plants, which probably will for a long time be wanted in the most herbaria. – I will very soon send you my Flora of the Galapagos island; the tables are not yet all ready.

I intended also to send to You a complete set of Swedish plants; but as I am very sure that You have obtained all I could give You, from Wikstrom or Fries, I only have put in the case Gramineæ and Cyperaceæ, which You had especially wished from me. As I have noted those now sent to you. I will next time make this collection complete.

As to the other Swedish plant it is my hope that You may find some student or young botanist, desiring to have the types of Linnæi determination from the country of Linnæus, and willing to give us plants from the "Great Western" in return. During the time of Wikstrom your liberality sent to the Stockholm herbarium plenty from the northern America; but these are the only we have from these regions, and You should make me very much obliged if You would procure us any correspondent in your

This is also in the case a little parcel from Dr. Hooker, Chilian, to which I hope You will find any occasion to forward it.

own country. When some duplicates from Brazil and from various other countries, visited during my voyage in Eugenie, will be brought in order, I hope to communicate to You richer collections.

From the botanic garden in St. Petersburg I have obtained an immense case, containing 46 large bundles of Salices from all parts of Russia. Amongst them I have founded many species, yet totally undescribed, from Siberia and Northern America, which will add much to the knowledge of the arctic forms. As soon as possible I will, as You have wished, send you a short synopsis for your Manual.

It should be of great use for me to have Warcates Salices (over cited in the work of Hooker) and the works of Mitchell & Torrey. May I hope, that You ~~take~~ will take the pain to procure them for me at any price and send them to any booksellers in Leipsic.

In my observations on the willows I saw you hand in the preface, making correctory to my bad english; but in contexto there were plenty of errata left, and I include a list of the most aggravating of them.

Your most. obliged

N. J. Anderson.

Stockholm d. 12 Sept.
1858.

Mr Asa Gray

Professor of Natural History at the Harvard University

Cambridge

near Boston

United States

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PAID

Dear Sir!

This very day I received your kind letter of Sept. 30, and I am very sorry to see that you have not obtained that letter, where I informed you that I sent to Prof. Steenstrup at Copenhague the other copy of your magnificent atlas. I trust that it may have arrived in safety to Copenhague, as it was sent immediately after you directions were known to me.

In the newspaper I read yesterday that the schooner Marathon, Capt. Vandyck, which took on board that case, I sent to you,

has lost her anchors &c. and been obliged to go to Amsterdam to procure what was missing. I am very anxious to hear if that little case has been thrown over board or otherwise got any damage; it is the first time I lose anything on sea, but now I would not get the insurance that I had failed to communicate anything to You.

You are most kind to tell me that You have succeeded in procuring for me that precious work of Nuttall. It will be a joyful day, when I may receive that book.

I thought I had, twice, informed You that I had got 20 copies of my little treatise upon the amer. insects, and that they are quite sufficient to me. This autumn, when the Academy is handing out its printings for the foreign Societies, I also will add some copies of any small publications for you, which I hope You may obtain through the Smithsonian Institution.

I am also very glad to hear that there is any young man, willing to receive my hoarish plants and give me them from North America. Now I am very sorry that the specimen I sent you in a hurry were not good enough; but I assure you that another time I will make it better again.

Believe me for ever You most obliged

Stockholm 2/10 88.

N. J. Andersson.

Dear Sir!

Again You have favoured me with a letter and with kind communications of the most valuable Ferns, which have already been sent to Mr. Kirk. I hope You will find that young man worth these contributions to his monography of that genus.

I have compared the Filices from Java, You sent, with specimens of Thunberg in our herbarium. Polypodium lineare a specimen Thunbergianum satis offert: stipite vix fili ~~magnitu~~ crassitie subtilissime puberulo infescente, fronde triplo breviore in stipitem basi non decurrente, costa multo tenuiore, marginibus non revolutis, venis prominulis. Proxime ad Polypod. lanceolatum L. accedit. I send You a specimen of the original Thunbergian plant.

Pteris pilosiuscula Thbg (Nephrodium nummularifolium J. Sm.) nostra sequentem et flabelliformis, frond. fertil. hypolucaribus fere sessilibus. I send also a specimen of this.

Trichomanes strigosum Thbg. (= Davallia strigosa Sw.) ab. bot. p. 69. Kunze in Bot. Zeit. 1848. s. 582). Cum spec. Thunberg. ad bene congruit, sed pinnulae etiam latere exteriore magis pilosae. – You will have a pinnula here enclosed.

Trichomanes hirsuta (Dav. hirsuta Sw.) a specimine nostro sat longe recedit.

(Polypod. lacerum Th. was the form here referred to. Anderson is confused in some way. SCE.)

On herbarium is very rich on species and specimens from Kirk and his disciples, from Thunberg &c. Almost all the old species are to be found here, so if You have any thing to know from them I shall be most happy to assure You all information and.

But as our specimen was a very poor one I put Yours to Fries to be compared with the specimen in Thunbergs own herbarium. Fries writes: This specimen is so much resembling that of Thunberg, that they may very well be identified, although the pinnulae in the specimen of Thunberg are more acute and more falcate.

As to the fourth (I think it was Polypodium lacerum, I have forgot it (Trichomanes hirsutum That not Polypod. lacerum — DCE) and the specimen is yet in Upsala to be determined, as we want it in our herbarium) Fries writes: The other (Polypodium dilatum, has not any resemblance at all with the species thus named in herb. Thunberg, so I suppose there must be any confusion. But there is (Aspid. hirsutulum) in the herbarium another Aspidium, whose name is a diminutivum of the former, very much allied tho the specimen of Gray, though pinnae is integerrimis apiece dilatatum. — I hope Fries will communicate to me the further results of his comparison.

I am very sorry to hear that You have not yet got that little case I sent You; may it not be totaly lost in Marathon!

The VI Class (that of Natural History: number 6) of the royal Academy of Sciences has lost two of its most distinguished members: Rob Brown & Dawes-Turner. Yesterday in the meeting of the Academy it was proposed that You and Adolph De Candolle should be elected members in the vacancies, and I hope You will receive the Diploma in due time. You will then consider this election as a debt paid by the Royal Academy not only to Your fame, to Your illustrious works, to Your contributions to the advancement of the sciences, but also to Your kind and unparalleled liberality to our institutions and to all of us, who have had the happiness to be your correspondents.

I have newly received from Sir William Hooker a long [illegible] of Salices, made by Bourgeau during the new expedition in America. There were only few species — as known before — and most of them only flowering and male specimens. This year I hope to receive more of that genus from Him.

Yes — it is a new year beginning! May You for ever be happy and healthy! And may You not forget

Your most obliged

N. J. Anderson.

Stockholm the 13 Jan. 1859.

Mr Asa Gray

Professor of Natural History at the Harvard

University, Cambridge, Massachusetts

near Boston

FRANCO,

(United States)

Salices e Japonia, quas descripsit N. J. Andersson, holmiensis.

1. Salix japonica Thbg. fl. jap. p. 24. Asa Gray: plants collected in Japan (Exps. to Japan) p. 319. — amentis sessilibus, nudis, cylindricis, acutiusculis, defloratis valde elongatis, flexuosis, gracillimis; squamis ovatis, concoloribus testaceis, glabriusculis capsulam fere dimidiam aequantibus; capsulis ovatis, obtusis, glabris, subsessilibus, stylo minuto glabro, stigmatibus ~~bifidis~~ integris; foliis lanceolatis, cuspidatis, acute serratis, glabris, subtus pallidioribus.

Hab. juxta Nagasaki et alibi: Thunbg. ~~(Specimen exsiccatum in herb. Thbgii vidi)~~

"Arbor mediocris" (Thbg.). Rami graciles, teretes; cortice flavo-cinerascente glabro nitente obducti. Folia 2 pollices longa, sed pollice angustiora, juniora utrinque pilis crassis et caducis conspersa, anguste lanceolata, apice sublongeque cuspidata-acuminata, adulta latiora apice brevius cuspidata, utrinque glaberrima, ~~sed~~ subtus pallidiora vel immo fere glaucescentia venis pulchre anastomosantibus reticulato-venulosa, margine acute serrata serraturis productis, numerosis condensatis, tantum visis usque ad 4 pollices longa, patentia, laxe flexuosa, ~~eque~~ bracteis subulatis suffulta; rachis hirsuta; squamae vix lineam longae, pallide testaceae, obtusae, concolores; capsulae ~~fere~~ lineam ~~sub~~ longiores, basi ovata crassae, gibbae, apice subtruncato obtusae, testaceo-nigrescentes, glabrescentes; pedicellus ~~f~~ obsoletus; stylus vix productus; stigmata crassiuscula.

Obs. Specimina hic descripta, in herbario proprio Thunbergii Upsaliae asservata, a Salice babylonica — cui capsulis et squamis earum fere omnino congruit, foliis brevius exacte (late lanceolatis) acuta et sat dense serratis, serraturis evidentius productis, amentis extrinsecus numerosis et confertis, longissimis et laxissimis luxuriantes differt. In herbario autem ~~de~~ Holmiensi et Musei Parisiensis specimina plurima foliifera vidi a Japonia a Thunbergio reportata, sine ullo dubio ad S. babylonicam veram referenda, sed S. japonica etiam a Thunbergio inscripta. Quod quam ita sint de vera specie S. japonica Thbg. non possum sum incertus.

* (non lineari-lanceolatis)

+ et communicata

2. S. babylonica L. sp. 1473. – e pluribus locis Japonicis in herbariis variis (~~tamquam~~ S. japonica Thbg. appellata) (a Thunbergio ipso communicatam vidi. ×)

× In China frequentata, et inde forsan ~~sicut~~ in Japoniam invecta.

3. S. alba L. sp. 1479. Thbg. fl. jap. p. 25.

Nullo quidem in Japonia unquam vidi; in herbario Thunbergiano non adest, quare valde dubia.

4. S. subfragilis Andr. – (?)

amentis (femineis) brevissimis, pedunculatis, bracteis paucis subpatentibus cinctis, glabris suffultis, vix pollicem longis, recurvatis, subdensiflorum, obtusiusculis; rachis hirsuta; squamis concoloribus, pallide flavescentibus, lanceolato-linearibus obtusis, glabris; capsulas initio omnino teguntibus; capsulis viridulis subsessilibus, ovato-conicis, glabris vel basi interdum pubescentibus, stylo productis, stigmatibus integris excavatis; foliis (novellis tantum vidi) lanceolatis, glabris, vel subtus pilis adpressis hirsutis, margine integris ~~minus~~ venis obscurioribus percursis.

Hab. ad Hakodadi Japoniae (Rev. Williams & Morrow. (Herb. Asa Gray.)

Specimen mancum Salicis nostra fragilis tam similis ut vix absque it distinguendum.

5. S. pierpurea L. sp. 1444. – S. integra Thbg. fl. jap. p. 29. sec. specimina in herbario proprio Thunbergii). – Capsulis ~~tamen~~ valde crassis, albo-tomentosis; foliis rotundato-obtusatis, subtus ~~all~~ crebre albo-punctatis.

Sub nomine S. integra Thbg. in herbario Hookeri specimen vidi depauperatum, de quo haec annotavi: "Salici regenti in Europa vulgatissimae proximus videtur, praesertim varietate hujus maxime insigni arenaria; folia tamen lineolata, basi valde contracta, margine ~~subs~~ apte revoluto acutissime et dense sed non profunde serrulata vel potius denticulata, supra absque viridia, costa tamen alba, subtus argenteo-sericea, costa et venis elevatis, ab nervis transversis connexis pulchre reticulatim areolata". – Specimina mihi hodie non adsunt, quare de eam de hac forma nil certi enuntiare audeo.

6. Salix gracilifolia Andr.

amentis sessilibus prodeuntibus, gracilibus, flexuosis, brevissimis; squamis concoloribus glaberrimis; capsulis subcylindricis vel ovato-conicis, glaberrimis, pedicello nectarium bis terve superantibus, stylo parvo, stigmatibus integris brevissimis; foliis ovato-lanceolatis, cuspidato-acuminatis, utrinque glaberrimis, subtus glaucescentibus, margine serrulatis.

Hab. ad Simoda Japoniae, leg. Williams & Morrow (Herb. Asa Gray.)

Arbor videtur sat procera. Ramis gracilibus, laevis, cortice castaneo glabro obtecti. Folia 2-3 pollices longa, ad medium 1-1½ poll. lata, basi rotundata, rarius subcordata, apice in cuspidem subobliquum abrupte producta, supra saturate viridia, subtus opace glaucescentia, costa fulva percursa, margine plus minusve sed non profunde serrulata; petiolus 2 lin. longus, planiusculus, glaber. Amenta (feminea tantum vidi) angusta cylindrica, arrecto-patentia, flexuosa, laxiuscula, dimidium, defloruta 3-3½ pollices longa, 2-3 lin. crassa, subsessilia, bracteis minutis 2-3 subtus hirsutis suffulta; capsulae testaceo-viridulae, 1 lin. longae, omnino glabae, basi crassiores, ceterum subcylindricae, obtusiusculae; pedicellus glaber, nectarium ovatum sat crassum ter superans; stylus pedicello duplo brevior, glaber; stigmata brevissima, crassiuscula integra; squamae lineari-lata, testaceae, glaberrimae, ventrem capsularum superantes.

Obs. Haec species quoad habitum, formam, consistentiam et glabritiem foliorum ad S. amygdalinam ita proxime accedit ut vix, nisi amentis longioribus et gracilioribus, pedunculo nullo foliato infixis tuto distinguatur! Folia tamen non subtus reticulato-venulosa!

7. S. viridula Andr. – amentis (masculis) brevi pedunculatis, foliis paucis suffultis, arrectis, subdensiflora, cylindrica, acutiuscula, e basi ~~antipetala~~ florentia; rachis cinereo-hirsuta; squamis oblongo-spathulatis, pallide testaceis quandoque, geneseae glabris, apice rotundatis; stamina genina, filamentis liberis squamas duplo superantibus pallidis, antheris ~~rad~~ magnis, croceis; folia fere pollicaria, ½ pollicem lata, subsessilia, exacte ovalia, basi subrotundata, apice nonnumquam parum producta, margine

integra vel ~~subcrenata~~ serrulata, serraturis acutis glandulignis adpressis, utrinque glaberrima ~~viridi~~ pallide virescentia, ~~per~~ venis anastomosantibus pulchre reticulato-areolata, subtus parum pallidiora. — *)

Stub. ad Yokohama Japoniæ legg. Williams & Morrow.

Si quidem nostratium sit comparanda S. hastata quoad habitum proxima. Tantum videtur ~~paucioribus~~ ~~paucior~~ aquam et in rapidis crescere. In utraque folia ovalia brevissime petiolata, ~~viridi~~ pure virescentia, prodeuntia subtus pulchre reticulato-areolata; amenta ♂ etiam haud dissimilia, sed squamis concoloribus, quare etiam S. amygdalinam nonnihil refert.

8. Salix Sieboldiana. Blume Bijdr. N. p. 517. Asa Gray: Plants collected in Japan (Expedit. to Japan) p. 319.

amentis sessilibus, mediusculis, erectiusculis, diuifloris; squamis lanceolato-linearibus, lutaceis, concoloribus, margine pilis conspersis; capsulis conicis rostratis, pilis rigidis albo-cinereis inferne dense hirtis, apice glabrescentibus fuscis, pericello hirto nectarium duplo superante, stylo producto; stigmatibus integris; foliis obovato-ovalibus, utrinque glaberrimis, subtus opacis, margine acute glanduloso-serratis.

Loca apud Blume.

Hab. ad Hakodadi Japoniæ ~~Asa Gray l.c.~~ legg. Williams & Morrow (Herb. Asa Gray)

Arbor. Rami cortice fusco-glabro nitente obducti. Folia 1½ pollicem longa, supra medium vix pollicem lata, exacte obovata, apice recto nonnihil producta, margine acute serrata, serraturis subannotis glandulignis, utrinque glaberrima, supra obscure viridia, venis elevatiusculis striata, subtus pallidiora subglaucescentia, costa et venis prominulis pulchre reticulato-areolata; petiolus 1 lineam longus, glaber. Amentum (femineum tantum vidi) pollicaria, cylindrica, acutiusculum, diuiflora, cinerascentia; bractea parua et amentis suffulta; rachis villoso-hirta; squamæ lineari-lanceolatæ obtusiusculæ concolores ut videtur persistentes, capsulam fere dimidiam æquantibus; pericellus parvus

nectarium crassissimum duplo superante albo-hirtus; capsula (conica-subtrialata, ~~vix lineam longa~~) ~~& lineâ longiores~~ pilis rigidis albis condensatis hirta, rostro glabro fusco; stylus productus pedicelli longitudine, etiam glaber et fuscus; ~~et~~ stigmata sat crassa, fulvescentia, integra.

