

Rec<sup>d</sup> Nov 22 1869  
Ans Jan 2 1870

New Haven, Ct.

April 19<sup>th</sup> 69.

George Engelmann, M.D.

St. Louis.

My dear Sir,

I have  
been for the last two years with  
the government party under  
charge of Clarence King, Esq. en-  
gaged in the geological exploration  
of the territory along the 40<sup>th</sup> paral-  
lel from the California line  
eastward, and have brought home  
a considerable collection of  
dried plants. May I ask your  
assistance in the determination  
of the few cacti which I found  
in that region?

You can judge little, I very well  
know, from written descriptions and  
as we shall soon return to Salt



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Lake to complete the work that is left to be done between there and Green River, I can if necessary bring you the rather imperfect specimens which I have here.

Meanwhile I will describe them as well as may be.

No. I. - with broad orbicular joints (in my specimen, 6' long by 4' broad +  $\frac{3}{4}$ ' thick, upon a cylindrical stem,  $1\frac{1}{2}$ ' long + 1' in diameter,) - lateral puberuli nearly an inch apart, more crowded on the edges & towards the apex - spines about 6, very unequal, <sup>spreading</sup> the longer one 2-3' or more in length, more or less brown or purplish. <sup>in July,</sup> Flowers, <sup>annual</sup> from the upper edge, large (petals  $1\frac{1}{2}$ ' long) bright yellow or deep purple, more frequently yellow - fruit  $1\frac{1}{4}$ ' long by  $\frac{1}{2}$ ' in diameter, dry, prickly. I enclose a few seeds. This was frequent in the valleys from Salt Lake westward, at an altitude of 4-6,000 feet, diffusely branched, & very handsome in flower. It seems to be nearest *Opuntia hystrix*, <sup>*O. utahensis*? *O. Utahensis*?</sup> What must be another broad jointed *Opuntia*, considerably smaller, grown upon the mountains in the western part of Nevada, but I did not meet with it in flower or fruit, & have no



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specimens.

*O. pulchella*

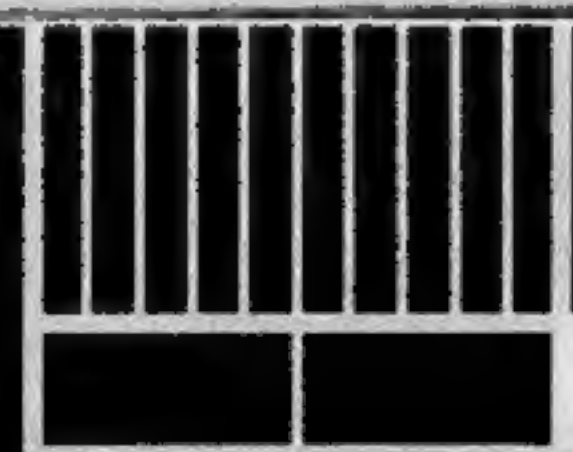
No. II. - A more or less elongated, cylindrical, pyramidal stem (1-6' high by  $\frac{1}{2}$ " in diameter) with a cluster of numerous cylindrical branches at the summit, (1-3' long by  $\frac{1}{4}$ - $\frac{1}{2}$ " in diam.) simple or branched, - stem smooth & unarmored, or closely tuberculated, the pubescent crowded with short stiff prickles ( $1''$ - $1\frac{1}{2}''$  long) at the base especially, - the branches tuberculated, with stiff flattened spines, variable in length but not exceeding  $1\frac{1}{2}''$ , black, brown, purplish, or white & spreading, smaller ones usually numerous.

Flowers terminal, purple, pedicels  $\frac{3}{4}$ " long. Fruit dry, obovoid ( $\frac{3}{4}$ " long by  $\frac{1}{4}$ " in diam.) Ripe and not found. Papillae upon the fruit crowded with slender bristles  $\frac{1}{4}$ " to  $\frac{1}{2}$ " long.

The stem is woody. In some I counted as many as 25 annual rings. Flowers often numerous - sometimes 50 in a head. Found with the bark in the valley in the central part of Nevada, between Austin & the East Humboldt range. Flowering in June & July.

I enclose a single branch. & flower

No. III. may possibly be the same, but with on dry foothills in the western part of the state, but neither in fruit nor flower - apparently stemless, the divaricate branches forming a dense globular head 2-3' in diameter, densely armed with much longer spines, 2 or more long, deep brown and flattened.



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No. II. is a Mammillaria, growing upon  
the mountain at an altitude of 8-10,000  
feet, from the ~~San~~ River eastward  
to the East Humboldt Mts. - Globular, 2-6'  
in diameter, solitary or several in  
a cluster, flowering at the summit.  
Tubercles  $\frac{1}{2}$ " in height - spines 20-30, spreading,  
straight, about 6 stouter & longer (not exceeding  
1") more or less brown at top, the rest  
white and  $\frac{1}{2}$  to  $\frac{2}{3}$  as long.

Flowers several, greenish yellow, petals  
 $\frac{1}{2}$ - $\frac{3}{4}$ " long. I never succeeded in finding  
the mature fruit. I enclosed a flower  
& a few tubercles. In section, purple  
in the center like a ripening watermelon,  
but of course solid. Spoken of by some  
of the party as a common cactus in  
Arizona & often resorted to as a  
supply of water when other sources failed,  
the half roasted head yielding a considerable  
quantity.

I trust that you will excuse the  
liberty which I am taking, as I know  
the interest which you have shown,  
& success, in working up the natural  
history of this order.

Please address in reply, to care of  
Prof. D. C. Eaton,  
Yours Very Respectfully  
Sereno Watson.



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Rec<sup>d</sup> Jan 17<sup>th</sup>  
Ans same day

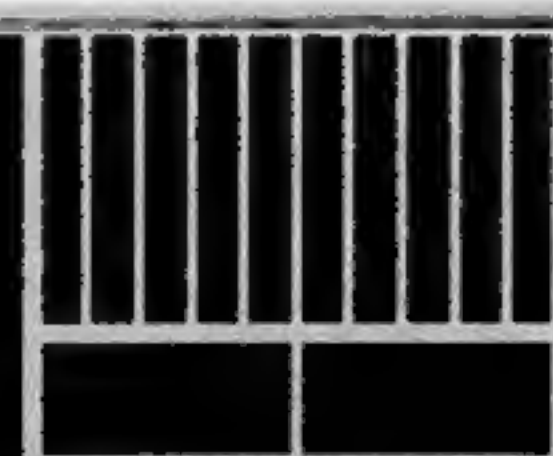
Watson

New Haven, Jan 18<sup>th</sup> 70

Dear Sir,

Your favor of 2<sup>nd</sup> inst. was  
rec<sup>d</sup> some days ago, for which accept  
my thanks. I learned soon after sending  
you my letter that you were on a  
visit to Europe, and therefore have not  
been at all surprised at not hearing  
from you. On the contrary, I scarcely  
expected that it would reach you.