A speciebus in Europa cognitis ~~ad~~ longe recedit, nec omnino certus sum ei potissimum hanc maxime affinem credam. Quoad formam antherarum ut etiam foliorum S. phyllicifolia quodammodo similis; capsula autem multo brevior pedicellata, basi atto-stipitata, et squamis concolores!

9. S. vulgaris And. – Diandra; amentis subsessilibus, bractiatis; squamis acutis, apice nigricantibus, utrinque ~~pilosis~~ pilis rufis intentibus, dense hirtis; foliis obovatis, oblique acutis, serratis, utrinque glabris, subtus pallidioribus.

Hab. ad Yokohama Japoniæ leg. Williams & Morrow (Herb. Asa Gray).

Frutex videtur sat altus. Ramis mediocriter crassis, dense foliatis, cortice fusco-castaneo intenti obducti. Gemmæ 1½ lin. longæ, etiam castaneæ, glabre nitentes. Folia subsessilia, petiolo brevissimo planiusculo glabrescente insidentia, juniora exacte obovata et minuta, præsertim subtus villosa tenui rufescente-pilosa et facile caducæ obtecta, adulta fere palliam ~~inciam~~ longa, supra medium ¾ pollicem lata, basi angustata, obovato-elliptica, apice parvo mucronato producto sæpissime oblique acutata, margine sat distincte, ~~et~~ profunde et æqualiter serratum, supra obscure viridia, costa albescente-pubenda, ceterum glaberrima, venis regularibus arcuatis percursa, subtus pallidiora, costa et venis dilutioribus pulchre venulosis, omnino glabra, exsiccatione subnigrescentia. Amentum (masculum tantum vidi) 1½ pollices longum, 2½ lin. crassum, exacte cylindrica, obtusa, subflexuosa, erecto-patentia, densiflora, basi foliis ~~paucis~~ paucis 3-4 suffulta; squamæ ½ lin. longæ, ex ovata basi acutiuscula, apice nigrescentes et subcalvescentes ceterum utrinque pilis sat longis rufo-ferrugineis hirsutæ; stamina gemina, filamentis squamas duplo superantibus pallide

flavescentibus, glabris, superne crassioribus, antheris sat magnis rotundatis ~~fuscis~~ ~~libris~~ aurantiacis

A speciebus omnibus mihi cognitis – aperte recedit squamis capsularum rufo-hirtis. Quoad folia S. nigricanti, in Europa vulgatissimae, certe proxima.

10. S. acutifolia Wied. sp. 4. p. 688. – ?

Ad hanc speciem non ~~absque~~ sine multa hesitatione specimina quatuor parva et incompleta, ad Hakodadi Japoniae a Williams & Morrow lecta (Herb. Asa Gray) referre coactus sum. – Rami cortice valde intente castaneo obducti. Gemmae maximae glabra. Amenta ♂ fere hypolticaria et 3–4 lin. crassa, omnissime et longe ~~aureo-~~ hirsuta, arcuato-adpressa, et gemmis magis crumpentibus nullis foliis suffulta sed omnino sessilia; squamae acutae, atrae, pilis longis lucidis aureo-flavicantibus obtectae; stamina gemina filamentis longis pilos squamarum superantibus albis, antheris minutis rotundatis; folia (novella tantum adsunt) lanceolata, grassiuscula et plana, integra vel absolutissime serrulata, prae et lucida viridia.

Holmiae d. 13 Febr. 1859.

N. J. Andersson.

Stockholm 14 February 1889.

Dear Sir!

Your last letter, which I was happy to receive last week, has brought me ~~that~~ the charming information that you have obtained the plants I took the liberty to send you. I am very glad to hear that you have been pleased with the Galapagos-species and probably also with the Scandinavian Gymnicus & Cypraeas. As to the other Nordich plants I am sorry to know how very bad specimens there were; but if your friend Mr. Eaton can in any way dispose of them, and if he should wish an other and a better and more complete collection from our country I should be most happy to prepare such a one.

What you have the kindness to promise to send us will be accepted with great thankfulness. As a member of the Royal Academy of Sciences at Stockholm – you were only elected last wednesday evening – you will to be sure not forget this country and our learned institution. If you could have any duplicates from Japan – as you have promised to Mr. Fries, who has his own herbarium only – I should be very glad

to join them to the public herbarium at Stockholm – the centre of our ~~State~~ kingdom.

You may permit me to write a few lines upon our learned institutions. Besides colleges in every town – some classical some industrial – we have 2 Universities, that of Upsala founded 1480 and that of Lund, founded in Skåne after the conquest of that province from the Danes by Charles XI 1686. In these University the students are created and examined, and whoever wishes to become a learned man, a priest or get any office must there go through several courses and examina. In Upsala there are also a Society – Societas regia Scientiarum Upsaliensis and in Lund another – Physiographiska Sällskapet – by no means belonging to the Universities. In Stockholm there was founded 1739 by Linnaeus and others a Royal Academy of Sciences, and to this institution were added in this century large collections of Natural History, forming Riks-Museum, with 8 professors (3 Zoologi, 1 Botanist, 1 Physicus, 1 Mineralogus, 1 Chemicus and 1 Astronom) who have no other duty than keep up and enlarge the collections, giving also annual reports of the ~~advancement~~ progresses of the respect. sciences. The Academy is divided in 9 classes, each with a certain number of members – in total 100. The VI Class is that of Natural History, members 12.

—

I have carefully examined the Salices from Japan, both the species you sent to me and those in our herbaria. By the note I take liberty to send you in this letter you will find that there are at all 10 species already known from these islands. Of these I am very convinced that S. pedicellata, S. subfragilis, and S. velutina are distinct species, his infralis proprid; S. japonica may be a S. babylonica, S. subfragilis a true fragilis – S. babylonica, S. alba, S. purpurea and S. acutifolia seems to be identical with our species; and S. viridula author dubia reliqt. If you can make any use of that paper I should be very happy. ~~I have~~ [illegible]

The letters to Fries and Hoffm have been sent immediately to Upsala and Christiania.

We have got now the Flora of New York by Torrey. It was sent to the King from our Consul in New York. But as to the other works on American trees and shrubs we are wanting them all.

You should favour me very much in communicating to me all Gramineae you may have to dispose of. After you have having finished the monography of Salix I intend to apply myself quite exclusively to the Gramineae. That work by Hackel may be considered as almost not existing.

In the name of Mad. Anderson I beg to thank you for your kind compliments. Perhaps you may permit her – as a painter – to send you something belonging to the Memory of Linnaeus.

I remain You most obliged

N. J. Anderson.

Mr Asa Gray

Professor of Natural History at Harvard University

Cambridge, Boston, Massachusetts

United Sta[illegible]

Dear Sir!

It is nearly nine months since I sent to You a letter (I not remember its date) where I enclosed not only the determinations of Japanese Ferns Your wished might be compared with Thunbergian herbarium but also a paper on the Japanese Salices You had been kind to send to me. Having not heard anything from You I almost fear that You have not received that letter. If so I will

Prof. Asa Gray
Professor of Natural History at Harvard University
Cambridge, near Boston
Massachusetts U.S.

be obliged to write it again and send You, which will cause me some trouble as I am much occupied just now.

Pray let me know if You wish anything more especially from our country. I shall be most happy to communicate it all to You.

Your most obliged

N. J. Anderson.

Stockholm 1 Mai 1859.

Dear Sir!

Your kind letter of April 27 I have just now received and as You ask me about the herbarium in Upsala I hasten to inform You, that the University of Upsala (the first in Sweden, that of Lund being the second) possesses indeed a botanical Museum, containing 1) Herbarium Thunbergianum, 2) Herb. Wahlenbergii, 3) Herb. Afzelii and smaller collections besides newly brought from the Continent. But as the Parliament has voted a sum of upwards 1000 Dollars at once and 100 Dollars yearly in order to procure complements to that herba-

Sir Asa Gray
of Natural History at Harvard University
Cambridge, Boston
Massachusetts. U. S.

LONDON-SW 5 JY 5 65

BOSTON 6 1 AUG 1865

rium – it will probably by and by be of some utility. I should think that you would favour the University and the science in communicating Japanese plants to the same place where ~~the~~ Thunbergs herb. may be found. – Also as we in Stockholm also have the greatest part of these plants, I take the liberty to ask the same favour.

The herbarium of Prof. Fries is very, very large and will probably fall to the University when that great man has ceased to work – a thing which may be wished not may happen yet in many years.

I have been much happy to hear that you have received my little article upon the Salices of Japan. It is with the greatest eagerness I look upon the time I may receive from you those plants and brochures you have to send me. But only I am puzzled to know how to pay you my gratitude.

Mad. Andersson returns her best thanks. She will this month make a copy of that famous portrait of Linnéus by Roslin, and I shall be most happy to send it to you with a huge collection of portraits of Swedish botanists. As for my own, I must wait yet 40 years to become a celebrity!

Yours most obliged

N. J. Andersson.

If you send any thing to Sweden I by you not to send it to Mr. Carmichael. He is celebrated all! Though the British Museum Officials. He has received all in the time.

34

United States

LONDON S.W. NO 6 AU 23 60

Mr. Gray

Professor of Natural History at Harvard University

Cambridge

Boston U.S.

BOSTON AUG 24 6 CENTS

Dear Sir!

Is it possible that You will forgive me for not having in so long a time let You hear anything from a person who feel himself so highly obliged to You and who never ought to cease with his due respects to You.

I really ~~neither~~ can not give take my refuge to any excuses for my fault; but I must sincerely beg You to forgive me.

In the end of the spring I felt myself a little feeble - not very sick, ~~but~~ but somewhat exhausted, so I took me to Denmark - where we had a meeting of Scandinavian naturalists - and

after that I have visited some places in our southern provinces. Next Sunday I am starting for a part of our country situated next to Lappland and I hope to return with some botanical spolia opima.

All the year I have been busy with the willows. Regel in St. petersburg had extremely large, almost enormous collections from every part of Russia; and as he wished to have them back again this autumn I have been obliged to turn them over quickly and to postpone all the ~~other~~ material from other places. That is the reason why I have not yet ~~made~~ made free use of your estimable collection; and I feel indeed very ashamed to have kept them so long. But I hope you will be assured that not a leaf will be disturbed on the specimens and that you will let me have them some months yet that I may finish a work, which I really wished I had not undertaken but for the difficulties I find more numerous each day.

As soon as I have liberated myself from that atlas, which was less heavy upon me, I will endeavour to show you in a better way than only by words, how deeply I feel obliged to you. You shall then receive some things from us, which I hope will be acceptable by you.

Please, remember me for ever as your most devoted

Stockholm d. 8 Aug. 1860. N. J. Anderson

Stockholm 27 September 1861.

Honoured Sir!

I am almost uncertain if You do remember me; for thinking how long since I wrote to You or received any letter from Your hand, I must believe me quite forgotten. And the worst is that I feel me ~~dese~~ to deserve it. — But I pray ~~to~~ You listen to that little I have to say in my favour.

The last and this year I was absorbed in concluding that monograph of the willows I was unfortunate to promise to De Candolle. My manuscript advancing I hoped to send it to the illustre Editor of the Prodromus at Genf. Then my wife made an revolution in my tranquil home,

You ~~desired~~ some year ago ~~to~~ have a photograph of your humble servant. I now take the liberty to send one, hoping that you will look ~~milder~~ at it more mild and forbearing, ~~than~~ as a creator usually looks on a debtor. Scarcely I can say how happy you would make me by sending me your portrait; it should be a honour for me to have it in my chamber not only as a ~~fatherly~~ mighty master, but also as a fatherly friend.

I have the honour to remain for ever

Your most obliged

N. J. Andersson.

I scarcely need to tell You with how much interest we all, free citizens in an old free country, wish that order may soon return in distributed America, and good result from trouble and sorry.

and disturbed my working-leasure. She gave my a boy (the third now – of me misrum!) and after it She was taken so ill, that I was obliged to go with her to a seabath – and there to devote the entire summer.

Before ending my treatise upon the willows I ever would nor could write to You. I feel my ashamed to keep your collection so long, and I would ~~expect to~~ see You at once: now I have finished, now I send You back your herbarium.

But – as You see – fata non sic volumenti! It yet want some time before I can have the pleasure to announce you that I have been liberated from a tasks laid upon me since many years. Then I will be happy to immediatly to send your Salicy back again.

Through the kindness of Dr. J. D. Hooker I have got occasion to see the willows brought from America by from Oregon, Frage River and Rocky Mountains &c. by Lyall. Bourgeau &c. There are many very curious forms very allied to those from eastern Asia, and many ~~passing~~ connecting forms of ancient species as S. sitchensis, S. speciosa &c.

I shall be most happy to communicate with You this winter an enumeration of all willows which I know from America. As you wished I will also draw up diagnoses for those, growing in the territory which Your admirable Manual comprehends.

Sending back your willows I will take care that You may have some interesting novelts plants newly detected in our country.

Dear Sir!

I can not let the last days of the Linking year pass without telling you how very happy I was, in receiving your, as usual kind, letter and your photograph, which ever will be dear to me, as representing a man, to whom I feel so obliged, and who has shown me so long time benevolence and friendship. I now possess a begining collection of the portraits of my botanical correspondents, and amongst them I assure You, Your take a high place, in many tastes.

I think I have told you before, that my wife, who is a very good painter, has made a portrait in oil of Linnæus, a copy of that famous painting, which Linné himself assures most excellent. It will — I hope — accompany your treasures when they next spring go back to you, and it will — I also hope — be kept by you as a good memory from Sweden. If you wish to have any autograph of Linnæus, I can procure you one very interesting; we have some yellowing of an old herbarium collected and named by Linnæus, and perhaps you prefer to have such a one a Swedish flower inscribed by the handwriting of our greatest naturalist?

(I just now repented that I only promised it for the future. I join a Lythrum here — as a "new-years-gift")

For the day I have nothing at all to communicate to you in botanical respect. An expedition which this year visited Spitzbergen has brought back immense collections from that arctic region, and they will be distributed to several museums and scientific men. You also will have a bit of them, a little precious one!

A new year commences next day. May it bring you health to work for the science as before, happiness as a citizen and husband, and all, all good and you wish yourself and the Upsala. And I pray you to forgive me, when, among other wishes I and You, I also put that.

May you not forgive Your most obliged

Stockholm 30 Dec. 1861.

N. J. Andersson.

I am very sorry to hear that it impossible to get anything of Wright's Cuba Collections 1st ed. Now – if it is quite impossible to have this fol Cat I pray You to have me in your memory if any possibility will be opened to have them in any way? – I should be very glad to have, as You propose, the last remaining set of the new series – if I have understood You fully. As soon as I can have these collections I will send You the necessary money for them. But I repeat: generally I have not found it of any utility for our Museum to buy these incomplete collections.

It should be a very great satisfaction for me if I by a new letter from You were informed that You are not angry with me bodily as I have behaved myself towards you. Believe me for ever

Your most obliged

N. J. Anderson.

Sejergaard th. 25 July 1861.

My dear Sir!

Your kind letter that I received yesterday has been a great pleasure but in the same time a great reprobation to me. What has caused that? in so long a time have not written to You? Surely: I can not answer that question, only that I have been ashamed not to tell You that I was preparing something for You and sending back the Salicy which You had lent me. I think I have formerly told You that we have at Rockholm a Museum of Natural History, viz. for Zoology, Botany, Astronomy, Chemy, Physic and Mineralogy; each of these Departments is kept by its own Curator or professor, three for Zoology but only one for the others. Being thus quite alone for Botany, and the collections much increasing I have very

much to do, and can apply myself at scientific work only at intervals. In the last years I also have been travelling very much, but away by the government; and thus the result has been that my monograph of the Salices has kept me fully engaged these last eight years. But now — I am glad to tell you that the manuscript has been sent to De Candolle it is now two weeks ago, to be printed in the XVI volume of Prodromus. With my family I have taken one more leisure for any amenity and am living this moment at the shore of the Baltic, bathing, swimming, hunting and stretching myself in the deep grass!

Scarcely I can tell you how happy I feel myself having performed this monography which has caused me so much and endless trouble. I dare not say that I am and the others may be satisfied with what I have done, but I believe that I have done my best, and very seldom so abundant materials have been conferred upon a monograph from various parts of the world. But in this undertaking I have learned better than before that our practical knowledge is that we know very little, and that all science consists in and is founded on establishing principles but in changing, advancing of principles.

The last summer I travelled with my little wife in the highest days of happiness. During three weeks we slept in open air or in the huts of nomadising Laplanders, eating nothing but hard bread and stone-cheese. But I made very good collecting and have prepared now several specimens of a Flora Lapponica exsiccata. Returning to Stockholm I will enclose in a case 1) the portrait of Linnaeus so long ago intended for you and still labelled with your name 2) the Flora Lapponica exsiccata 3) several sandwaxen plants for Mrs. Eaton and Lapham and 4) your Salices.