I have been west again with the  
party this season, but not beyond  
Salt Lake - spending most of the time  
among the Wasatch & Uintah mountains.  
The most frequent, almost the only  
cactus seen here was the O. missouriensis.  
I do not remember meeting with the  
O. hystrix, which was the more common  
of the two in Nevada. In Salt Lake Valley  
the O. fragilis, (as I suppose it to be) was not



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rare. The joints of the *Q. Missouriensis* are  
sometimes very large - 8-10' say, in length by  
half as much in breadth - while they might  
not be more than 2" in thickness. The  
fruit was occasionally  $\frac{1}{2}$ ' long, deeply  
pitted, & nearly unarmured.

On the divide over the watershed where the  
Pacific R.R. crosses the range, at an  
elevation of 7,000 feet, I gathered some  
joints of an *Opuntia*, which I do not  
find described - possibly your *Q. Utahen-*  
*sis*. They are about 2' in diam., broad elliptical,  
the older joints becoming somewhat semi-ellip-  
tical as they rot from the lower edge -  
something like this,  - the sides thickly  
beast with short stout spines, all reflexed & almost  
appressed, the longest less than  $\frac{1}{2}$ ' in length; upon  
the edges the spines are twice longer & nearly  
straight; flowers apparently small, & fruit not  
over  $\frac{1}{2}$ ' long. Can you guess what it may be?  
The spines are arranged much as represented in  
your plate of *Q. striata*.

Where will I find descriptions of *Q. pulchella*



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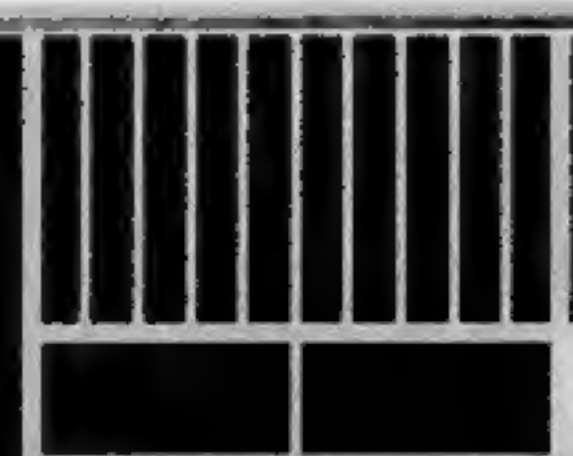


St. Louis Transcript. II. p. 197. (1863)  
+ *Q. Uahensis*?

In working up my collection (which includes  
some 14-20,000 specimens) I have been almost  
forced to index the botanical literature of the  
country, as far as it was within my reach.  
The result as yet is, of course, imperfect.  
Though Prof. Eaton's library is tolerably full  
in publications upon American botany,  
I may possibly be able to make it  
complete enough to be worth the pub-  
lishing - after the report upon my collection is  
off my hands. Prof. Eaton has several of  
your publications, e.g. - on Cucurbitae, Synopsis of  
Cactaceae, on Wislizenus' collection, & others in  
the Pac. R.R. & Mex. Boundary reports. Will you  
please inform me in what journals, or  
in what other forms, your other botanical  
~~public~~ contributions will be found.

Yours Very Truly  
Frederick Watson

Dr. George Engelmann }  
St. Louis, Mo. }



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Rec<sup>d</sup> Jan 26  
Ans Jan 27

New Haven, Jan 21<sup>st</sup> / 70

Dear Sir,

Your favor of 17<sup>th</sup> at hand. I enclose specimens of the *Opuntia* mentioned. The spines become twice to three times longer.

Prof. Eaton has of yours &

*Wilzigianus*, 1844.

*Cucurbitaria*, 1842 (Sill. Journ.)

*Cucurbita*, 1859.

*Cochlearia*, 1856.

*Dianthus grasseus*, 1859.

*Junci*, 1860.

& some sheets of

*Xibiniana* & *Cornus*

*N. Americana* *Graper*

*Urophora polycephala*

The St. Louis transactions may be in the College library - I will inquire.



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Ms. Torrey & Gray have just spent a couple  
of days here. They advise me to complete  
my index & promise its publication - will  
endeavor to get the assistance of the  
Smithsonian Institute.

Very Respectfully  
James Watson



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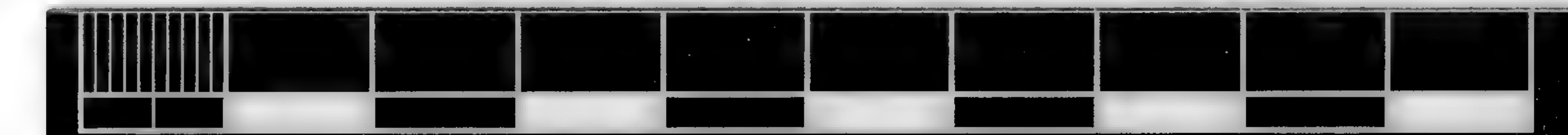
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Rec<sup>d</sup> April 11<sup>th</sup>  
Am — 15

New Haven, April 6<sup>th</sup> 1870.

My dear Sir,

Your favor of 15  
rec<sup>d</sup>. and I send you by mail  
today all that I have of the  
manuscript in question.

I think I stated that it was  
found only well up on the  
mountain — say 7-8,000 feet  
alt<sup>e</sup> in lat. 39°-40° —

Your pamphlet came safely  
for which accept my thanks

Yours very truly

Dr. G. Engelman  
St. Louis

Frederic Watson



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Rec<sup>d</sup> May 27<sup>th</sup>  
May - 30

New Haven, May 25<sup>th</sup> 70

My Dear Sir,

I rec<sup>d</sup> duly your  
favor of 15<sup>th</sup> ult. and the returned  
specimens.

May I ask of you a favor?  
My report is to contain thorough full  
English descriptions of all the genera  
and species of my collection that  
do not come into Gray's hands, &  
also of such others as <sup>have</sup> been previously  
found in that region - i. e. Utah  
and Nevada. It will be in fact  
a beginning towards a general  
Botany of our Western Flora,  
gathering together information that  
can now be found only in scores  
of different publications, & will  
be supplemented in good part by  
Prof. Brewer's Botany of California.