If there is a ship sailing from Stockholm directly for North America the case will be sent with it. If not it will be dispatched via Hamburg that you may have it this autumn.

Received
Nov. 30

Dear Sir!

This very day I sent by Steamer to Mr. Charles Petit in Lübeck a case addressed to You which Mr. Petit will forward to You via Hamburg, having before communicated to You the committee-mend, that You may know by what ship it is going to America.

The case contains 1o. the portrait of Heinders painted by Mrs Anderson and presented to You in the hope that it may be worth your kind acceptance and a place near to You. I dare say that it is not very inferior to the original, of which Heinders himself has written that it is a remarkable portrait, extremely resembling.

2.) An exemplar of my Flora Lapponica vascularis, containing a nearly complete set of the Lapland plants; I will take care to have it completed by and by.

3.) Another intended for Mr. Engelman, to which I beg you to send it.

4. and 5.) Two very good collections of Swedish Salices. You remember that I was happy to receive through you some small collections of North American willows from two botanists whose names I have forgotten (the one was no doubt residing in Milwaukee) I beg you to be so kind to bring these willows to these Gentlemen telling them that they may have all Swedish plants they wish from me, only I know ~~that~~ they wish to have such.

6.) All your Salices, which you had the kindness to send me for inspection. I have named them all, and I wish I had also your populi: In the month of June I sent my monograph to De Candolle, and it will appear in the next volume of the Prodromus. Now I am engaged in printing a more complete monograph of the same family in the Acta Holmiensia, and that will be accompanied by figures of all the known species.

In the next spring I will be most happy to send you a good collection of Swedish plants. I should be very glad to hear that you have received the case just alluded to, and that [illegible] are entirely with

Yours most obliged

N. J. Andersson.

Stockholm 19 Octob.

1865.

Dear Sir!

It has been a great pleasure to me to receive your kind letter of 30 last Novemb. and hear that You are well and yet remembering me. Yet greater pleasure will it give me to be informed that You have received the case I send You on Hamburg and that You have deigned to accept what I and my wife are offering You.

Permit me - in the first - to express to You my sincerest wishes that happiness and comfort and all good things may be your lot in the new Year which in these days are beginning its course in the earth.

Also we in Sweden have had a great revolution but a happy, as quiet one without bloodshedding without any calamity. We have been liberated from the oppression of the nobleman and priests, who in centuries have prevailed upon us. If a republic in Europe were a possibility certainly Sweden would have it very soon. As it now is: we are the most happiest kingdom in the ancient world.

As to the Cuban plants I am very glad to have all You can procure me; anything is better than nothing and I will ever be very thankful for every pain You may take. You in contributing to make the set of plants as complete as possible. But as to the price I leg You to fix it for me as I am very sure that You will have the best judgement of the value of these collections.

Yesterday I had a letter from Dr. Watt at Montreal sending me some specimens of American Wardia. We have also a quantity of forms of this genus, which I believe belong to one single species. But I will now study them better.

Yours most obliged

N. J. Anderson.

Stockholm 4 Jan. 1866.

plants, about 130 species, and by You either to keep it for Yourself or give it to a man who will be so kind to send me Your own Flora.

I shall be most happy to hear very soon from You and to read in your kind letter forgiveness and the old friendship.

Your most devoted

N. J. Andersson

Rickeslöa 26 Mai 1868.

Dear Sir!

For a very long time You not heard any thing from me, and You may be persuaded that I often have felt very ashamed for being so ungrateful. But several misfortunes have prevented me from doing what I ought and would have done. My wife and children have been at several periods very ill, and in the beginning of this year I almost feared to loose her, having given me a dear daughter for that little cherished being we lost the

last summer. The 9th Februar this year I was severely taken by an inflammation of eyes, which has caused me ~~imprisoned~~ ~~me~~ to be a prisoner in a dark room for now 14 weeks, so that I only some days ago was permitted to read and write a little at intervalls.

I have now to confess another fault of mine; I have not yet paid my debt to You for the plants received from You and Grisebach from the isly of Westindia. And the reason is that I have sought the letters where You had — I supposed — told me the price of these plants, but have not yet been able to find it. Now, please to forgive me and tell me my debt that I may make me again free — also from the remords of conscience.

I hope You have received long ago the first part of my Salicum Monographia, which was sent to You through a bookseller at ~~Lips~~ Leipzig.

Very soon I send You a most complete set of Spitsberg-Flora, collected during our four swedish expeditions to this high boreal islands. Also I send a collection, almost complete, of swedish

Stockholm 10 Octb. 1868.

Dear Sir!

Just now returning from my summer dwelling whence I come somewhat restored to the use of ~~the~~ my eyes, I have been busy to arrange some collections of swedish plants, one of them intended for America.

But then I received of your last kind letter, which I hitherto have been prevented from answering, that you would go, already in September, cross the ocean and stay for some time in England, and thence proceed to the South and possibly visit, next spring, Denmark and Sweden.

That was the reason why I have not

Professor Asa Gray
from Cambridge

but away that large collection, an almost complete one, of the Swedish plants which I hoped You would forward to a botanist in America, who would and could give me a collection from his country in return. And now I will ~~keep~~ keep the gate with me, till You will come and take it — or will inform me to whom it may be best sent.

What a happiness for me and my wife if You and your lady really will make us a visit! I dare not yet believe on it, but I can and I may hope on it. As You know there will be in the middle or end of May a botanical congress and a horticultural exhibition at St. Petersburg; probably I will come thither to see the wonders of the great capital (and I know that there are really wonders!); will You not meet there, coming from Berlin? — then we will make company to Sweden, I will show You Stockholm, Upsala and the neighbourhood, go with You to the provinces, conduct You to Norway — the high alpes there! — and so to Kopenhagen!!!

Let me hear very soon that You have fixed You to come to Sweden. to Your

most obliged

N. J. Andersson.

be warmed, I take the opportunity to ask if you would be so kind to make a review of them. I am very convinced that you have seldom seen plants from a foreign country so well collected and proving so good a material for good determination.

If you see Dr. Engelmann I beg you to bring to him not only my great obligations for that beautiful collection of Fungi americani he has been kind to send me, but also to beg him kindly remember me in future also.

Bring Mrs. Gray my and my wifes sincerest compliments and believe me for ever

Yours most obliged

N. J. Andersson.

Stockholm 16 Octob. 1869.

Dear Sir!

How quite disappointed I am my wife was to hear that we should not longer hope to see you as Mrs Gray here in our home! This chance gone, all is gone! How happy we would have been, to show you our country, to make some small excursions and to give you some remembrancy from people thankful to you!

But will there really be any hope left to us, that you will make another

visit to Europe, and to our northern country?

If so: a hearty welcome I bring you.

My eyes are, praise unto God! much restored, and I am now working more than at any time during this year. Dr. Wooster no doubt has informed you, that I intend take up the Assyriangood, which I studied now 12 years ago at the Museum in Berlin. Dr. Wolf, with his usual liberality and friendship, has promised, that I may have these plates from the New Babylonian. How happy if you also would give me some contributions from your own collection.

As to the Cuneiform plates a person now is engaged in making a list for numbering the signs. I am very sorry that I did not know it before, for the affair with Rosing who will be paid immediately. – What of plates from your region you may possibly get for us I will be most thankful.

We have got just now from a ~~cap~~ country man living in Brazil, Dr. Rennee, extremely good and rich collections. As Rennee wishes ~~that~~ his collections may as soon as possible

has sent me them from his rich herbarium.
From Vienna, Berlin and Petersburg I have
contributing; my room and my head
is full of Antipodeans.

I also formed a plan to go there to the Ga-
lapagos once more. The flora of these curious islands yet is almost
unknown; it is a great problem to be solved!
Do you think it possible I could have any con-
tributions from America? In England 500 £ are subs-
cribed. I want at least 2-3000 £.

Remember me to Mrs Gray and believe
me for ever Yours most obliged

N. J. Anderson.

Stockholm 5 May 1870.

For the Alpaca I really had a fine lot of Californian Cacios.

Dated May 30
Promise to send set and [illegible] of 1550 specs
to make up the 40 pounds

Dear Sir!

As you perhaps know I these last years
have been very much afflicted by illness
not only my own but also those in my
family. Several voyages also have prevented
me from working all the time in my Museum,
so has resulted, that the collections of
Wright have been laid away in drawers,
some fixed on paper in one time some in
another. It has been a very hard labour
to bring them together, and I am not
quite secure that I have found them
all. Meanwhile, not finding in Your

letters nor in those of Gnielbing the number of species received by me I have counted all what I have got & named and unnamed, duplicates and single specimens, and found them make a little more than 2,000 species. Consequently I have remitted to Reeding a sum of 40 L. d. for Mr. Wright.

Now I beg You to let me know whether I have rightly paid my debt or if anything rests to be settled. I am very sorry to have made such a delay, but I should be more sorry if You or Mr. Wright should think me being a false or ~~unco~~ unconscious debtor. Better for me to pay too much than too little.

As to Your new proposition to have more from the Cuban collections. I must confess that the affairs of Museum are actually so bad, that I am obliged to renounce for the present from these precious but very dear collections.

Having now finished totally the Scaios I have engaged myself to a monograph of Anthophagines. It will be a new Augias-stable; but I rejoice in the hope to make it a little cleaner than it now seems to me.

Dr. Brooke has been kind enough to let me have the collections from Kew; also Mr. De Candolle

Stockholm 9 Mai 1872.

Dear Sir!

It is now almost an year since I sent You, through the bookseller Hartman at Leipzig, a small parcel, containing a very valuable set of all the phanerogames, collected by the Swedish expeditions in Spitzbergen. As I have not yet heard anything from You I begin to fear ~~that~~ this collection, containing almost all the species there collected and after that, which was sent to Kew, the No. 2, has been lost. Pray - let me know anything about it.

In these days I have made up another set, consisting of the flowering plants from North Greenland, collected by the Danish Expeditions 1870 and 1871; and as this collection will be forwarded to you by the Smithsonian Institution, I am very hopeful that it will arrive in safety. You will not find there a great quantity of specimens – not necessary as only meant for a specimen of the Flora but all the species and some new, hitherto collected (with very, very few exceptions) in these regions, whence before the Americans have brought home so many valuable things.

As to the Cryptogams the Mosses, Lichens and Algæ, they are determined, and you will have one short all these things, which I suppose will prove uncommonly precious, as the ~~Danish~~ Danish botanists have especially applied themselves to these spontaneous of science.

I have also a very complete specimen of the Danish Flora to dispose of. Is there any American botanist who would wish for it and give us complements in our American collections, which we are wanting very much.

Has Miss Asa Gray received via her return

to America, and have we to hope any visit of You in India? That is asked by Mrs Anderson and Yours most obliged

N. J. Anderson.

Will Agassiz touch at Galapagos. Or is there any chance of having support from America for an expedition to these curious and important islands?

parts of the old world and should be very anxious only to see them from the new. I think they will, quite as the new existing, give a clue to the systematics, certainly the some family will spread a large light over the affinities of our own.

My family, I am very glad to say, is prospering, the children are growing great, and I old. So is the fate by us.

Many respectful wishes for your health and happiness from my wife and

Your devoted

N. J. Anderson

Stockholm 1 Aug. 1874

Stockholm 1. Aug. 1874.

Dear Sir!

It is now almost 4 months since I wrote to You announcing that I send a case containing

1) for You

1. A very complete and rich collection of Characeæ Scandinavia
2. An excellent collection of Arctic mosses brought home by the swedish expedition and named by Berggren.
3. A good set of Salices Scandinavia
4. Sa of Carices
5 and 6 A second set of Salices and Arctic mosses to be given by prof. Asa Gray to any american botanist who cares for these plants

b) For Mr. Bebb: Collections of Salices and Characeæ Sundry brought together in a parcel.

c) For Dr. Engelmann, St. Louis

1. Salicy, Carices and Characeæ Scand.

2 Arctic Mosses.

d) for Mr. Watt (The editor of Filices canadenses) Montreal

A complete collection of Scandinavian Ferns.

e) for Mr. Olney (Providence) a collection of Norwegian Carices

f) for Mr. Curtis 1) a very complete collection of Scandinavian Phanerogams. 2) Arctic mosses and 3) Scand. Characeæ.

I am very ashamed of having made You this trouble. But as I have no information of the addresses of these botanists and as hoped any servant of Yours might take the distribution upon himself, I trusted You would pardon me this trouble.

In these months I had no letter from You and I was quite uncertain of the fate of the case, which was duly sent from Stanbury through my commissions, Carpal Charles petit. Then I was very glad to receive a letter from Mr. the P. James, dated Cambridge Mass. charged d. 4 July 74. by which I conclude that the case has arrived to You, and I am quite sure that the contents is duly distributed – which will make me very happy.

Now only I have to announce to You that I will sent this autumn an other set of arctic plants, the mosses from Greenland and the Algæ from Spitzbergen, which I hope will be ready for distribution.

Would You think it possible that I could have from America the Salices fossile ~~possibly~~ found there. I am now studying them from various

Paris, le 21 mai 1880

André

Cher Monsieur et honoré maître,

M. Sprague m'ayant demandé à acquérir une collection de mes duplicata de Lichens, m'a écrit de vous les adresser par l'intermédiaire de la Smithsonian Institution en vous priant de lui faire remettre le paquet qui porte son nom.

Il a ajouté que, suivant une demande que vous m'avez adressée autrefois, vous recevriez avec plaisir un paquet de phanérogames, comme échantillon des duplicata que je pourrais mettre à votre disposition pour l'herbier de Cambridge. Jusqu'à présent, je n'avais pas pu m'occuper de ce travail, car mes plantes n'étaient pas encore rangées par familles et mes occupations qui contient un assez grand nombre d'espèces, toutes déterminées par le doct. Tournier.

En attendant le plaisir de recevoir de vos nouvelles, veuillez agréer, je vous prie, l'assurance de ma haute considération,

Ed. André

49, rue Blanche.

P.S. J'ai pris la liberté d'ajouter un petit paquet pour le Prof. Thurber, de New York. Je vous serais bien reconnaissant de lui faire parvenir.

étaient si absorbantes que je n'avais pas pu y consacrer le temps nécessaire. Aujourd'hui ce premier travail de classification est fait. Les Lichens ont été étudiés par M. Nuellex arg., les Cucurbitacées par M. Cogniaux, les Passiflorées par M. Masters et les Fougères par M. Fournier. J'espère que l'apparition des diverses monographies pourra se faire assez rapidement à partir d'aujourd'hui.

J'ai donc cherché, à votre intention, une centaine de Composées que je vous envoie. Elles vous donneront l'idée de la moyenne de l'aspect de mes récoltes. Il ne faut pas oublier que je ne voyageais pas comme un collecteur de profession, qui a pour but principal de recueillir de beaux échantillons d'herbier, mais comme un botaniste désireux de ne rien laisser échapper de ce qu'il voyait. Il en est résulté qu'un certain nombre d'échantillons ne sont pas d'une grande beauté, mais j'aimais mieux les prendre ainsi que pas du tout. Aussi leur principale valeur réside dans l'exactitude des renseignements portés sur mes étiquettes.

Je fais coller toutes mes plantes, et dans quelques semaines elles seront uniformément comme les 15 Cucurbitacées que j'ai jointes au paquet de Composées pour vous montrer comment elles seront préparées, étiquetées et empoisonnées. C'est ainsi que je pourrai vous les livrer si vous me demandez de vous envoyer une collection. Le prix sera fixé à six pence (0 f. 60) la pièce.

Je vous serais reconnaissant, Monsieur et cher maître, de vouloir bien me dire si ces conditions vous conviennent, et si je dois faire préparer d'autres échantillons à votre intention. Si vous ne tenez pas exclusivement aux Phanérogames, je pourrais vous envoyer des doubles de ma collection de Fougères,

REVUE HORTICOLE

ADMINISTRATION : 26, Rue Jacob, PARIS

Rédacteurs en Chef :

MM. E. A. CARRIÈRE, 140, RUE DE VINCENNES, A MONTREUIL-SOUS-BOIS (SEINE)
et ED. ANDRÉ. Architecte-paysagiste, 30, RUE CHAPTAL, A PARIS

Paris. 3d February 1890.

Dear sir,

Your spontaneous and kind offer has been very grateful to me, and I send you my best thanks for it.

Before sending you the numbers of the species I have not ~~seen~~ in the Cambridge Herbarium, please let me see what will happen of the business now engaged between M. Thiselton Dyer and myself. We are preparing lists of the duplicates we can both spare to the advantage of each other. As soon as I

know the exact nomenclature of the species which are likely to be added to my collection, I will look at the names noted by me in your Herbarium as they stand, and will let you know wether some of them are desirable or not.

At all event, I shall be most pleased to sell you a set of all the remaining duplicates, the first ones being intended for Kew.