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which will be published in two or  
three years without doubt. Of course  
this is no attempt towards such a  
thoroughly complete work as only  
Dr. Gray can propose, yet the more  
complete it can be made the  
better. Will you undertake the  
Cactaceae for me? They are  
not many, but you can do the little  
that needs to be done much better  
than I and in less time - and the time  
given is so limited that I am glad to  
put upon others what I can.

The Cucurbitae and Jurceae too, may  
I not send you those? They are very  
few and may be only common  
forms - I have not examined  
them yet at all. Not many are  
reported from that region.

The reports in ~~part~~ <sup>part</sup> gotten out  
in good style, and I am promised  
50 illustrations if I wish them.  
If you should find anything worth



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figuring and will have the drawings  
prepared for my expense, we will have  
them engraved here.

By the 1<sup>st</sup> or middle of July will  
be soon enough for the M.D., and  
I cannot suppose that the work  
would take any very long time. May  
I not so far depend upon  
you — for the good of the  
cause?

Yours Very Truly  
Severus Watson

Dr. George Engelmann  
St. Louis, Mo.



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Recd June 28  
July 1

1768.  
386

June 24<sup>th</sup> 1840.

My Dear Sir,

I thank you  
for re-undertaking the Cactaceae  
for my reports, and will  
not trouble you with the  
other matters. I have  
looked over my Cuscutae  
and find only your *C. tenui-  
flora* and *C. Californica*, *Choi-  
ren. gracili-flora*, the latter  
much the most frequent,  
though both are rare.

I enclose some Lemmas  
which I would like you to  
look at, though I do not know  
they are determinable, as



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I can make flowers or fruit  
only upon the (a) form. The  
Spanish Spring specimen  
may not be the same as  
the good one marked by a  
strong posterior nerve but  
otherwise on nearly or quite  
nervous - I see nothing  
in Herb. Gray just like it in  
that respect. The other flowers  
robless trivulca-like things.  
I can make nothing of. Ex.  
cept that all of my L. trivulca  
is just as robless I should  
guess that it was a Wolffia.  
Dr. Gray has no compound  
microscope or lens, or  
that point could be settled  
or over.

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Hoping that you will not get  
out of patience with my questions  
I am Yours Truly Wm. Watson.



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Rec July 13  
Aug - 26

New Haven, July 8<sup>th</sup> 70.

My Dear Sir,

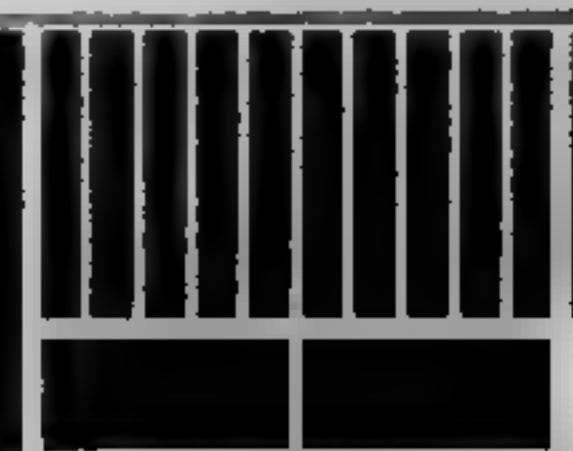
Your favor of  
the 1<sup>st</sup> inst. is at hand. Once more  
I take the liberty of sending you  
some troublesome subjects -

Leuckers echinospora, Dorr., var. Braunii - appa-  
rently from alpine lake in the Witches.

Marsilea, apparently the same as the  
following specimens in Herb. Gray.

254?	Hall & Harbour.	-	labeled	<i>M. vestita</i> .
125	Lindl. 1849.		"	<i>M. mucronata</i>
	from Mr. Hale - W. Louisiana		"	<i>M. quadrifolia</i>
746	Lindl. 1847	}	New Mexico - unnamed.	
406	Wright 1847			
811	" 1849			
2112	" 1852			

I have no means of determining what it



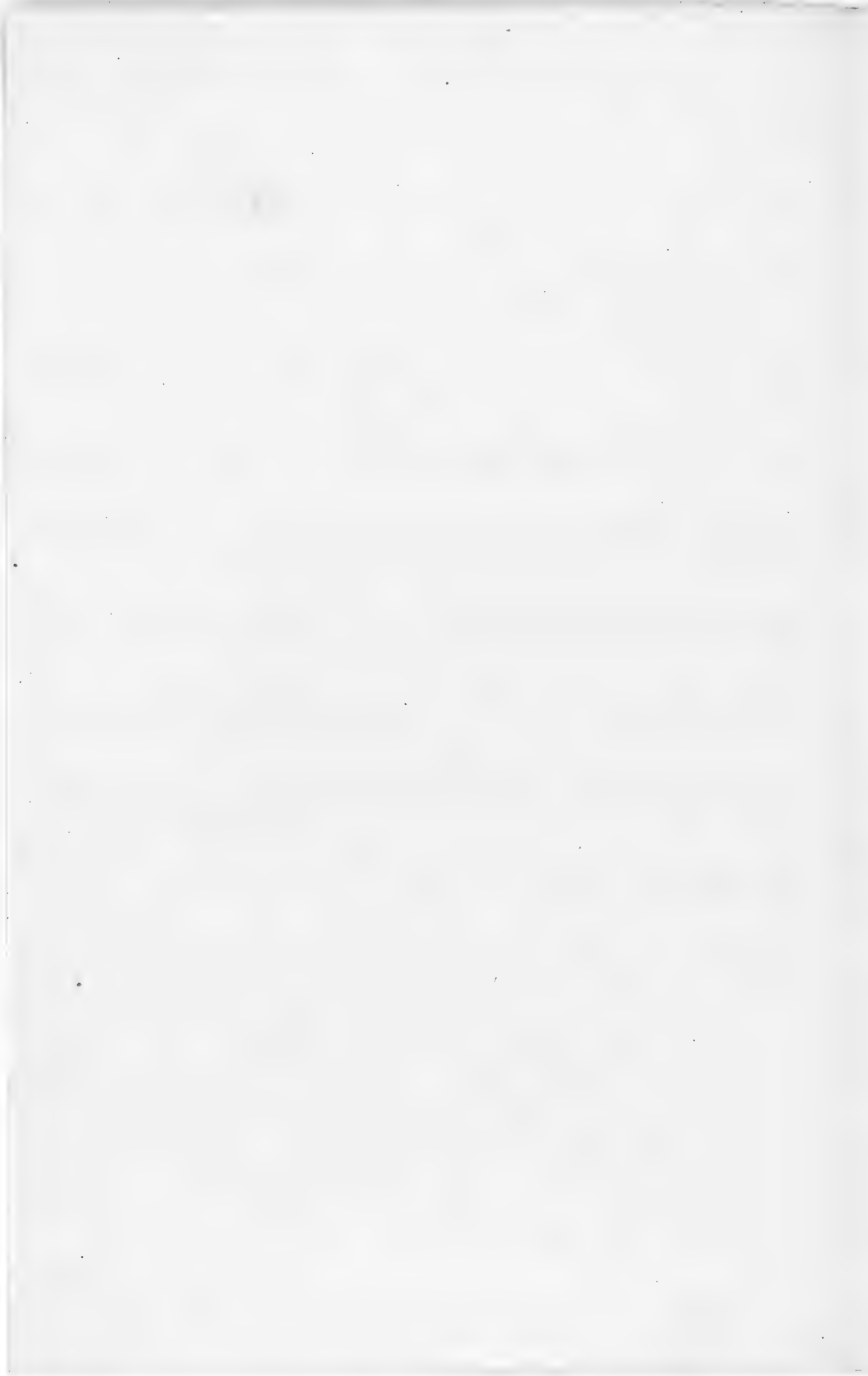
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really is.