Be kind enough to expect another letter from me as soon as I have something interesting for you.

With my best thanks for your kind offers and good feelings towards me, I am, dear sir,

Most sincerely yours

L. Andry

30, rue Chaptal.

E J Anderson

Lancaster O. July 31, 1876.

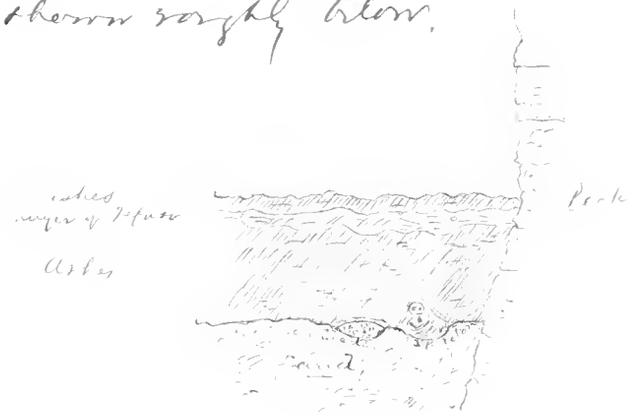
Prof. A. Gray. Cambridge Mass.

My dear Sir

Your Kind favor received.

I earnestly protest! I once saw an engraving representing the May Flower starting for the new world, being towed out of the harbor by a steam tug. This is a mild anachronism compared with the seeds of the imported Chenopodium album among the old bones of an Indian in an "ash cave" in the wildest region in Ohio. Whether the plant you name has reached that region even yet I almost doubt. There is no clue to the age of the bones. They are for the most part well preserved. But they & the pocket of seeds were buried in a perfectly dry cave, in ashes that have never been wet, but are as dry & dusty as when they came from the fire. The seeds were covered by some coarse cloth

which is very much decayed, the fibres being easily rubbed to powder between the thumb & finger. The position of the bones & seeds is therefore roughly shown.



The layer of refuse contained bones of animals & birds, shells of mussels, bits of pottery, flints, arrow-shafts, stalks of coarse reeds, pieces of burnt wood, nuts of various indigenous kinds, cobs of corn, &c. Below this layer were ashes for perhaps 2 ft, & then at the bottom, & resting upon the underlying sand were the seeds & skeleton. The impression left upon my mind was that the bones had been there a considerable time & that the burial must have antedated the settlement of Ohio by the whites. I have no permission of the owner of the cave to explore further & perhaps I can clear up the matter.

Why it has escaped notice till the death of the C. album were sent by the Indians for any purpose? The ash cave has been known for forty years or more & within that time nothing of Human has been found. Before this time the C. album could hardly have been introduced into this wild & rocky part of Hardin — a part very backward in civilization.

Are you entirely satisfied that the bones are the C. album?

Which by request
Most truly yours
E. J. Thrasher

P.S. In the ashes (in the above layer of shells) were pieces of stone, kind of pottery, which I send you herewith for frequently of pottery. Did Indians have gourds? The reference larger is entirely more recent than the bones & seeds. Above this notice in exploring old mounds the bones of old people — in well preserved coffins of the earth covering. I think they may represent several different generations of people which would account for the different values of the pottery.

DEPARTMENT OF NATURAL SCIENCE.
WM. E. ANDREWS, A.M., PROFESSOR.

Blackburn University.

Carlinville, Ill., ... 189

You will remember that while I was in the Herbarium last July I spoke to you about this plant, and an examination of the Iris species in the Herbarium failed to disclose any like it in the collection.

Will you kindly look at it and let me know what it is?

Yours very truly
Wm. E. Andrews.

New York Jany 19/59

Dear Sir

Yr paper is at hand. We have studied & printed the 'Origin of Species' and could publish it almost any day. We dont know what may be the changes in the 2d Edn. if they could appear at the end — If the work wd. have any considerable sale we certainly shall be disposed to pay the author reasonably & liberally

Very respectfully
Yr obt Svt
D Appleton & Co.

Prof Asa Gray.

New York Feb 7 1860

Dear Sir,

In return you as requested the contents &c of Darwin's work, and must apologize for the soiled state but the printers who supplied the article for the new edn. did not understand you wished it again.

We suppose upon long in shall require a new edn. & we thought we would write to learn if any additions could be made for a second edition.

Very respectfully

D. Appleton & Co

Prof Gray
Cambridge

Prof Asa Gray

Cambridge

Mass.

Statement of sales of Darwiniana

to Mch 8th 1877 by D. APPLETON & CO., for account of

Prof Asa Gray

On hand last account,	—	On hand this day,	155
Printed since,	1500	Given away,	236
		Sold to date,	1096
		Delivered, t.	
		Aug 7/76, Harvard University	6
		2. on order	5
		Oct 9/79 Henry Reynolds	2 13
	1500		1500

Sold 1096 Copies, $ 2. Rate, 10% $ 219.20

Dr.

Aug 10/76 To Mdse 64.

$ 155.20

Mar. 1877

Statement of sales of Darwiniana

to Aug 1st, 1877 by D. APPLETON & CO., for account of

Asa Gray

On hand last account,	155	On hand this day,	111
Printed since,		Given away,	
		Sold to date,	44
		Delivered,	
	155		155

Sold 44 Copies, $ 2 Rate, 107 $ 8 80

Asa Gray.

Aug

1877

Feb 1878

Statement of sales of Darwiniana

to July 1st, 1878 by D. APPLETON & CO., for account of

Asa Gray

On hand last account,	111	*On hand this day,*	289
Printed since,	250	*Given away,*	
		Sold to date,	72
		Delivered,	
	361		361

Sold 72 *Copies,* $ 2. *Rate,* 10% $ 14 40

Aug Copyright 8.80

$ 23.20

Asa Gray
Feb
1878

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Asa Gray

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		Sold to date,	23
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	289		289

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a/c to	July '/80	5.80
	" '/81	9.40
	" '/82	9.00
	" '/83	10.00
	" '/84	9.80
	" '/85	7.00
		$ 55.60

Dr

Jany 2/83. 4 Darwiniana 1/2. '/3 5.34

$ 50.26

Asa Gray

Feb.

1879

Zo 7 Feb 1885

Statement of sales of Darwiniana

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Asa Gray

On hand last account,	266	On hand this day,	237
Printed since,		Given away,	
		Sold to date	29
		Delivered,	
	266		266

Sold 29 Copies, $ 2 Rate, 10 % $ 5.80

Asa Gray
Heby
1880

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Asa Gray

On hand last account,	237	On hand this day,	190
Printed since,		Given away,	
		Sold to date,	47
		Delivered,	
	237		237

Sold 47 Copies, $ 2 Rate, 10% $ 9 40

wma

Asa Gray
Feby. 1st
1881

Statement of sales of Darwiniana

to July 1st, 1882 by D. APPLETON & CO. for account of

Asa Gray

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Printed since,		Given away,	
		Sold to date	45
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	190		190

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Paid

Asa Gray

Feby 1st

1882

Statement of sales of Darwinian

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Asa Gray

On hand last account,	145	On hand this day,	94
Printed since,		Given away,	1
		Sold to date,	50
		Delivered,	
	145		145

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Asa Gray
Feby 1/83

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		Sold to date		49
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	94			94

Sold 49 Copies, $ 2. Rate, 10% $ 9 80

Asa Gray
Feby 1884

Statement of sales of "Darwiniana"

to Feby 1st, 1885 by D. APPLETON & CO. for account of

Asa Gray

On hand last account,	45	On hand this day,	107
Printed since,	100	Given away,	
		Sold to date,	35
		Delivered,	
		Ed shock	3
	145		145

Sold 35 Copies, $ 2 Rate, 10% $ 7 00

Asa Gray
Feb. 1st 1885

Mass. Hort. Society
13 Nov. 90

My dear Sir —

I am very hasty in taking the name of Curator of Botanic Garden from last Alumni Catalogue & copied ~~wrote~~ the name of the distinguished Ex-Curator Thomas Nuttall, when I in the R.S. To address the present Curator, not knowing that Prof. Goodale now held the office.

I sent a note last evening thru, which you will oblige me by opening for Prof. Goodale, as I have since learned he is away, & endeavoring to answer —

Yr. truly
Francis H. Appleton
for Com. on Pub. Admin

Prof Sereno Watson.

Possibly Prof. Watson would address the Hort. Society himself upon some Botanical subject, as requested.

Nuttall

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BOSTON OFFICE,
4 Park Street.

NEW YORK OFFICE,
11 E. 17th Street.

ARMSTRONG AND COMPANY,
LITHOGRAPHERS,
Riverside Press, Cambridge, Mass.

Cambridge, Nov. 19 1885

Prof. Asa Gray.
Botanical Gardens.
Cambridge.

Dear Sir.

We think we see a way to reproduce the 24 plates we took from you yesterday, at a moderate cost; - considerably less than it would cost to re-engrave them entire. We need a little more time in which to look into the matter, but will report to you tomorrow or Saturday forenoon the result of our investigations.

Yrs Truly

Armstrong & Co.
Jompson. -

The Riverside Press is a regular station of the Western Union Telegraph Company, and is in direct communication with every telegraph office in the country.

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4 Park Street.

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11 E. 17th Street.

ARMSTRONG AND COMPANY,
LITHOGRAPHERS,
Riverside Press, Cambridge, Mass.

Cambridge, Nov. 21 1885

Prof Asa Gray.

Dr. Sir.

Unexpected detention here will prevent the writer from calling upon you before One o'clock today, and he will therefore be obliged to defer giving you estimate for reproducing & printing the 24 plates in question until Monday. He will call upon you Monday A. M. with the full details.

Yours truly

Armstrong & Co.

Thompson.

BOSTON OFFICE,
4 Park Street.

NEW YORK OFFICE,
11 E. 17th Street.

ARMSTRONG AND COMPANY,
LITHOGRAPHERS,
Riverside Press, Cambridge, Mass.

Prof. Asa Gray.

Cambridge, May 6 1886

Dr. Sir. — Your note of 4th came to hand last evening, — and this morning we rec'd a postal from Dr Trelease at St Louis to same purport. —

We beg to report regarding the Cacti plates, that they are now substantially done. — All the reproductions have been successfully made and our Artist has been working over them — touching up the lines by hand — for sometime past, and we are now putting on the finishing touches to all. —

We send herewith finished proofs of 4 of the plates. Tomorrow we shall send you proofs of 4 more and 4 others will follow daily until you have the entire 27.

This will bring us to a finish a week from today or tomorrow. (May 13th or 14th) — Until that day we would like to retain the volume

from which we are copying the plates, as the artist is constantly referring to it. Can we not do so?

If however you must have the volume at once, will you permit us to cut out from it those plates we will yet need for reference, and retain them until we have finished proofs of all? We can probably cut them out so carefully that they can be again inserted in the volume after your printer is through with it.

Awaiting your reply, we are

Very Truly Yours

Armstrong & Co.

We will send the volume immediately on receipt of your reply if you desire us to do so.

Albany 14 Decr. 1838

My dear Sir,

I received yours this morning, and shall have much pleasure in regulating my motions by it. I have therefore fixed to proceed (with Mrs Arnott) to Edinburgh on Monday or Tuesday — and shall remain there till Saturday or the monday following — that is if you get on your examinations at Glasgow so as to arrive in Edinburgh on Friday, then we can all start for this on Saturday the 22d — But if you do not arrive there till the Saturday or Monday (the 23d) then I shall, by post-horse returning till the 24th. But, on the supposition that you are not to attend Chapel on Christmas day, I think a better plan would be that you do not go now by Edinburgh, but by Perth, the Romes and Tyber of Scotland — Two or more coaches leave Glasgow for Perth daily — and you can have another for Kinross from Perth the following morning at 9.

you thus pass through Stirling. But I ought to be very chary in advising you, for our friend Sir William Stirling, knows all the routes as well as I do, and will point out which is the best.

If you determine to go by Edinburgh, address me there, on Friday at latest (for I may be obliged to return home positively on the 22d): I intend to be at ~~Mrs~~ Mrs Walker's Hotel (they mother) No. 7 St. John Street. If you proceed by Perth, by your entry me I shall be awaiting your arrival by the Coach (the Coburg) on any day you fix. It passes my house at 11 o'clock am.

Yours truly

J. Macnee Barnes

I shall have much pleasure in receiving from your own hands the 2d part of your flora.

Sir William J. Hooker
(for Dr. Asa Gray)
10 Woodside Crescent
Glasgow

Arlary, 19. Jany 1846

My dear Sir

I have just received yours of the 29 Dec. – and beg to thank you for your offer of the 2d Ed. of your Elements of Botany – of which Dr. Boott spoke highly when I saw him in London but which I have not yet seen – I have written to Wiley & Putnam to forward it

I do not approve at all of beginning at this season of the year, yet I must commence on the 2d of next month. I have been hard at work and have not 20 lectures written – and of these not ten pages on Veg. Anat. and Physiology: indeed that is the subject I feel early a great distaste for: this arose from various causes; in the first place I do

end of the pollen tube becomes agglutinated to the apex of the embryo-sac – both upon that the first cell of the embryo is developed that is now and the interior of the amnion. Griffith thinks that the first cellule is actually formed in the end of the pollen tube – I am not sure if I understand Meyen's meaning and that, or that the first cell was formed from the amnion – this seemed to be the view taken by Mirbel & Schacht, after making allowance for their mistaking the embryo-sac for the embryo-itself – I again, draw the conclusion that the first vesicle is formed between the two membranes, but deposited into the amnion (pollen tube) (amnion) and I am the more strengthened in this opinion that I am extremely doubtful of cells being generated within cells as Meyen supposes. but I suspect they are more formed of external mucous – But who is to determine all this? our best achromatic compound microscopes (costing £70 or £80) according to the principles invented in London, two or three years ago, only are insufficient to show the generation of the vesicle – and when once an opinion is allowed to work, facts are neglected – I prefer generally to state bare facts and to tell that Physiological dreamers apply these on

not believe that one half of the structures said to have been seen actually exist, and I do not approve of one dabbling in subjects that he cannot himself prove for, and also show to the class: — not by drawings, for these are mere auxiliaries, but by actual inspection — for the drawing may be cooked up to represent any thing.

Another reason that gave me a dislike for the subject is that most must be mere deductions from supposed facts, and when not two observers agree about these facts what is the worth of deductions. Take the very subject of the porosity of the sides of cells: it is now believed that Mirbel was deceived, and that none such exist — yet Hooker seemed to be so satisfied of that structure, that most of his illustrations (some of which I have purchased from him) show dots or pores, and clefts on the cells. Then again, allowing that Mirbel was deceived, yet what he took to be pores, are now not to allow pores at all, when liquids are found to pass through the membranes; and what is more when some animal cells are seen to pass from one cell into another in the genus Sphagnum! nay, particles of starch have been made to pass into the interior of these cells.

Vegetable anat. & Physiology is a peculiar study, and an engrossing one — but I think it ought to be left to those whose minds are not capable of applying the few broad and incontestable facts known regarding these to Systems — the highest and perhaps only branch of pure Botany, which combines in itself a knowledge of nearly all that is worth knowing.

The only portion of Anat. & Phys. I felt interested in was the structure of the ovule & fecundation — and, as stomigm agreed in the pure that Corda had cleared up the subject: but alas! I am now as clearly convinced that Corda's observations were entirely fallacious: and I am more disposed to believe with Meyen & Schleiden, and Griffith, that no rupture takes place in the pollen tube. Schleiden's duplicature of the amniotic sac is not tenable — Griffith and Meyen nearly agree, that the

in a class that they will take a pleasure in reading at home - and to take up those useful or curious facts which they would be disposed to look by - and to collect together such amusing or historical or useful notices of the plants examined in the class, by specimens or drawings, as they are not likely to find collected in any one book. I look on the class then as a mere supplement, a mode of putting the students on the right track, but of itself usually only to students at home not only at the time, but after ~~he leaves~~ the courses closed.

I have a horrid antipathy at meddling with any subject of science popular as to lead the heavens to suppose that they now know a little of every thing ~~and~~ every day conversation, and therefore they lay it aside for some other novelty. I have suffered mortally myself from the intrusion of Botanophilists: and therefore I have no wish to extend their number unnecessarily: at the same time, so long as they understand that they are merely lovers of Botany - but not Botanists, I have no objection to let them amuse themselves with the stamens & pistils and Darwin's "tetrandria monogynia strains" enough however to debauch the mind of any female.

Believe me yours very truly

G. Walker Arnott

do many different ways. That the moment one steps beyond the bare facts as exhibited by the microscope, we launch into all manner of absurdities.

Take what I suppose is generally allowed a great Phys. fact (?) That Pith ascends from the root. Then it is elaborated by the leaf, and finally descends: but why do Phys.s conceal the fact, stated by Dutrochet that stumps of the Pine (P. pinea) encreased in diameter after the tree was felled!: one felled in 1821 exhibited 12 years after as many layers of new wood in the stump around the old wood which began to be decomposed: another, that the tree was felled in 1743, continued encreasing in diameter for 92 years (when observed) - How did these get on without leaves?

When I consider these facts, I often feel disposed to tell the students, that the whole system, hitherto known, is unsatisfactory and a mass of foolish contradictions - suited to amuse the fashing Tour, but not to instruct.

But I have another dislike to lecturing

much on these subjects: this arises from the total inutility of the subject to Medical students, of whom my class will be entirely composed. If botany is of use to a medical man at all, it is to enable him to make out (in a strange country) of the plants he finds be so and so of books, the properties of which are known — for this the Linn. system suffices — 2dly for enabling the practitioner when his chest fails in a foreign country — to select with confidence some of the natural productions although unknown to botanists: this requires a knowledge of the Nat. system. Either of these tends also to enable him to ascertain if certain drugs (e.g. Senna) be genuine or adulterated. Now a slight knowledge of Anat. & Phys. serves for this: and I think it unwelled for to waste their time in what is unprofitable: better to devote 12 months to going through <u>serriatim</u> the whole of the medical Natural orders — and illustrate every genus with specimens and drawings <u>as far as possible</u>. I grant you this will never make them perfect Botanists: but can any one credit that a perfect botanist can be made in one, two, or even three years, and without patient and diligent dissections at home. All that can be taught in a class is the practical portion — the mode of proceeding to make out plants by the Linn. or Nat. system — this is the only part they cannot get from books: as to Anat. & Phys: they will get as much from Lindley or your, or Lufsens introduction, as any one can carry away in their head, and if they study any of these books at home they will get more than can be taught in a class. Another portion that may be dispensed with in a class is the terminology: but that is dry and uninteresting, and therefore a subject the students will not read at home: they must therefore be well drilled on that, without which they cannot make out the name of a plant. In this way a knowledge of Botany may be easily taught in 15 or 20 lessons — provided an abundant stock of living specimens be at hand. My wish in this to give nothing

When in Hakodadi Bay.
" Simoodah
" Hookui (an Island)
I cannot discover there any indication in my notes of specimens
as to the box in which
the slides are. it is one I got from
London, and I wish for sending slides
home by post. So that I put trouble
upon two more I should like to see
its fate again. If you choose to
fill it with diatoms you may —
but the truth is that such cases
cheaper by the book post.

yours truly
[illegible]

of each slide there is a duplicate
— one is for you, if you care for such
or if they [illegible]

Downsville
May 7th 1859

My dear Sir

although I have not yet
drawn up a list of the species formally
for the U.S. and E.I. I am in a position
to send you back the specimens, and slides
in case you have any opportunity of sending
them to America. all that I have to
say may go any day in a letter.
Now as to the specimens you will see
that I have put No to them. One is
S.725 — all the others have a No without
the S. These numbers are the Nos of
my preparations and consequently of the slides,
one specimen is marked 691, 692, 693 — merely
because I found it necessary to prepare
slides of it in three different ways — 691
showing the diatoms in situ — 692 the same
detached from the weed but not boiled in acid —
the 693 exhibits the slightly boiled in acid, and

consequently with some Side views
of Valves.

To save your head I kept a bottle
of the S. 725, from Simon bay, C.G.H. on
the paper. The second bottle contained
the same as the first but vastly more
dirty. The slides and from the first bottle
~~[illegible]~~ the remained specimens. I have
put aside a bit of each, as far as possible
either on mica or paper - for your sake.
Herbarium (with me): they are not such.
So that all I have left may be returned
to America whenever you chose

Besides those with Nos are some
with letters A, B, C, D, E, F. Of these I
made no preparations - of A because
that were unnecessary, of the others because
they were small in quantity and not worth
"powder and shot" not worth the acid, as far
as I can judge from a slight examination.
One I recognized whether it boil or not -
(E)

It is markedly your Polyipsphonia,
Monoecia (?, I really cannot make out the
name). There is Pleurotisma adhering
to it, but I have only seen one or at most
2, and unless I saw more cannot undertake
to say what it is. I had to cut off one or
two of the branches to enable me to determine
there were any diatoms on it at all

691, 692, 693 is marked Arctic seas?
now really diatoms are so valuable
unless know the locality nearly.

Another, 689 is dated 10.8.55 (at
least I suppose it is the date) - but no
station is given

Can you give me any information
on these two -

I intended arranging my notes by the
localities and specimens - but this is
impossible unless I know better
from what stations the specimens come

PURDUE UNIVERSITY.

EXPERIMENT STATION.

BOTANICAL DIVISION.

LAFAYETTE, IND. Nov. 10 1888.

Mrs. Asa Gray
Cambridge, Mass.

Dear Madam:- I wish to thank you very heartily for the copy of the list of Dr. Gray's writings. It will be of invaluable service, and also a reminder of the wonderful activity of a well spent life.

Believe me

Very Truly Yours
J. C. Arthur

The Botanical Gazette.

EDITORS:

JOHN M. COULTER,
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~~AGRIC. EXPER. STATION, GENEVA, N. Y.~~

La Fayette, Ind.
Oct. 20, 845

Dr. Serens Watson
Cambridge Mass

My dear Sir, - Through a misunderstanding between Prof. Coulter and myself your statement of account for advertising has not been forwarded until now. I enclose the statement and trust you will find it correct. We do not often make any discount from our regular rates, but the editors are severally under obligations to you for various favors and make this concession as a slight acknowledgement. Will you please send me one copy of Braun's "Veg. Individual in relation to species" and deduct the price of the same (30c) from the amount of the statement.

Yours truly
J. C. Arthur

00191
6151
0551
0292

Sent Dec. 9 1890
Vm Experiment

PURDUE UNIVERSITY

Agricultural · Experiment · Station ·

OF INDIANA.

LAFAYETTE, IND. Dec. 5, 1890

My Dear Dr. Watson:—

Your favor of Oct. 24 with enclosure to cover all indebtedness to the Bot. Gazette for advertising up to date was duly received.

In regard to the volumes of Flora for 1835, 1836 and 1849, I have been unable to obtain them elsewhere, or even hear of any copies in the country. Although I deeply regret the necessity of asking for them, yet my work is at a standstill for want of them. If you decide to favor me with them, please address them to Purdue Exper. Station, La Fayette, Ind. in my care.

What I most wanted in Brewster's Edinb. & Lond. Philos. Mag., VIII, was the discussion between Keith and DeCandolle on the conditions of germination. I shall be glad of any information pertaining to the matter.

Yours truly J. C. Arthur

THE
Botanical Gazette.

June 10, 1893
Lafayette, Indiana.

Mr. John A. Allen
Cambridge, Mass.

Dear Sir:- Your copy for advertisement came considerably too late to get into the May number of the Gazette. It will, however, appear in the June issue. I enclose bill for same, which need not be paid until after the advertisement appears, if so preferred.

I am greatly indebted to you for a copy of your check list, which is an excellent piece of work.

Yours truly
J. C. Arthur

481

Berlin W.
Friedrichstrasse 58.
August 18, 1873

Dear Professor Gray,

I duly received the tinbox containing very fine specimens of the following three marine phanerogamae viz:

Thalassia testadinum König (2 fruiting spec.)
Cymodocea manatorum Asahs (2 flowering spec.)
Halidule Wrightii Asahs. (barren)

gathered by Count Pourtalès near Key West, Florida.

I do not think that these 3 species, the same, which Mr. Wright has brought in so excellent specimens from Cuba, are recorded hitherto from the U. St.

It would be highly desirable to ascertain whether the "Zostera marina" of Prof Chapman" from West-Florida is the true plant; or, which is not improbable, that Thalassia, which is called in the country „eelgrass", as Count Pourtalès writes, was taken for it

and the description of the latter was copied from any botanical text-book, yours probably.

At all event, it would be highly recommendable to the coast-survey officers to gather specimens of these plants from all interesting points of your shores, especially ~~of~~ from those of the Pacific.

The name „Turtle grass" from which that of Thalassia testudinum took ~~has~~ its origin is given in Key West, teste Poustales, to Cymodocea manatorum. He observes also that it is the favourite food of Chelonia mydas. In Catesby's Hist. nat. Carol. this tortoise is figured with the well-marked Thalassia testudinum (from the Bahama's); I have seen a specimen gathered by Catesby now existing in the British Museum.

My warmest thanks to you and Count Poustales for these very important materials.

I am, most respectfully

Yours

P. Atchison

Königl. Botanisches Museum. Berlin, W. May 9th, 1881

Dear Sir,

Many thanks for the specimen of native plant you kindly forwarded me. You are quite right in preserving a close relation with Halophila. I have named this plant, of which I got from Dr. Engelmann only a single specimen gathered by Dr Chapman in a locality of Florida not exactly recorded, provisionally H. Engelmanni (Nemnayer, Halophila in Beobachtung d. auf Reisen, Berlin 1875. p. 368.) The diagnostic phrase I gave there is somewhat inexact, one of the two branches of this specimen bearing 4, the other 6 leaves. There are certainly 2–3 pairs of leaves opposed obliquely as stated by Prof. B. Balfour in H. ovalis and H. stipulacea.

I am glad that the curious plant has been met with again and I hope that your expectation to get it with flowers and fruit will be realized soon

I remain, truly Yours

C. Atherson.

Closter N.J. Feb. 21st. 1866.

Dear Dr. Gray. I forgot whether or no I have yet acknowledged the receipt of your or=
=ting names of Colorado specimens. My friend from whom I received the specimens was highly pleased to have these names.

I sent you a few days ago a few specimens of ~~Ad~~ Filicoid from Clarton. The Botrychium was named by Eaton. The Equisetum he has not yet seen but I have no doubt they are correctly named. The E pratense rarely fruits but I have two fertile specimens - and were they not spread down I would have sent one. The ~~other~~ E. arvense is a weed found where the ground is disturbed by the travel of cattle or by ~~frequent disturbing~~ the packs of the laborers - as on rail road embank=
=ments. I sent you the Sporo

And - within 2½ miles of my door have picked up over 20 species of Hepaticæ new to this country. And have a great desire to go away from home to look for these things. I want to explore (particularly for Hepaticæ) in the Southern Alleghenies - in the Catskill Mountains and in the White Hills - at least in the last mentioned - during the coming season. but my circumstances are such that unless I can get a little substantial aid from some outside source ~~this~~ I fear I shall have to forego the enterprise entirely. I have thought that some institution of learning, or some Scientific Society might be induced to aid me, if the subject were properly laid before them. but I have no one to do this for me. and am not sufficiently well known to warrant me in doing it myself. I have ap=
=plied to the Smithsonian but Prof. Henry writes me they are out of funds - else my proposal would in all probability have been accepted. Would it be in your power to induce Cambridge or any other institution or society to aid me in this - to me most important enterprise? If so I should be most grateful for your influence. The expense would be small. and I should endeavor to make them as light as possible. And the collection would be considered the property of the institution or society defraying this expense. Very truly yours C. F. Austin

thing once before (under the same name) — I think in 1848.

I had a good opportunity last summer for observing the character of the var.? Cerifera of Thalictrum Cornuti and found ~~that~~, besides the (under surface of the) leaves — peduncles and fruit being thickly coated with waxy glaring that the stem is smaller and more slender. Darker purple and not grooved, leaves thicker and more thoroughly revolute on the margins filaments much longer always, more or less tinged with purple (as are all parts of the flowers both male & female) dropping anthers ~~4 times as long~~ twice as long (twice as) and broad. carpels always short — yet in the typical var they are sometimes full as short. besides the plant has a decided and peculiar odor of which the typical var. is entirely destitute. I found a large quantity of it growing in the upper end of a meadow and mixed with the typical var. but the typical var. did not extend so far up on the dry ground nor did this extend into the wet ground as the other did. It began to expand its flowers on the 5th of June and on the 20th not a plant could be found with a flower on it. they being all passed away within the space of 14 days. No flowers were found on the typical var. until about the 20th of June and they were found in the same place as later as the Middle of Aug. (On the var. the sepals are much more persistent). I am not yet satisfied that it does not pass into the typical form, but if I have an opportunity I shall satisfy myself fully, the coming summer.

I have collected nearly every thing which grows about here.

Mr. Sargent

Chester N.J. Sept 8th. 1866

Dear Dr. Gray

Yours of 28th. rec'd is at Hand.

I was not able to make much out of the Rhododendron. I found two patches flowering about the 10th of June - within a few ~~rod~~ feet of each other and the only difference I could detect was that one had a strong rather disagreeable odor with waxy grains on the under side of the leaves - on the petals sepals and stigmas &c. and the other was without odor and the waxy grains. both had purple sepals and the ~~[illegible]~~ drooping anthers.

The true T. Cornuti flowers ~~[illegible]~~ later and has the filaments & sepals white. and much smaller - not drooping

northern. And grows in low ground - The other species grows on high ground.

In the new Edition of your Manual I would like you to notice that Linum which you called the true Virginiana I am quite sure it is a good species as I have a thousand specimens of it - any one of which is readily separated by any one of a half a dozen characters! I would like to have the attention of botanist called to it so as to have it finally settled.

I have sent you Cuscuta arvensis from an old field in this County! C. compactra is actually common throughout this State!

I have potentilla tridentata from Shawangunk Mts. in N.Y. & N. Jersey. Also Hypericum perforatum Agrimonia is very common here.

Are quite sure I have two Ch. Lemna - think I sent you an account of them.

Hope to be able in a month or so to send you specimens & notes.

Have been very interesting Cousin.

Have collected but little else besides Marcia & Hepat- this Summer. Have some good things in that line

Very truly yours

Coe F. Austin

Closter, N.J. July 19th. 1873

Dear Dr. Gray

Yours of 12th. inst. Enclosing a copy of your "Biograph. Notice" of Mr. Sullivant is received. The Biographical Notice of Dr. Torrey was received in due time.

Mr. Lesquereux wrote me recently that he should never think of a moss again! Do you think he can be induced to change his mind? If he should undertake to revise the "Mosses" I might be able to do a good deal of the drudgery and thus relieve him a good deal – Think Mr. Sullivant intended to depend on me to do the main part of the studying up of the doubtful things – subject to his supervision. There will be a large amount of new

My finances are in a very bad way – I am perfectly willing to give all I have yet done for the benefit of Science but cannot possibly do much more with out a small recompense in the needful.

I could probably complete the Hepaticæ during the coming winter or if I could go right at it – dropping everything else much sooner.

Mr. Sullivant told me that he had an extra copy of his "Mosses" which he intended to give me, but I presume he forgot it – Think he said it was all interleaved with blank paper for making notes.

Very truly Yours C. F. Austin

matter to be added, even should the range not be extended; But if it is to be published in a separate volume from the "Manual" I should very much like to see it ~~contain~~ cover all the ground in N. Amer. north of Mexico.

I have examined critically nearly every moss which occurs in my "Musci Appalachiani" and have discovered many discrepancies in the current descriptions.

I have the Hepaticae pretty well written up now, but the descriptions are too lengthy I presume for your purpose and will have to be abbreviated a good deal. I have about double the number of species given in the "Manual" but should want rather more than double the space — say about 50 pages.

It would be well to have about one more plate to represent the genera. Yet there are but a very few new genera to add. I think only Cryptocarpus Alicularia Liochlaena, Duvalia Targonia Dendrocera Euphalanthus & Phragmicoma.

It would be a grand idea to introduce a little wood cut, at the margin of each specific description, of a leaf or something by which each species is readily known from its congeners. It very often occurs that it is almost impossible to describe the very decided difference between one species and another, and yet a little figure would show it at a glance!

C. F. Austin

Closter, N.J. Sept. 23-73

Dear Dr Gray

I want to go to Florida this winter on an expedition for Mosses &c. that region appears to be as yet unexplored & to abound in new Mosses &c.

Had Mr Sullivant lived it was his intention to furnish the necessary funds. and I was to go about the 1st of Jan. next.

I propose to try to raise the necessary funds (say $200 - $250) by subscription - each subscriber to receive a

set of the specimens on my return. Would you like to take a little stock – say $10–$15 worth in the Enterprise?

I am now printing the labels of the "Hebot Exhic" It contains 175 members & will be put to a few subscribers at $15. until a sufficient amount to pay for printing is realized (The regular price will not be below $20)

In looking up my specimens of Anthroans for the Hebot. Exhic. about a week ago I saw across no less than 3 well marked U. Spp from the South!

Very truly yours

Cor F. Austin

Clovter, N.J. Jan. 3rd. 1875.

Dear Dr. Gray

Thanks for your kind wishes.

Glad to hear that the Manual of Mosses is getting along towards completion. It will supply one of my own greatest needs in the study of our Musci.