Chara, from half a dozen different localities - evidently three species.

Dr. Gray's Herbarium gives an half here. If you prefer sending them also to "headquarters" please do so.

Yours Very Truly  
Jesse Watson

Pray excuse my negligence in so long imposing my postage upon you.

J.W.



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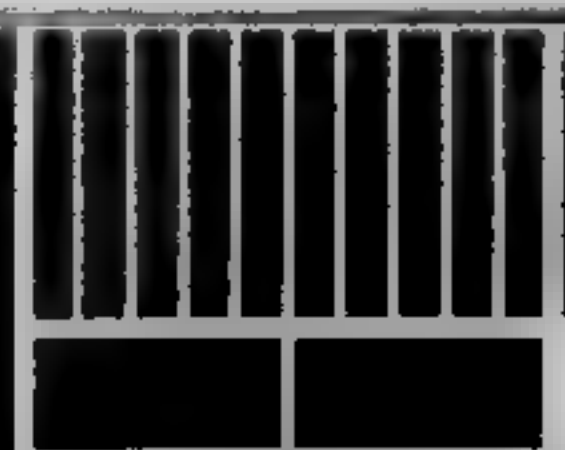
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Recd. Aug 4<sup>th</sup>  
Monday

New Haven, Aug. 1<sup>st</sup> 70

My Dear Sir,

I have your  
favor of July 26<sup>th</sup>. The printers  
promise to take up my report  
early in September. I hope to  
receive your sheets upon the  
Cactaceae in good time, and  
am not sorry that more  
time is given me than was  
first proposed.

I found a species on the  
summits of the E. Humboldt  
Mts. (10,000 feet) which I am



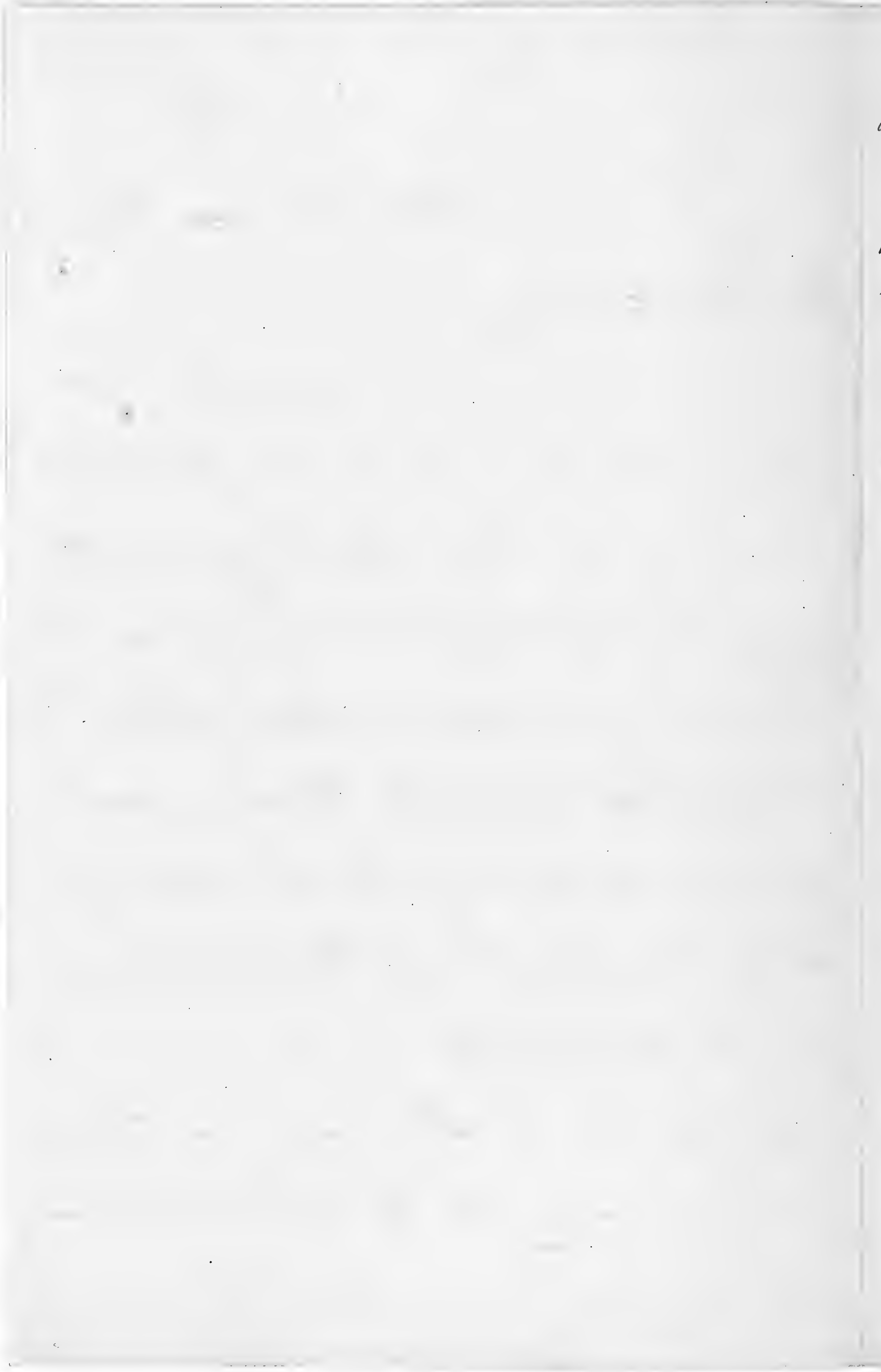
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*[Faint, illegible handwritten text on the right edge of the page]*



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disposed to consider a form  
of *P. aristata*, though  
Prof. Eaton thinks it distinct.  
It answers to the description per-  
fectly + to specimens of the Colorado  
species, except that the cones  
are a little larger, + lighter colored,  
+ the awns less conspicuously  
developed - but the few dryer  
climatic of Nevada may account  
for the difference. I will send  
you a specimen.