I have done nothing with the Hepaticæ Manual since last winter, for the reason that I then got in a quandary about the proper nomenclature, and have not yet extricated myself from it. I was then expecting, and have since received some of Lindberg's recent publications, which I earnestly hoped would enable me to get out the and pursue the right track.

should be given; and if I could have my wish, a small figure should stand at the head of each specific description, which would at a glance show the most striking feature of the species — as compared with other species of the same genus. Often the mere outline of a leaf or perianth, or something else equally simple would be sufficient to do this.

I hardly know how much space the Hepaticæ will occupy. We have about 200 species. The number of genera — a matter resting a good deal upon the fancy of authors, it seems — will be not far from 45: — I see Dumortier makes 69 the number in his Hepat. Europ. I should say that an average of a genus and four species to a page would

But I find him often wavering as if halting between two opinions. I have also lately read a copy of Dumortier's "Hepaticae Europae" which gives, when taken in connection with Synopsis Hepaticarum of Nees Lindenberg & Gottsche, and Lindberg's recent publications, a 'muddly' muddled or confused expression to the whole subject. Since the publication of Syn. Hepat. - and indeed quite recently - there seems to have been made a "new deal all round" the genera of Nees have been cut and carved and the pieces shifted about in a manner truly perplexing; many of his names have been changed and his 'Order of Arrangement' has also been turned topsy-turvy. This would all not be so bad but for the fact that no two modern authors come much nearer to agreeing with each other than either does with Nees. Nees' System is undoubtedly erroneous - or at least subject to improvement in some respects, but the trouble with me is just where to draw the line. Perhaps you can give me some valuable hints on this point.

I think that the Musci & Hepaticae Manuals should be got up as separate works; but for the convenience of students they should be bound together.

Your 'financial' part of the plan is satisfactory.

How about plates representing the different genera? These

Caesius is the oldest name. Acolea comes next.

But Dumortier's system of arrangement of the Genera is very unnatural and unscientific; and were it not for the fact that Lindberg now ~~sometimes~~ adopts one name and then another I should not hesitate to adopt his whole system - names and all. In choosing names for the different organs of the plants, I see that the terms perianth, involucre inflorescence pedicel and some others of Sullivant's mosses will probably have to be changed for Colesula perichaetium gamoecium seta, &c, that is if Lindberg is to be taken as a guide.

Very truly yours

Coe F. Austin

P.S. I hope to be able to complete the WOOK before May next, at

(8)

(5)

not be far out of the way - say 50 pages (yet I think 40 pages will prove ample). Then say 4 pages for analytical key. 4 for descriptions of plates and 10 ~~pages~~ for index. Besides there should be a short introductory preface and about a page of matter generally descriptive of the whole subject - defining of terms &c.

One plan that I have adopted in the descriptions is the comparison and contrasting of closely allied species and forms; because I deem it of paramount importance to students!

I have the Taylor Hepaticae yet, & HOpe you will allow me to retain them ~~yet~~ this winter. They have already been of great service to me. and I am constantly referring to them.

The great work now to be done with Hepaticae is not to describe new species, but to correctly describe and "cut down" old ones. Many of Taylor's descriptions are ridiculously ambiguous and often very erroneous: besides he has not infrequently made as many as 3 to 5 "N. Sp." out of one old and well known one - confounded distinct species, &c. There are a great deal too many species in the books, - very likely an average of two where there is but one in actual existance. The tendency of European Hepaticologists seems to be to keep up this illusion - at least this is the case with Dumortier. Lindberg is more exacting - and appears to be governed more by an earnest desire to place the science on a correct and lasting basis than any other author known to me.

Have you seen Lindberg's "Gen. Europ. Hepat. Secundum novum Disp. Nat."? If not I will send you a copy. It shows deep study and excellent judgement, and I believe is about as near to perfection as it can be made in the present stage of the science. I am somewhat in doubt, however, as to the propriety of adopting all of his generic names, in preference to the often numerous others which have claims to our attention. E.g. he adopts "Caesia B. Gray." in the place of Gymnomitrium Corda, Nees. and I see that Dumortier still holds to "Acolea Dmt." on the grounds that "Caesius" (not Caesia) "is the name of a man - not of a plant" &c.

Closter, N.J. Oct 28 - 78

Dear Sir! Your Card is rec'd. I have seen no California Hepaticae for the past 12 yrs. Have all that Bolander collected up to 1866. Will write out the description of them with (about 35 species) pleasure, for you, will also add the description of other species which I have from the whole Rocky Mt. region & Pacific slope if desirable. Truly yours. Austin

WRITE THE ADDRESS ON THIS SIDE—THE MESSAGE ON THE OTHER

Sereno Watson
Cambridge
Mass.

[illegible] this year

If you [illegible] to [illegible] the [illegible]
[illegible] [illegible] give [illegible]
idea of how [illegible] it would
[illegible] as to detailed [illegible]
-tions, [illegible] then can [illegible] to
pay me a reasonable price for my
time I will undertake the job.
[illegible] the best I can for you.
I am sorry that I cannot give my
[illegible] humble aid free of cost,
but my circumstances are such
that I cannot do so without injuring
my wife & family. Hereafter when I
work for others I must work for
some thing that will keep the 'wolf from
the door'.

Very truly yours

C. F. [illegible]

P.S. I enclose description of Scapania
Boreandri — about as I think it is right.
CF

Chester N.J. Nov. 1/79

Dear Sir! I have taken
pains to give you a list of all the Hepaticae
known by me to occur in
California. It is possible that
I have forgotten one or two, but
can easily be determined by going over
my herbarium, which is no small
job. There are only 35 species
or thereabouts, or we must even then go
in New Jersey (I had found, prior to
1869 just two species in New Jersey,
46 of them occur within 2½ miles of
my door! Have not been able to add
but one species since 1869, and that
I had previously collected but wrong
referred it as a var. to Jung. inflata.
It is a var of J. Francisci. I found
it about 3/4 of a mile from [illegible]

1 [illegible] Ther.

~~[illegible]~~

(H. [illegible] Sull.)

2 H. Bolanderi, Aust.

3 Marchantia Macularis, Sullivant.

4 M. ~~[illegible]~~ dentata (Hortzn.) Lindl.

(M. ziziana, Nees.)

5 M. Bolanderi, Aust.

6 Radula spicata, Aust.

7 R. complanata Gum.

8 Mastigophora Californica, Aust.

9 Lepidozia setacea, Nees.

10 Calypogeia Trichomanis, Corda

Var. Sprengeli.

11 Cephalozia connivens (Dicks.)

12 C. bicuspidata (Linn.)

13 C. divaricata (Eng. Bot.)

14 Scapania Bolanderi, Aust.

15 Diplophyllum Dickzonii (Hook.)

16 Sarcoscyphus Bolanderi, Aust.

17 Porella [illegible]

1 Aneura pinguis, Dum.

18 Anthoceros laevis, Linn.

20 A. fusiformis, Aust.

21 A. caespiticius, Aust.

22 A. [illegible], A.

23 Marchantia polymorpha, Linn.

24 Fimbriaria Californica, Hasch

25 F. violacea, Aust.

26 F. Bolanderi Aust.

27 Grimaldia [illegible] fontana?

28 Sauteria [illegible], Aust.

29 Sphaerocarpus Californicus, Aust.

30 Riccia glauca, Linn.?

31 R. sorocarpa, Bischf.

32 R. lamellosa, Raddi

33 R. Nigrella, D.C.

34 R. Californica, Aust.

35 R. tumida, Lindl.

(Gymn.)

Jungermannia Michelii

conchaeformis

Conocephalum conicum, Dum.

Lesquereuxii, Aust.

Berkeri

Grimaldia? Lunularia cruciata?

Yours of 30, is just rec'd. I am all out of sure, I can write up the Pal. Hep. for $5.00, but may be less, since I have ~~them~~ notes of all of them. The list I sent you was drawn up from memory. Of course Fagonia L'ichdi, was left out through carelessness. I certainly thought I put it in. Convolvulus Cornicus I think I have also. The ~~the thing~~ you name are previous. The Spurge you include is Euphorbia Helioscopa var. Cata. Cf.

Closter, Dec. 5/29.

POSTAL CARD.

WRITE THE ADDRESS ON THIS SIDE—THE MESSAGE ON THE OTHER

U.S. POSTAGE

ONE CENT

Mr. Irene Watson
Stone [illegible]
Cambridge,
Mass.

Closter, N.J. Dec. 24, '79.

Dear Mr. Watson - Since recieving your last letter I have been busy fully half my time, trying to get the Hepaticae in a presentable shape. Frequently I regretted that I had undertaken the job, for this reason only, because I have no natural genius for such work. I find it impossible for me to arrange the Hepaticae in a rational or consistent order. Probably the reason that we have so few attempts at systematizing them published, is because others, like myself, after trying their hand at it give it up the job in disgust. This is why My proposed Synopsis Hep. Amer. things fire. I am not able to arrange the genera ~~in~~ consistently & I know of no one who has come anywhere near doing it. Lindberg has attempted it. His latest attempt seem by

me was made in 1878. But there are some glaring defects in this, which he has written me about. What he can't unravel in this line, is not to be unravelled! I have followed him in the main.

I send the Ms. in a very bad shape, for the reason that I have written & rewritten some of it several times over changing the order of the sense &c. You will please Examine it ~~the Ms.~~ & state distinctly wherein it does not suit & return it & I will do the best I can with it. I have no doubt it is much too long. I never saw the Flora of California & of course could not be guided by anything in it. (You suggest that the way the Order Rosaceae in that work is done would be about the right thing.)

and want you to see it before making any more changes

I would like the Ms. returned after you are done with it as some of it was not copied from My Synop. Ms. but that sheets belonging to it taken & incorporated in this.

I can abbreviate the thing very much if you should desire it, but I could not do it until I had first written it out. I find it more of a job to write short descriptions than long ones! The faculty of being brief is as rare as it is desirable. It is a true work of genius. ~~and~~ ~~[illegible]~~ — "The soul of wit". I suppose it will bother the printers to read my writing. I cannot write a legible hand, only for a few minutes at a time — a nervous defect. ~~[illegible]~~ hereditary ~~[illegible]~~ as I have always been (probably) so.

Very truly yours,

Coe F. Austin.

[illegible]

[illegible]

[illegible] most [illegible] That you do not need any more of my labors on the Corig. Affectionate. [illegible] I am very unwell not capable of [illegible] it. I have worked in copying over & approve of it. It is a great improvement on my MS. as I told you this kind of work is not my forte.

Very truly yours,

C. F. Austin

Closter, Mar. 4, [illegible]

[illegible]

[illegible]

a man. But I am doing a very heavy job, Have got my wife & daughters interested in it and it is moving rapidly toward completion. This job has been annoying me for yrs. When finished I shall feel as if a mountain had been lifted from my shoulders.

The whole thing has just come to a standstill for the want of about 2 or 3 dollars worth of paper & time

Please don't apologize for not paying before.

The job can be finished in 2 weeks

Truly yours C. F. Austin

P.S. You remark that you think me rather hard on the Lesqx. & James Paper. In the first place, the name appears to have been used in Lesquereux's ~~Connection with~~ connection with that paper ~~too~~, like Schimper's, for the purpose of "giving a higher degree of authority to the descriptions". For I looked it through carefully without finding any trace of those sterling qualities which characterize his former [illegible] viz. "[illegible] & strict fidelity to truth." [illegible] I believe he has [illegible] at [illegible] with the [illegible] Lesquereux [illegible] [illegible] his former [illegible] friend, the great and good Gottscheent. The fact is Mr. Lesquereux has been being imposed upon in this matter.

I wonder [illegible] rather not [illegible] critical [illegible] paper, and although I have finished my notes I should not now publish them, now at least, but for an insulting letter I got from Mr. James. Among other things he said that the species which I had been describing "ought not to be recognized by bryologists", and that I was constantly "making new genera

[illegible] "[illegible]
[illegible] and [illegible]."

[illegible] [illegible]
good "[illegible]" [illegible]
have only [illegible] old
Synop. Mitten's Morris
of J. Ham, & Sullivan's
books, but have
many European speci-
-mens. Of course I
have described a number
of what I was as new.
But not more [illegible]
those beyond pts, merely
dos.

C. F. H.

Closter, N.J. Mar. 6-80.

Dear Mr. Watson:

Did you return all my Manuscript? a considerable portion is missing

The money is rec'd.

I can't make out what Riccia you mean, unless it is R fluitans var. lata which you sent me a short time ago C.F.

POSTAL CARD.

U.S. POSTAGE ONE CENT

WRITE THE ADDRESS ON THIS SIDE—THE MESSAGE ON THE OTHER

Prof. Sereno Watson,
Bot. Gardens,
Cambridge, Mass.

Marchantia
" polymorpha

Fumbriaria
Bolanden
California
~~[illegible]~~
Violacea
Cryptomitrium
tenerum frata

Fegonia
Viola
[umorlica] [illegible] this

Dear Sir theas are the names that are missing you will confer agreat favor if you will write them for me

Very Resp and Truly yours

Mrs E J Austin
Chester

Sent copy of above June 17/100

Are there any dupli-
-cates of Sphagnum
Lindbergii in
the Sullivant
Herb. I know Peck
sent him quite
a lot of it. This
is one of the most im-
-portant mosses in
my Musci. & I
should like enough of it
to finish out the last 12 sets just
put up. about 2 stems would
answer as they could be cut up in
short pieces C F

Closter Ap 20

Dear Sir thair is
about 10 names missing
in that manucript that
Mr Austin sent to you
would you be so kind
as to write the Decription
of them for me I would
like to sell it but cant
do it unless i can get the
missing numbers written
Austin intended to have supplide
them but he got se week so fast
that he was unable to do it
Let me hear from you soon

very Respectfull yours

Mrs C T Austin

?

I have a new Gymnostomum from Pennsylvania which ought to be mentioned in a note to the text of Suppl. to Icones. I also now have fine fruit of Plagiothecium Passaicum — Don't know that Mr. S. figured this. he never saw the fruit I believe.

CF

I had wholly forgotten the matter. Have had no time for such things for the past 7 months. Have been obliged to defer many matters until this winter, which no doubt will be too short to complete them in. My health is so poor that I cannot expect to do much, at the best, and I would much rather not undertake your job. I could furnish a list of the species which I have seen from California if this would be of any use to you. But then Dr. Bolander could furnish this list as well, since about all my specimens of Hepaticae were collected by him. (He has collected all the species known to occur by me to occur in Calif.).

Very truly yours, C. Frye.

WRITE THE ADDRESS ON THIS SIDE—THE MESSAGE ON THE OTHER

Mr. Sereno Watson,
(Botanic Garden.)
Cambridge,
Mass.

tied in the Specimen. They grow in pairs. On every plant there are two of these large pairs. This has something to do with the twisting of the leaves, which I hope to be able to solve, with the new growth.

Yours truly

Mrs. R. Austin

Quincy,

Plumas Co.,

Cal.

Butterfly Valley Cal.

May 11th, 1875.

Prof A Gray;

Dear Sir;

I send you three plants of Sarracenia Darlingtonia, for your opinion in regard to the root growth. I have been studying this plant since in Feb. & sending specimens & notes to Mr. McCanby. I thought by his last letter to me that he did not feel positive in regard to the matter. The growth of this plant is different from

any with which I am acquainted. I send you seedling plants of one and two years growth, & then these full grown ones, of perhaps a century, to illustrate my position, which I have written fully to Prof. Canby.

No. 1, With one whorl of leaves, and the little fibrous root is one year old. No. 2 two, with two whorls of leaves is two years old. I have traced this growth back for a distance of ten years distinctly. The rhizome here decays. To explain—each plant sends out one whorl of leaves every year. Right up among these leaves, and rising from the base of each leaf comes a little fibrous root which remains growing upward till the heavy snows of winter flatten the plant down and the high waters caused by the melting of this snow washes sufficient sand & muck over them to cover them & thus the plant grows. The top of the plant of this year becomes a part of the root of next year.

As the plant only sends up a single flower stem each year, mark the scars left on the rhizome by these. Now will you be so kind, after you have examined this, as to give me your opinion. Note also, the leaves

R M Austin

Butterfly Valley
August 1st 75

Dr. A. Gray;
Dear sir;

Your note in answer to my inquiries about the rootstock of Sar is received. The leaves are not in whorls, but as yet, I have not been able to learn their true position on the stem, nor how many of them it takes to make one circle. Each years growth distictly marked by the fibrous roots of Rhizome and the free space between each cluster or bunch of roots.

I sent you two live plants, two weeks since, & intended to have written you at the time, but was prevented by pressing duties

ground, on about a dozen leaves. In new leaves, found three snails, spiders, grasshoppers, ants, worms, beetles, butterflies &c,

A,

My Brother has had a photograph of Darlingtonia taken by a travelling Artist. It is not very good, but the best he could get here. He sends you one in token of his high regard for your botanical labors.

The first sweet secretion was first noticed on Darlingtonia ten days since. It appears on the under surface of "fishtail" in the form of "honey dew" Three days after, it was found on the fold around the orifice and covering all the rough part of the hood inside. This morning I find it on the outside of the hoods, and upper surface of fishtail. It also extends down the wing from a half to three fourths of an inch, or as far down as the red color extends. It is not abundant on any part.

I send in alcohol, the insect mass out of one dozen leaves. Many of the small larvae remained in the tubes.

Will send you plants collected in this valley soon.

Yours Truly,

Mrs. R. M. Austin

Quincy

Plumas Co.

Cal.

P.S. Send you some of the leaves gathered this morning hoping you may be able to detect the honey on the dried leaves.

Austin

August 2nd

In an examination made by my brother & self this afternoon, We found the honey extending down the wing to the

219

Butterfly Valley Cal.
Oct. 24th, 1875.

Mr. George E. Davenport,

Dear Sir,

Yours of the 12th inst. is received. I hasten to comply with your request. I fear I shall not be able to get very good Botrichium roots. It has been an extremely dry season, & the Wombats have been working on the place where they grow. I will go this afternoon & do the best I can.

I send you some plants of Darlingtonia Californica. Set them in swamp muck & leaves or near running spring water, with the end of the rhizome pointing North, or a little East of North, as this is their natural position (& the plant is a true Compass) It would be well enough to put a spoonfull of water into each leaf tube, as they all contain water in their natural state.

I send you some seed of Darlingtonia. Sow this Fall, on a turf of "Bog moss" &

keep them cool & wet.

I have quite a collection of choice California seeds & bulbs, which I would like to dispose of for a small compensation. I also have dried specimens of about two hundred spec's some of which I would like to exchange for different ones.

I am interested in ferns. I should be happy to receive any dried specimens you could send me. I will send you dried specimens of ferns & lilies.

Hoping everything may reach you in good order, I am yours to command

Mrs. R. L. Austin

Quincy, Plumas Co,
Cal.

Butterfly Val. Cal.
April 8. 1876.

Dr. A. Gray;

Dear Sir;

I send you a small box of Darlingtonias. It is quite late in the season, but as the snow is still on the ground, and they show no signs of growth, think it a very good time to take them up. Set them with the lower end of the rhizome, pointing to the north, & give them plenty of water, or set them in the edge of running water, & I think you will have no trouble in growing them.

Nothing new to note. While larvae abundant in the tubes, and active during our coldest weather. Have coun-

ted as many as 205 in a single tube,

Yours Truly,

Mrs. R. N. Austin.

Burney, Plumas Co.,

Cal.

D

Butterfly Val. Cal.
April 24. 1876.

Mr. G. E. Davenport,

Dear Sir,

Your kind letter has remained unnoticed all too long but I have been so busy since I received it, that each day has been too short for its allotted work.

Our early flowers are blooming, & it is going to be the best season for wild flowers I have ever seen in the country, and I hope to be able to prepare some nice specimens for many valued friends. I recieved a nice order from Mr. Bingle for plants to grow, & I thank you very much for making me known to him & my dear friend Mrs. Ames too. If I

I have never seen any thing in the vegetable kingdom more beautiful, or wonderful.

Wishing you well, and hoping to hear from you often.

I remain Your friend

R. M. L. Austin

can only sell plants & seeds enough to buy books, pay postage, &c, I shall be able to go on with the work which I have begun and which I so much desire to accomplish something in. I shall be very busy all summer, as I have many duties aside from botanizing, so if I should appear a slow correspondent, you must look with lenency upon me.

I receive the "Medford Chronicle," & enjoy the articles on ferns very much, & shall preserve them for reference. Will occasionally send you a "Rural Press," I sent one to Mr. Pringle & one to you, containing articles from Mr. S. G. Lemmon. He is now in southern California botanizing but not well. He lost his health, or nearly so, in Andersonville Prison, during our civil war. It seems too hard that one of his energy should be prevented from work that is so ennobling by a feeble body

I thought best not to send you a box of plants before Fall, as I could only find a few of the kinds that I wished you to have. I shall send you the roots of eight different kinds of violets. I think all of our California violets, except one, & that one is Mr. Lemmon's new one. From his description, I have never seen it.

I hear, to day, of a place seven miles from here, where White Pond Lilys (Nymphaeea odorata) grow. I have never seen any growing in Cal.

I shall look well after ferns this season, and hope to send you some rare ones, as nice as those which you sent me

I shall endeavor to study the physology of our wonderful "Snow plant," (Sarcodes Sanguinea) to some extent this season. How I wish it were possible to cultivate it in your eastern gardens.

Fern Dell Cal,
June 6th, 1876.

Dr. A. Gray,

Dear Sir,

Please pardon me for this intrusion upon your time, I am collecting plants and was advised by a friend to send you numbered specimens of the flora of this valley. You need not name for me if not convenient, as I am sending the same species to Dr. Lamby, and he has heretofore kindly given me the names. I have several in my lot that I did not have last year. The Lupines are very much alike and yet distinct in their manner and place of growth. I send a singular compositacea which is not quite dry, rolled in a paper. In its early growth its resembled a finely divided "Lee plant" of distance down ridge. This surprises me more, as Mr. Lemmon, Mrs Ames and I have never before found it at this season of the year.

If you should name the specimens and are willing to be bothered with more please note those most desirable.

Yours truly
R. M. Austin

The Brucifer with spear shaped pods was not seen in flower. yz is nearly a pure white orchid, and very fragrant. I collected this one last year. It is not yet in bloom. I will try and send you & Dr. Canby perfect specimens this fall. He did not give me the specific name

Darlingtonia is in full bloom, though flowers scarce, on account of late heavy frosts. Small spiders numerous in flowers almost every one has its spider and web. The webs are generally fastened to the pistil, and extend over ovary to stamens. Each flower has a lot of small insects in among the stamens, which are found in the webs, also. Have been able to see no flying insects enter the flowers nor tubes.

The first two leaves are about six or eight inches high, and secreting liquid in the upper and lower part of tubes & hoods. The liquid in upper part, is confined to the hood & dotted portion of tubes; in the lower part it is thrown out in the greatest quantity near the bottom, not as yet extending more than an inch upward. Quantity from one to six drops; clear and tasteless. In my test this morning it changed litmus paper slightly. No larvaea found in new leaves.

Liquid in old tubes greatly increased since the warm weather "set in", & the capture of new insects. Insect captured principally large black ants, some spiders, and a few small black beetles. In my examinations this morning found (see) the honey bees and a small snail.

Find the lure secreted quite freely by ~~the~~ most of the old leaves this spring. Spring. It is on outside & made of hoods on fishlines & extends about two thirds

Quincy Cal. July 15, 1894.

Dr. Sir,

Your two of June 17, & 29, came last week. Please pardon my want of thought & selfishness in asking more from you. I was very desirous of having the specimens named for my lily, that is so much like the "tiger lily." I believe there are three varieties growing here.

I am very grateful for the honor you have bestowed upon me, by allowing my name in the Cal. Flora, & shall try to do enough for the 2nd vol. to merit such a reward. For I feel as if the name had been obtained more by the intercession of kind friends than by any work of my own.

Seeds from last year - that were still on the bushes, thinking they might aid you some. I have an abundance of specimens, such as I send you.

No. 42. was gathered too young, besides being injured by our late frosts. It was gathered in "Fern Dell" in June. At the same time with Brodiaea, I have found it only in the one place & dug all the specimens. If I had known it was a new species should have left some. One or two of the specimens are perfect, just as they were dug from the ground, so they are a more perfect description than I could give. Last year every part of the plant was white, this year the leaves were darkened by frost.

Please let me hear if the plants reach you. Yours truly, R. M. Austin

[illegible] you will find a big
[illegible] specimen of this which I am
sending to you, with the exception, first
on this season. If you can manage for
me & engage no other duty, it will be
a very great favor. I will give you the
bids that I shall place in Mr Canby's
list, when I send him my summer's
collection. I have sent him 108 species
& would wish to cause you or him any
more bother by having different bids for
the same plant.

34, is the loveliest little trailing vine
I ever found. I found it in my loved "Fern
Dell" about two miles from Butterfly Cd.
in June. It grows in a deep shady
canyon, in & near a cold Spring.

105, grows in the meadow, in cold
water.

100, is found at a greater elevation
than Darlingtonia, on mountain sides
& is very rare in this part of Cal.

107, by rocky soil.

105 on rocky hill sides.

107 on rocks formed by water
from Soda Springs.

110, Swamps.

I send you specimens of a strange
pine, showing different stages of growth.

a. The first pair of new leaves, when
the smaller end begins to secrete
the liquid in upper and lower
parts of tubes.

b. Larger & leaf, orifice open, capturing insects, while the smaller one has orifice closed, but white larvae in the liquid, in lower part of tube.

I send specimens of Erythronium Davisii in flower and fruit. The fruit is too young & will obtain better specimens if possible for me to revisit my dear lost valley again. I gathered a few old seed

American Valley Cal.
Aug. 7. 1879.

Mr. Davenport dear friend.

I have concluded to send you the Botrychium specimen now, & a few others, as I shall have no opportunity to aid you in observations on the plant. It is the most perfect specimen I could find, and as it has the root an old and a new leaf, & the fruit stalk perhaps it may answer.

I have dried you a whole plant of "Pteris aquilina?" which I think is full six feet high, & some grew farther in the bushes, that I could not get at, even taller than this one. The Pellaias were gathered full young. I have only a few Chelianthes. I shall return to the Butterfly some time this month to gather ferns. I am satisfied that there are three species

I send seeds of Viola Chrysantha, & one other the name of which I do not know.

Hoping to hear from you soon & that the plants reach you safely.

I remain yours truly.

R. M. Austin

Mr. Sargent & Davenport
Salem, Mass.

P.S. Aug. 15. I have not had funds enough up over Grand & Tuesday & Wednesday of to obtain a Butterfly called Jam. so. have concluded to send the Lilies, & delay the Jasmeys & Mr. & Mrs. Mr. Jam day

R.M. A.

of Asplenium, and perhaps four, growing there.

I have not time to give you the names of but few of the plants that I send you I duplicate most of those I send.

I have been having chills, which has spoiled all my botanical plans & excursions, since I wrote you last.

I visited Mrs. Ames after the 4th, & we had a joyful time over her large collection. She leaves the mountains about the middle of Oct, to make her permanent home in San Jose, one of the loveliest spots in Cal. She will continue to botanize, and we have made arrangements to correspond and exchange, so this will give me the Flora of southern Cal, which I very much desire

Our friend Mr. Pringle sent me a copy of our California Botany, which I received about two weeks since. It is a nice work, & I hope you have it. I am so thankful to you & Mrs. Ames and our Kind Father in heaven for giving me such a friend and helper as he has been to me.

I sent Dr. Gray one new species this summer. It is a beautiful white orchid, & he has named it Cepelanthera aphilla, as it is leafless. It is a singular plant. Leafless, & every part of it white. I may have sent you & Mr. Pringle specimens of it. In form, it resembles Corallorhiza multiflora, or, C. striata. I have not a single specimen left, as I sent the last to Dr. Gray. The late frost injured the plant this year, & I only got a few poor specimens

I shall have a fair field to botanize in this Valley next year. I have, late as it is, collected three species not found by me before. Two of them are "Eriogonum" One of them named by Watson only last winter. It is lovely, & I send you some of the seed, hoping you may succeed in making it grow in your Garden. The other is a Lemon color, seed not yet Mature.

Robt Austin

[illegible]

[illegible]

[illegible]

[illegible] my kind friend:

[illegible]

of Aug. 1st, & Supplement of [illegible] received. How can I express my gratitude to you for these great honors. I stand almost in [illegible] I fear they are bestowed upon whose future is doomed to disappointment. I will try and overcome obstacles. I have labored almost incessantly since our earliest flowers bloomed. I wish you had my collection for the use of the California Flora, & with your permission, will send you numbered specimens of all, not for your name; but if you should desire more specimens of any species, I may know what to look for.

I went on a short excursion for Flora yester-day, & found several plants new to

me, & also the [illegible] gut (Maidens hair fern) Trichomanes petalum? which I have not found before in Cal. It is the same, I think, as those I saw growing in the south years ago. Dr. Gray, as I did not keep duplicates of the Cal. plants I sent you, only the few I numbered, and I have two with white bulbs & a racemose of white flowers, that are very nearly alike, I do not know to which one you refer, nor do I remember if I sent you both kinds. Schoenolirion album. I will send you flowering & fruiting specimens of both kinds, if I am not too late for the fruit, I go tomorrow to see, and to get better fruiting specimens of Lycoothoe Davisiae.

The new orchidaceous plant has no red leaves & certainly no green ones. This year I saw it when first coming through the ground, flower stalk first and of a pure white, reminding me of the manner of growth of Sarcodes sanguinea; I saw it two other times, when growing. It was white in all no leaves only scales. The larger specimen which I sent you was an entire plant, with a part of the root broken off in digging. It grows under the large [illegible] trees, in very dry hard yellow clay. I have found it in only the one place.

It is too late for the fruit of the Erepinus this year.

Accept the sincere gratitude of your humble friend, & pardon if I have unnecessarily intruded upon your valuable time.

Rev M Austin,

American Valley, Sept. 22, '77

Dear Friend,

Your Postal came yesterday, & I have worked at "double-quick" to day to make time to put up the ferns for you. Baking & scrubbing all finished by three o'clock, & the fern done at five. I must now write you a few lines, & thank you over, & over again, for all your help to me.

I have numbered the plants on the papers & kept a list of them. I have many more to send when work does not hurry me so.

I numbered so as to give you heading. The species of some of them I do not know.

1, Brosarles — ? Mill Creek, Aug. 77
2, Zauschneria California, " " " " "
3, Primula — ? Eureka Hill, " Aug. 77 Mrs. Jennie Yeats

4, Gonioly mu Menziesii, Fern Dell, Aug. '77
5 Spiraea umbellata, Spanish Peak, July 7. '77
6. Mimulus—? " " " " "
7 Silene—? " " " " "
8. Silene Californica, Grub Flat " "
9 Lewisia Davisae, Fern Dell, Aug. '77
10, Eriogonum, I suppose it to be E. Torreyanum, from description, Grub Flat July 7 77
11 Gomphocarpus cordifolius, Mill creek, Aug. 7. '77
12, Darlingtonia Californica, Fern Dell, Sept. 77
13, Aspidium munitum, var, Slate Creek Aug. '77
14 Aspidium munitum
15, Pellea, ornithopus var, brachypterum Mill creek Aug. 77
16, Asplenium Filix-foemina Mill creek. 77
17, Botrychium ternatum Fern Dell Aug. '77
18. " " " " ?
19, Pellaea densa, Spanish Peak, July 7. '77
20, Cryptogramme acrostichoides " "
21, Cheilanthes gracillima, Mill Creek, Sept. 77
22, Pteris aquilina " " " "
23, Is it the same as 22?
24, Adiantum pedatum " " "
25 Aspidium Nevadense " " "
26, Cystopteris fragilis Mill creek May 77

27, 28, 29, 30, 31, 32, are from Dr Cleveland, San Diego Cal. I have the names in my roll, but have not time to look them up now,

Hoping the specimens may answer for what you want them, I sent Eaton all the complete specimens I had of No, 18, I shall go to Fern Dell again soon for roots for Mr, Pringle, when I shall remember you, with some roots of the two kinds of Botrychium Dr. Gray & partly have left Cal, & I did not have the pleasure of seeing them, Mr, Jennison spent two days with them, by meeting them at Truckee, on the Rail Road, I could have wept for disappointment, when I found they, had really gone

Excuse haste, and Believe me

Your Sincere friend

Mrs. R. M. Austin

as we have an abundance of snow on the Mts, hope to be able to send you the promised Sarcodes Sanguinea to grow & exhibit.

Yours Sincerely

R. M. Austin

Crescent Mills Plumas Co, Cal
March 21, 1878.

Mr. George E. Davenport

Dear Friend,

your letter of Feb. 9. & your interesting work, on B. Simplex, & the Bulletin came early in March. Please accept my sincere thanks for them. I value them very highly, & hope to be able to show you that I appreciate your kindness.

I have but few good specimens

of Ferns on hand now, & will not send you any until I collect again, I do not think Aspidium Novaboracense grows in this locality, and we are fifty miles by the windings of the road from Spanish Peak & about so, from my old home, the home also of Darlington. I have a rich Botanical field spread out before for this season if I can only have time profit by it.

He has studied but little the past winter — children both had Scarlet Fever, which prevented me from sending away my last summers work, at the proper time, I do not believe I sent you any of my flowering plants from Spanish Peak as I intended, if I did not you shall have them still, as I have plenty left.