Yours very truly  
Frederick Watson



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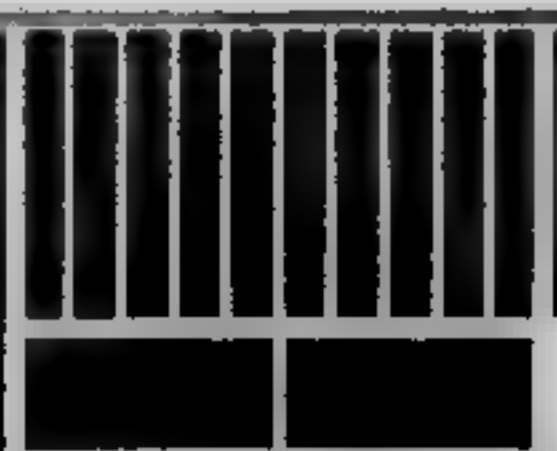


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*Sereus Watson*



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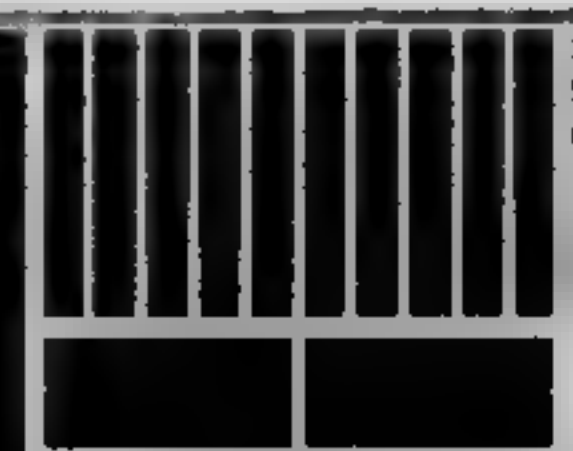


Recd Sept 28  
As - 30

New Haven, Sept. 23<sup>rd</sup> 90

My Dear Sir,

I am very much obliged to you for your letter and advice of 18<sup>th</sup> inst. My *Pinus contorta* is wholly of the broad-leaved form, as supposed by you. *Abies Engelmannii* was found <sup>(50° high)</sup> in the E. Humboldt Mts. (a high range nearly in the middle between the Sierras and the Wahsatch) on the western slope at an altitude of 9,000 feet, also in the Wahsatch at the same elevation and in the ~~Alp~~ <sup>rather lower</sup> ~~down~~ down, where it is known as "white pine". When I took as first for *A. nobilis* proved to be *A. amabilis*, Forbes - which is very near



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*A. grandis*, but I do now know  
that they run together. It was  
collected in the Wahsatch and Uintahs  
with the last. In the young cones  
the bracts are exserted beyond the  
scale as in *A. nobilis*, whence my  
mistake. *A. grandis* I found  
in the Sierras above Carson City  
(where it is "White Spruce"), in the  
Goose Creek Mts. (where Nevada and  
Utah corner upon Idaho), and in  
the Wahsatch and Uintahs, at  
6-8,000 feet altitude. Bark much  
as in *A. balsamea* - cones rather  
difficult to procure as they are soon  
destroyed by the squirrels. I saw  
scraps. The cones are very variable.  
A fine tree, but east of the Sierras  
the species do not attain the  
sizes of the Pacific Coast now



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approach them - at least when  
I have been.

I have never been able to  
find any notice of *P. Balfouriana*  
though I had heard of it. When  
is it described? I do not see  
that Palgrave ~~takes~~<sup>makes</sup> any mention  
of it however.

How soon may I expect your  
note on the *Cactaceae*? I shall  
be ready for it very soon  
now.

Yours very truly

Asa Gray



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Recd Octob 7 1870  
Mr. Mark 9 1871

27 May 1870

1111. Street.

13 July 1870

New Haven, Oct. 3<sup>rd</sup> 70.

My dear Sir,

I think that  
Kunshan was not very far  
out of the way in his concep-  
tion of those constitutions with  
true *Abies amabilis* and a  
grandis, judging from my  
own specimens of what I take  
to be the same trees. The  
scraps sent you are just  
together as they grew, and not  
merely as I understood them.  
The scales from the large cones  
are from the trees having the  
short acute leaves - the smaller  
cones from the obtuse leaved  
trees. The latter was much the  
most common, the former being



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seen by me in but ~~in~~ a single  
locality in the Washakie,  
though collected by Prof. Eaton in  
another canon of the same  
mountains. As to size and habit  
there was nothing distinctive in  
them that I saw.

Some of the less densely leaved  
twigs of *A. grandis* sent you  
are from young trees growing  
in the shade of the larger ones,  
— from the Sierras near Canon  
City.

Perkins says that he had  
seen ~~the~~ cones sent home  
by Douglas of *A. amabilis*.  
Was he mistaken?

Hoping that you will be able  
to send me the Cactus paper  
very shortly if the order comes so  
early in the flora that it will



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not to delay it till the printers  
have begun upon the MS. I  
remain

Yours very truly  
James Watson

Dr. George Engelmann  
St. Louis.



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Rec<sup>d</sup>. Febr 17<sup>th</sup>  
vs March 9

New Haven, Feby 14<sup>th</sup> / 11.

My Dear Sir,

I had determined not to cry "wolf" again when there was no wolf, and so have waited until I should have certain evidence that the printers were at work before I troubled you again. Now that I have seen the first proof sheets of my report, I can with a better grace ask you for the promised notes upon the Cactaceae.

If, however, you choose to make the article more full than at first proposed, including new species or new matter, or even a summary or synopsis of any or all the genera, I will be very glad to have it, and in this latter case it can all go into the "Appendix", which will probably not be reached for a couple



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of months. This appendix will include  
much of a like character in regard to  
other orders, and Dr. Gray proposes to  
furnish for it the notes which he  
is now preparing upon the Labiatae.

Have you completed your revision  
of the Coniferae, and what conclusion  
did you reach as to the relations of  
Abies grandis and amabilis?

Have any additions or changes of notes  
been made in our Cuscutae since the  
publication of your revision? I find  
none published, but of Junceae.

As soon as this Report is off my  
hands I shall be ready to proceed with  
my "Index", of which Prof. Brewer has in-  
formed you. It is more his "hobby"  
than mine and I do not much fancy  
the riding it, but as he a few days ago  
informed me that he was prepared to  
fulfil his part of the condition, I  
must try and do the best I can with



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It. Any help that I can get from  
others will, of course, be most thankfully  
received and I was very glad to hear  
from him that I might depend upon  
you for all relating to the Cactaceae.

Hoping soon to hear from you  
I remain

Yours Very Truly

Ernest Watson

To  
Dr. George Engelmann }  
St. Louis.



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Rec<sup>d</sup> March 21<sup>st</sup>  
Airt. same day

Washington, D.C.

Mar. 17<sup>th</sup> 1871

My Dear Dr.

Thanks to you for the Cactus Mss. which is just at hand and just in time. My own bare list had gone into a compositor's "take" today with a footnote referring to the appendix for your fuller account, which I still had faith to believe would come.

Very slight modifications will make your Mss. all right, and just what I wanted.

But should not Opuntia fragilis be added? I think I mentioned in some letter having collected what I took to be that species from the west base of the Wahsatch in Jordan Valley. It does not answer to any that you



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describe, and I will include it provisionally until you see it.

In Herb. Gray there was also a specimen collected by Dr. Mooney on Mt. Davidson near Virginia City, that accorded well enough apparently with the description of *D. crinita*, Eng. & Big. Is it very improbable that that determination is right?

Your Yucca notes will be very acceptable.

If there is anything more sure certain than a gov. printing office, deliver me from having anything to do with it. Work was to have begun on my report certainly by 1<sup>st</sup> November, was then delayed till February, went on three weeks and stopped, and I have now come here myself, got it started again, and if any



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soft and amount of moral  
suasion will keep the sheets moving  
they shall not stop again. I hope  
to live to see it through.

Having now my collection all determined  
I shall soon be able to proceed to its  
distribution into sets. I am now  
preparing a list for the purpose. In  
their final distribution I shall  
be happy to include you among  
the grantees and to do the best that  
can be done for you, but it will of  
course be as from Gov<sup>t</sup> and  
gratuitous. I have no herbarium  
of my own and intend making  
none. — Am too much of a war-  
dinner for that.

Again thanking you for your  
kind assistance, I remain

Yours Very Truly  
Jens Watson

Address

Care Prof. S. F. Baird  
Smithsonian Inst.



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Recd. Apr 7 92

to May 16

Washington, April 18<sup>th</sup> / 11

My Dear Sir,

Your with revised proof came to hand last evening. I am very sorry to have to say that the alterations cannot be made: On account of the limited amount of "letter" which is used, it was necessary to make up the pages in order that the matter following the Cackawac might go to press as soon as ready. I had detained this one form for your corrections. Unfortunately, however, it was sent to the printing room and has been worked off with the rest. I am worried about it but do not see that there is any help for it.

There is not enough of serious importance in your corrections to justify



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by the expense of a second edition  
of this signature, and indeed so  
far as your own matter is con-  
cerned a few words in the "Snake"  
will set it all right. As for my  
own notes, they must go for what  
they are worth. We can consider  
you responsible for them.

Your criticisms are taken good-  
naturedly, as I have no doubt  
they were intended.

Yours Very Truly

James Watson

Dr. George Engelmann

St. Louis.

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Rec<sup>d</sup> May 25 1871  
Pm 6

310 Indiana Av<sup>?</sup>

Washington, D.C. May 15/71

My Dear Sir,

What is the  
authority for Senecio Valdesiana?  
(L. Torreyi) I have examined  
all the books at hand and  
do not find it? —

How soon may I expect  
the Senecio Valdesiana?

Yours Very Truly

Ernest Watson

Dr. George Engelmann.

P. Louis.



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*[Faint, illegible handwriting]*

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Rec<sup>d</sup> June 3<sup>d</sup>  
Pls — 24

310 Indiana Ave

Washington, May 31<sup>st</sup> '77

Dr. George Engelmann,

My Dear Sir,

Your favor  
of May 26 is at hand. Thank  
you for the Lemna information.  
It is too late to make use of the  
Cactus drawings, though I would  
have been glad of them when I  
was getting my own illustrations  
up. I had the pleasure of looking  
through your report and read your  
note upon Ephedra. Dr. Palmer  
has again collected your E. pedun-  
culata, which however was not the  
common form in my region and  
is, I take it, only a variety of E.  
occidentalis. But I put your name  
on record, so that if it proves distinct



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you may have the good of it. Dr.  
Palmer has also collected again that  
odd form that Dr. Torrey called  
*E. trifurca* in Emory's report, a  
perfectly good and very interesting  
specimen, I think.

I would like your *Yucca*  
Ms. pretty soon - say within three  
weeks. I will promise you that  
your corrections will get into  
the forms this time.

I have here to keep my eyes  
on every thing that is doing, and  
cannot get my work done right  
then.

Yours very truly  
Jesse Watson

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I have copy of nos.

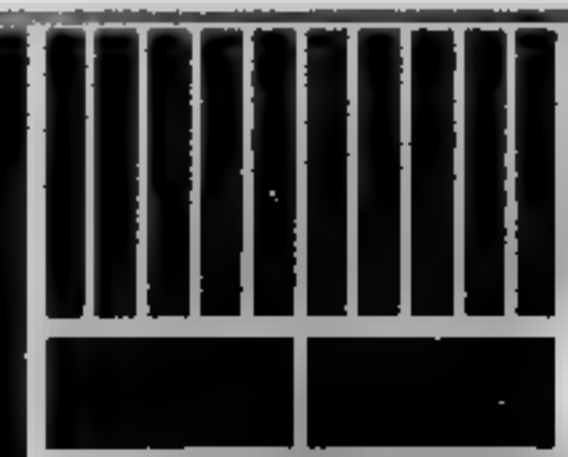
Washington, July 15<sup>th</sup> 71

My Dear Sir,

All in good time. Your alterations are understood, and I think your little article will be done this time to please you. It goes in connection with the appendix, hence the change of type. An alteration of the headings was necessary and I am glad of your suggestions.

I see you are not quite satisfied with the phraseology of nos III. I propose changing it to "each leaf marked with the impressions of the teeth of those next to it".

Plants not distributed yet. Yrs Very Truly  
Frederic Watson



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Rev. Dr. Eng  
in Feb 6

Northampton, Mass.

Dec 4<sup>th</sup> 71

Dear Dr. Engelmann,

No *Lorantha*-  
ceae of any kind occurs in my  
collection. *Ascentobium oxycedri*  
or the like should be found in the  
mountain of Uhar but it escaped  
my notice.

Shall have a partial set of  
my plants ready for you  
before long.

Yours Very Truly

Samuel Watson



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Recd' Febr 27 1872  
Am. Mus. Nat. Hist.