I would like as many species of Ferns as you can send me, only one or two of a kind, I have in my Herb, about eighty North American species, & Sir, J. E. Hooker sent me over a hundred Foreign species.

I do not intend to collect so extensively this season, but study more carefully those that I do gather.

I will do what I can for you, in the way of sending Specimens, and

Ranunculus Lemmoni
Indian Valley Apr. 10, '78

Big Meadows.

Prattville Plumas Co, Cal.
May 20, 1878.

Dear Friend Davenport,

I send you the long promised Sarcodes. I hope it may reach you without fading and that you may succeed in growing it. Keep in a cool place & do not give too much water, & when the flowers are about mature, let remain dry till Oct; then put in a cool place & give plenty of water or snow for the winter, not allowing it to freeze.

We have a beautiful this summer Lassens Peak in full view, & one of the best Botanical fields in northern Cal. I expect some rare "finds" this season,

Wm. M. Canby reports some rare things in my last Summers work

I have my abomination to contend with. A Dairy Ranch, and much work to do.

I am much pleased with Eatons "Ferns of North America." Wonder when the second vol. of Cal. Flora will make its appearance. I am anxious to have it.

I will not forget you when I am collecting this season.

Yours, Sincerely
R. M. Austin

Prattville Plumas Co. Cal.
July 11, 1878.

Mr. Watson,

Dear Sir,

I send you another small package of plants. Many of them are new "find" to me. I have numbered a part of them. I have the names of the unnumbered ones.

476. Drosera ~~longifolia L.~~ Hall. Big Meadows July 4, 1878.
Corydalis caseana Gray. " " " " " "
477. Aconitum (Fischeri) ? " " " " " "
478. Thalictrum ? (alveolatum, Torr.) This I think, the same species in fruit, that I sent in the last pkg. from Lassen County. This was found at the Big Springs, July 4th. It grows in the Willows & Alders, near the water. It is a very frail plant, growing from four to six feet high, supporting itself by growing in, & resting against the thick growth of bushes. The one sent from Butterfly Cal. in 1876, grows in open moist meadows, and is much more robust in its habit. The leaves are darker green, sometimes tinged with red or a maroon color.
479. Banks of river, July 4, '79 Galium boreale, L.
480. ~~Vaccinium myrtillus~~ Swamps, Big Meadows, July 4, '79.
481 ~~Artemisia ludoviciana~~ var. ~~Douglasiana~~ " " Lassen, " "

occidentalis, watson
482 Silene & Hills, near Meadows. June 16, 79
488. Erigeron aspenifolium, Eng. May have sent this from Spanish Peak last year.
484 Townsendia elegans, Torr.
485. Lonchophacelus [illegible], Btt. Have sent both of these before, but have only one name. I should think they were different species.
Whitney's Tansy
486. Mountains near the Meadow, June, '78.
487. Phlox Douglasii var. diffusa
Summit Mts. East of Meadows, Alt. 6000 feet.
488. Lilium Hallii
489
490 Galium bistorum, Watson
491. Symphoricarpus oreophilus, Gray
Triglochin maritimum?
492. Swamps, Big Meado, July 4, '78
493. Potentilla glandulosa
North Calif.
494. Quercus Lindana? indicana sec. [illegible]
Indian Valley, Apr. '78
495. Astragalus leptocimus
Ranunculus multifidus, Plumas & North Calif.
496. Hills, near Big Meado June 20 '78
497. Cardamine Centaria Californica var. pleurostigma
? This must be different from C. pauciseta. It was found at an altitude of near 6000 feet, growing in a lava slide, I could not get any roots, as the hill was so steep, and the lava so loose, that it would slide in, faster than I could remove it.
498. Mts, Pentstemon azureus, Btt.
499 " " " " Chimus Andersonii
Please let me hear if the packages reach you safely.
500. Orthocarpus hispidus
Yours Sincerely
R. M. Austin

(Big Meadows)

Prattville Plumas Co., Cal.
Sept 17. 1878

Dear Friend, Dr. Gray,

Your Postal is received. Our good friend Canby had given me the same name to the plant, which you give, & told me "It was a rare find", and also desired more Specimens. I did not find it this Summer in collecting, and our home now, is fifty miles from where I found it last year.

I think I have some Specimens left from last year, but they are still in the boxes, with many other plants, as I packed them nearly a year ago.

And as I am going to make the ascent of Mt. Lassen the last of this week, cannot look them over, till after my return. I have some other specimens that I have been saving for you, & hope to add more on the coming excursion.

I was disappointed that I did not get to see you & Sir Joseph D. Hooker, when you were in Cal. I had laid by a good many specimens for you both.

I made a trip to Fern Dell, where Darlingtonia grows, in August, & took a few hurried notes, which I copy for you, trusting they may be interesting to you.

Hooker wrote me after his return home, & sent me his Address, delivered before the Royal Society. I was pleased with the portion refering to "The Big Trees".

Your Lecture of Apr. 18. '78 was handed me this morning. Thanks! Shall read it with interest.

I have had no word from Mr. Lemmon, since the bursting of "The Dio Lewis Bubble". He was then bound for Yosemite.

I secured leaves of the three willows sent to Mr. Watson, in the first pkg. sent this year. I also sent some to Mr Bebb, & will send Mr. W. some, with aments also, when I send you Grow.

Yours very truly
R. M. Austin

Prattville Cal.
April 26, 1881.

Mr Sereno Watson,
Dear Sir;

A letter and card from Mr. James L Bennett, of Providence, reminded that I have neglected to long to thank you for, and acknowledge the receipt of the Cal Flora II Vol,.

One; and the principal reason was, that I wanted to send you some plants that I found last year, and did not send, as I heard that you and Dr. Gray were both traveling, but so far have not had time to go over packages and put them up,

I am almost sure that I have a Cypripedium that

not described in the Bat, I found it too late, and only got poor specimens, I shall try to secure good ones this season and send you,

Mrs. Austin

Prattville Cal, June 6, 1881

Prof. Sereno Watson.

Dear Sir;

I send you the Cypripedium, spoken of in my last, and which I did not think answered the description of either of those in the Cal. Bot. They are entire, except roots, and as I found so few of them, and dug several of the roots last year, did not like to destroy more. I sent roots and fair fruiting specimen to Dr. W. Tra. Canby last Fall.

If the species should prove new, and could consistently be dedicated to Mr. C. G. Pringle, please remember my former wish, expressed to you or Dr. Gray.

I will send you any thing I may find new (to me) this season, yours truly,

R. M. Austin,

"Big Meadows."
Prattville Plumas Co, Cal.
July 21, 1881.

Mr, Sereno Watson;

Dear Friend,

Your favor of June 16. came to hand some time since, I felt sad at the disappointment, in not having the Cypripedium bear Mr, Pringle's name It was a selfish wish of mine, and had I considered the fitness of things more, would not have made it known; A few years ago when he had some kind of a degree conferred on him by the State of Vermont, he said in a letter to me, that he "would deem it a greater honor to have a Liliaceous plant bear his name;" knowing his wish, and feeling greatly in his debt, for his ~~great~~ kind help in

in what little botanical work I have been able do, is my apology for troubling you in this way,

If you think proper, to dedicate the plant to me, I shall deem it a great honor, and a mark of your good will toward me,

I send you, what I take to be a Eupatorium, that I do not think I have had before If it is a form of E. occidentale it is very peculiar,

Yours Sincerely
R. M. Austin

[illegible]

[illegible] Ten
[illegible]
[illegible] I
[illegible] and
hope [illegible]
interesting [illegible]
[illegible] on
[illegible] my own
Specimens the [illegible] and
send you extra labels to
mail. The [illegible] for
me.

The Sarracenas and
Cardamine were sent
before you gave it as
S. Glauca. Is it? The
fruit looks so different
I sent only flowers before

[illegible] desired fruit.
Specimens of a [illegible]
(Gentiana [illegible])
I came across it [illegible]
[illegible] and Genera of
all the other fruit [illegible]
[illegible] must [illegible]
[illegible] allied to that
Gentiana [illegible]
[illegible] near the [illegible]
[illegible] Aug. 8, [illegible]
of the Genera and
species [illegible] is a
[illegible] little [illegible]
growing in masses on
the shaving [illegible] of
rocks, where there is
loose lay-kept soil
by the melting snow.
All the other plants
with the exception of
X. were gathered on
and around the [illegible]
Peak.
[illegible]
[illegible]
Flagstaff Co.
b. roots [illegible]
[illegible]

HERBIER BOISSIER
CHAMBÉSY
PRÈS GENÈVE.

27 février 1889.

Monsieur,

Mr. W. Barbey me charge de vous présenter ses compliments & ses remerciements pour le nouveau travail que vous avez eu la bonté de lui envoyer.

Ci-contre, j'ai dressé une petite liste des publications de Mr. Barbey; veuillez avoir l'obligeance de me noter ce que vous possédez déjà & ce qui vous serait agréable de recevoir.

Je vous prie d'agréer, Monsieur, l'expression de mes sentiments distingués

Eug. Autran

à

Monsieur Sereno Watson

HERBIER BOISSIER
CHAMBÉSY
PRÈS GENEVE

9 avril 1889.

Monsieur,

Je vous remercie de votre lettre du 15 mars & je me fais un plaisir de vous adresser, par le même courrier, avec les compliments de Mr. W. Barbey, les quelques ouvrages que vous n'avez pas encore dans votre bibliothèque.

Veuillez agréer, Monsieur, mes très dévouées salutations

Eug. Autran

à

Monsieur Sereno Watson

HERBIER BOISSIER
CHAMBÉSY
PRÈS GENEVE.

15 janvier 1890.

Monsieur,

M. W. Barbey me charge de vous présenter ses compliments & de vous informer qu'il désire offrir, comme don, à votre Herbier de l'Université Harvard, une collection des plantes que M. le Dr G. Schweinfurth a dernièrement recueillies dans le Yemen.

Cette collection est déterminée par M. Schweinfurth lui-même.

Veuillez avoir l'obligeance de me faire savoir si votre Herbier désire accepter l'offre de M. Barbey & si je puis vous adresser déjà maintenant une première partie de cette collection.

Veuillez croire, Monsieur, à mes sentiments très distingués

Eug. Autran

To
Sereno Watson Esq.

HERBIER BOISSIER
CHAMBÉSY
PRÈS GENEVE.

20 février 1890

Monsieur,

J'envoie aujourd'hui à Berne la caisse de plantes du Yemen.

M. W. Barbey me charge de vous remercier vivement pour le "Gray's Manual", qui lui a fait très plaisir, & de vous dire qu'il est un peu laissé de côté par les collecteurs américains. Sintenis n'a jamais rien envoyé & Palmer rien l'année dernière; il n'y a que ~~Curtiss~~ Pringle de fidèle. Les plantes du Canada & de l'Amérique boréale nous manquent aussi. Il est toujours amateur des bonnes & sérieuses collections.

Veuillez agréer, Monsieur, l'expression de mes sentiments dévoués

Eug. Autran

à

Monsieur Sereno Watson

HERBIER BOISSIER
CHAMBÉSY
PRÈS GENEVE

12 juillet 1890.

Monsieur

M. W. Barbey a reçu dernièrement une collection de M. Pringle qui l'a vivement intéressé. Malheureusement, il n'est jamais indiqué sur les étiquettes américaines où se trouvent publiées les nouvelles espèces. Pourriez-vous obtenir ceci à l'avenir.

Les publications de votre pays ne nous parviennent que difficilement; nos libraires européens sont mal organisés en général et les recherches bibliographiques sont parfois laborieuses pour les plantes américaines.

Veuillez agréer, Monsieur, l'assurance de mes sentiments très distingués

Eug. Autran

à Monsieur Sereno Watson

HERBIER BOISSIER
CHAMBÉSY
PRÈS GENEVE.

15 août 1890.

Monsieur,

Merci de votre aimable lettre du 26 juillet.

Voici ce que le Dr Schweinfurth m'écrit au sujet du R. multifidus Forsk.

" R. multifidus Forsk. non Pursh =
R. Forskahlei DC. & très probablement
= R. pennsylvanicus, espèce très répandue dans les montagnes du Yemen, que j'ai collectionnée à plusieurs reprises. Cependant, certaines espèces abyssiniennes pouvant exister au Yemen, seraient à mettre en considération. L'identification avec l'herbier de Forskahl n'a pas été faite, ce Ran. ayant disparu.

Un de nos amis est près de terminer un travail très sérieux sur

à

Monsieur Sereno Watson

le genre Polygala. Je mets plus bas une liste de quelques Polyg. qu'il n'a pu voir & qu'il serait désireux d'étudier. Vous serait-il possible de m'en remettre des échantillons — soit à titre de prêt — soit à titre de don en faveur de notre herbier, afin que ces espèces puissent être trouvées à l'avenir dans un herbier en Europe. Elles y font totalement défaut.

Veuillez agréer, Monsieur, l'assurance de mes sentiments distingués.

Eug. Autran

P. Xanthi Gray

P. acanthocladus Gray

P. Pearcii Watson

P. alba v. suspecta Watson

P. viridis Watson

P. Greggii Watson

P. —— ? vide Watson Contrib. XIV. Palmer Mex. 1886.

Sent Nov. 15/90

HERBIER BOISSIER
CHAMBÉSY
PRÈS GENEVE

19 décembre 1890.

Monsieur,

Je vous suis très obligé de votre aimable lettre et de votre envoi de Polygala; je me suis trompé: le P. Fearcii est de M. Bennett & non de vous; veuillez m'excuser.

M. Schweinfurth est parti pour Massaouah, je ne puis guère lui demander maintenant d'autres renseignements; mais, pour la présence douteuse de R. Pensylvanicus Bunge, je vous prie de confronter: Deflers. Voyage au Yemen. Paris. 1889. p. 108.

Je vais expédier à la Chancellerie de Berne une caisse renfermant la suite des plantes du Yemen, du Dr Schweinfurth. M. W. Barbey se fait un plaisir de vous

à

Monsieur Sereno Watson

les offrir.

Veuillez croire, Monsieur, à
mes sentiments très dévoués

Eug. Autran.

HERBIER BOISSIER
CHAMBÉSY
PRÈS GENÈVE

22 juillet 1891.

Monsieur,

J'ai à répondre à deux lettres de vous & à vous remercier beaucoup pour l'intéressant envoi de plantes que vous avez eu l'obligeance de m'adresser & qui a trouvé bonne place dans l'herb. Bois.

Le n° 1712, Euphorbe de Schweinfurth Yemen est aussi sans nom dans notre collection. Vous recevrez du reste plus tard un exemplaire du travail de M. Schweinfurth sur ses plantes du Yemen.

Dernièrement, en classant les Cuscuta nouvellement arrivés, je trouve :

à

Monsieur Sereno Watson

Autrain

HERBIER BOISSIER
CHAMBÉSY
PRÈS GENÈVE

22 août 1891.

Cher Monsieur,

Je vous remercie beaucoup de votre aimable lettre du 6 août, & de toute la peine que vous avez prise à me répondre au sujet des Cuscuta.

Mes meilleurs remerciements également pour les 2 brochures envoyées, qui nous sont fort précieuses.

J'ai eu dernièrement la visite de Mr. & Mme Britton de N-Y. & j'espère que j'aurai aussi une fois le plaisir de vous voir.

Croyez-moi, cher Monsieur, votre bien dévoué

Eug. Autran

Monsieur S. Watson

1° Ericc. Jones. Flora of New Mexico. 1884. n° 4116.

" " Utah. 1880. n° 1914

= Cuscuta curta Engelm.

Je ne trouve nulle part ce nom mentionné.

2° Ericc. Parry. Utah. 1874 n° 207 est sans détermination ; en auriez-vous le nom ?

C. Gronovii var. Engelm.

Avec mes remerciements anticipés, veuillez croire, Monsieur, à mes sentiments très dévoués

Eug. Andran

HERBIER BOISSIER

CHAMBÉSY

PRÈS GENÈVE

1 juin 1894

Cher Monsieur,

Ayant été absent pendant 8 jours pour cause de maladie, je vous prie de m'excuser d'avoir autant tardé à répondre à votre lettre.

Votre Coccoloba me paraît bien devoir appartenir en effet au C. Orizabae Lindau, dont il ne diffère que par une nervation un peu plus dense de la feuille; mais la forme est du reste identique. Ceci dit à en juger sur des échantillons très imparfaits, aussi bien les vôtres que celui de l'Herb. Boiss. de Bourgeau, qui est dans un misérable état.

Ce n'est pas en tout cas le C. Jurgenseni (comparé à l'Herb. Delessert), dont il diffère par son inflorescence, — soit par la forme des feuilles, oblongues-obtuses dans C. Jurg.

Toujours très heureux de pouvoir vous être agréable, croyez-moi, cher Monsieur,

Votre tout dévoué

Eug. Autran.

Monsieur le Prof. Robinson