Cambridge, Febr 16<sup>th</sup> 72

Dr. George Engelmann,

My Dear Sir,

I am pleased that you are favorably impressed with my botanical report and thank you for your friendly criticisms.

You will notice numerous little typographical inconspicuous and errors scattered through the book, for which I do not hold myself responsible, as close watching on my part could not prevent them. It is impossible for the Gov't. Press, as at present conducted, to turn out really first class work, for neither managers, foremen nor proofreaders know what such work is. Some Congressmen have been down upon the extravagantly expensive style in which the reports are to get out, but with no good reason. The entire actual cost of this volume to Gov't., from first to last, has not exceeded \$15,000 certainly - a pretty close calculation makes it less than \$12,000 - which evidently leaves very



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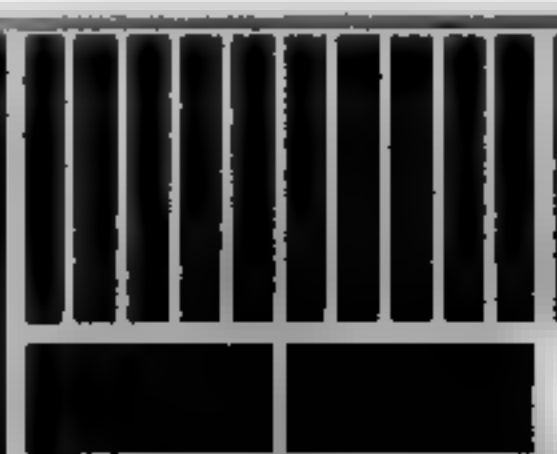
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little room for "jobbery." Considering that Congress, the same day almost, voted \$50,000 towards the reception of the Japanese Embassy, I think that our consciences need not trouble us severely for this little attempt at making a decent looking volume.

As for the matter, if you find no more serious faults than those which you mention I shall be happy. There was abundant opportunity for an experienced botanist to make blunders, and I have no idea that I have escaped. If it shall be found that I am generally correct and that not many of my expressions <sup>were without</sup> ~~have~~ a purpose and meaning, I shall be satisfied.

As for the coniferae, I followed as most convenient the same arrangement of genera as is given in Gray's Manual, letting Abies include both Abies + Picea, which necessitated mentioning some characteristics which you speak of as generic but which are here only sectional - i.e. the position of the



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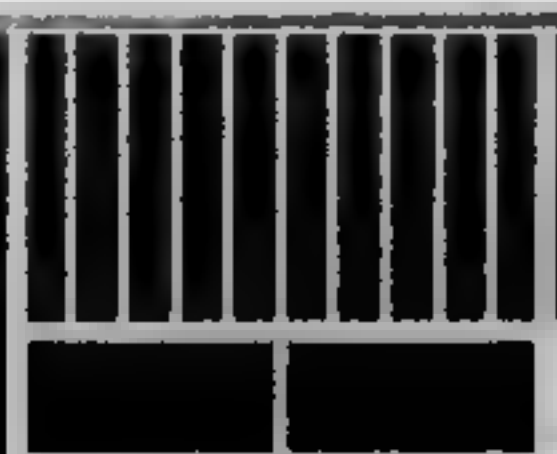
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course or falling of the leaves. The generic character of Pinus in the Manual describes the leaves as semi-cylindrical when binary, and my "deeply channelled" leaves of P. contorta should of course properly have been followed by "when dry", though it is my impression that they become somewhat so while yet upon the tree. The character of the serration differs considerably, as you very well know, in different species, and as the leaves of P. flexilis & Balfouriana are described as smooth, it is well enough, perhaps, that in the two other species the "scarcely roughish" leaves of the one should be contrasted with the "scabrous" margined leaves of the other.

I refer to the sheath scales in P. Balfouriana as "numerous" and in P. flexilis as "scarcely". Are they not more numerous in the one than in the other? I judged so from the specimens I had.

Thus there is a shade of method and reason in most of the points which you mention. In regard to the young P. <sup>more</sup> ~~mel-~~

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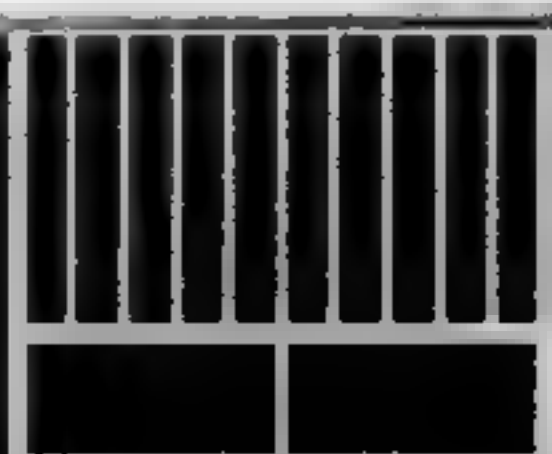


monophylla it struck me that there ~~was~~<sup>is</sup> something unusual in its habit of retaining its short juniper-like leaves until it is a foot or two high, without any of the ordinary tufted form or with but here and there a scattered one. Certainly I have never noticed like cases in other species. Mr. Mehan in a recent number of the Naturalist speaks of the leaves of the Colorado *P. edulis* as at first entire but splitting at maturity in the second summer.

This is not true of the *P. monophylla* of Nevada, I am very certain.

Much of the Appendix, as well as the whole of the Introduction, was put in shape in Washington while waiting upon the printers. It was too much to expect of Prof. Eaton that he should contribute to it, as his elaboration of the Compositae was barely finished in time.

The omission to note the capitulum stigma of the Anacardiacae was, I presume, simply an oversight. The discovery of *Juncus*



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Rec<sup>d</sup> Febr 27. 1872

*maritimum* must have been too recent  
for mention, as you say in your letter  
of Nov. 8/71, in answer to my inquiries,  
"Nothing new about *Cuscuta*, nor of  
*Junci*." I would have been very  
glad to have had you give a fuller  
conjecture of the *Cactaceae* and  
indeed suggested it in one of my  
letters to you. I presumed that you  
were too busy to attend to it. Are  
you quite sure that I used such  
an expression as "like Gray's  
Manual"? I think not and do  
not know how I could. Perhaps my  
scrawl was more than usually  
illegible.

The *Circaea* puzzled me. I have  
not yet seen Dr. Ascherson's article &  
must hunt it up as I am cu-  
rious to see what he found to dis-  
tinguish it.

The only specimen of *Allium stellatum*  
~~that~~ in Gray's *Herb.* is from Saskatch-  
ewan. It comes again, well marked  
specimens, just now in Hayden's col-



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lection from the Yellowstone region.

Hall's collection from Oregon, which Dr. Gray has been determining, has led to the detection of some errors in my catalogue. My "Ranunculus orthorhynchus" is not Hooker, of which Hall has an abundance, but is the R. adoneus, Gray, of Torrey's collection, again found by Dr. Green in Colorado this season. My "R. fascicularis" is something else. "Sisymbrium <sup>Californicum</sup> ~~incisum~~" is your S. incisum! and it is strange that I did not recognize it. Thelypodium Wrightii is omitted unaccountably from the list of the species of that genus. "Thysanocarpus elegans" should be T. curvipes or the older name. "Rosa blanda", and what has often been called such, Dr. Gray concludes to be R. Californica, and my "R. fraxinifolia" more properly the real R. blanda. My "Cercocarpus breviflorus" on comparison with the original specimen, which I had not seen, proves not to be that species, though with similarly small flowers



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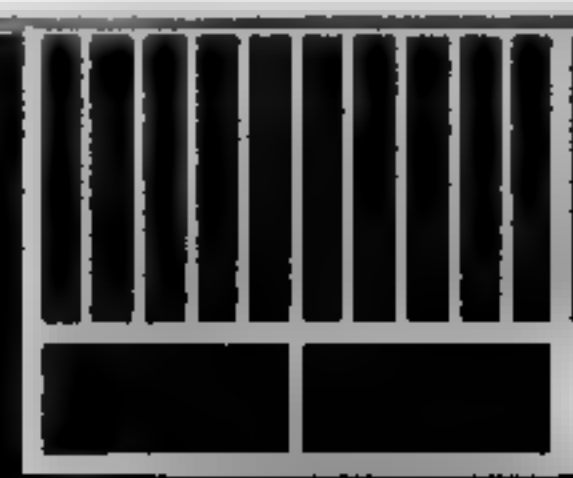
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and fruit. As it is decidedly distinct in these respects and in its habit from *C. ledifolia*, it should be, I suppose, a new species. "*Oenothera marginata*, var. *purpurea*", is *O. Wrightii*. "*Penstemon centranthifolius*" Dr. Gray considers a distinct species, ("*P. miniatus*") near *P. imbricatus*.

Dr. Gray is also disposed to suspect two or three of my new species, on the *Lonicera* and *Polygonum*, and I do not know how many more. I am pretty confident, however, that most of them will hold good. Mr. Steyer has changed his name for a few of the *Carex* and added one.

If the blockade of the Pacific Railroad is ever opened I expect instructions from Mr. King that will authorize me to send you one of the sets of my plants, which will probably aid you in determining your *Desmodium* collection. If I can help you in any way towards it I will do so with pleasure.



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Excuse my too long letter.  
Yours very truly  
Jesse Watson

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Rec<sup>d</sup> May 24<sup>th</sup>  
Ans June 1

May 22<sup>d</sup> 1872

Dear Dr. Engelman,

Dr. Gray  
is very busy, especially in  
overseeing the spring work  
in the garden, and hands me  
yours of 25<sup>th</sup> ult. to acknowl-  
edge, in despair of finding  
time to do in himself.

It seems that the specimens  
of *A. balsamea* sent you  
long ago ~~must~~ have been  
from one of these trees.  
Of these two have been  
cut down and the remaining  
one is quite young and will  
not flower or fruit this season.  
I find however in the herbarium



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garden specimens as en-  
closed, upon two sheets,  
one dated 1853, the other  
without date. I also  
send in separate package  
specimens of "supposed  
*A. Frasconi*, from Mansfield,  
VT., but *A. balsamea*", col-  
lected in October, 1860, as  
well as a single younger  
specimen collected in the same  
locality in July of same  
year.

I get no trace from  
books or hand of yours  
*A. robusta*.

*Abies stellatum* received  
and planted.

Dr. Gray can make



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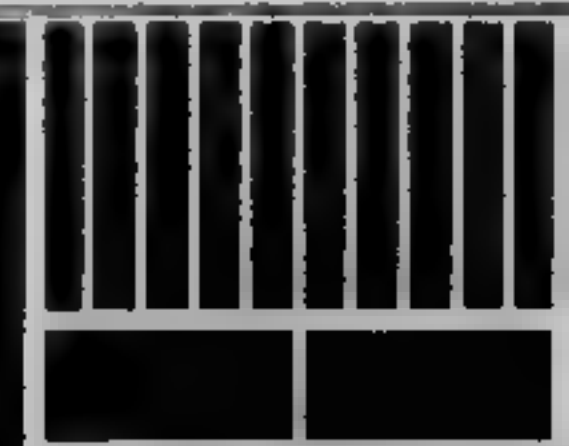
no guess as the coloring  
matter of the oak bit.

Dr. Chapman's address  
is found to be "Rome,  
Georgia" - where he  
has established a drug store.

Dr. Perry sends fine  
specimens of *Arceu-  
thobium*.

Allow me to correct  
you as to date of publica-  
tion of Hooker's *Flor. Bor.-Am.*  
It was issued in numbers,  
commencing in 1829. Part  
I. = 40 pp. in 1829. Parts II. & III,  
to p. 179 in 1830, & so on.

So with *H. & A. Bot. Beech.* which  
was commenced at least as  
early as 1830.



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I find in Dr. Gray's library  
sheets of what seems to be a  
proof for publication, headed "On  
the geology & natural history  
of the Upper Missouri", and  
containing a chapter by you  
on "Botany". Will you  
tell me when & where it  
was published?

Yours very truly  
Frank Watson

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Your letter + fir branch of some  
time ago were duly rec<sup>d</sup>. A good field  
for somebody to work in, if he could  
be found.

Cambridge

Rec<sup>d</sup> June 29<sup>th</sup>  
by July 1

June 26<sup>th</sup>

1872

Dear Dr. Engelman,

In the  
collection made by Lieut.  
Wheeler in S. Nevada and  
Arizona last year (by Ferd.  
Bischoff, collector,) there are  
a few Cactus + Yucca  
seeds, of which I send  
you samples - not to  
name, but as probably  
of interest to you. They  
will be planted here and  
also sent to the Agric<sup>l</sup> Dept  
at Washington. There is



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nothing else, leaves nor flowers, accompanying them, save perhaps half-a-dozen pressed cactus blooms.

The seeds in the first long paper are labelled "Balm-busch", and those of the other Yucca "Balm-baum", from which may be inferred some difference of habit.

There is scarcely a date, locality or note of any kind to be found, and the whole collection is exceedingly scrappy.

Dr. & Mrs. Gray left for the west on Monday evening, to stop a day or two in Chicago. Yours Very Truly  
Severus Watson.



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Rec<sup>d</sup> July 12

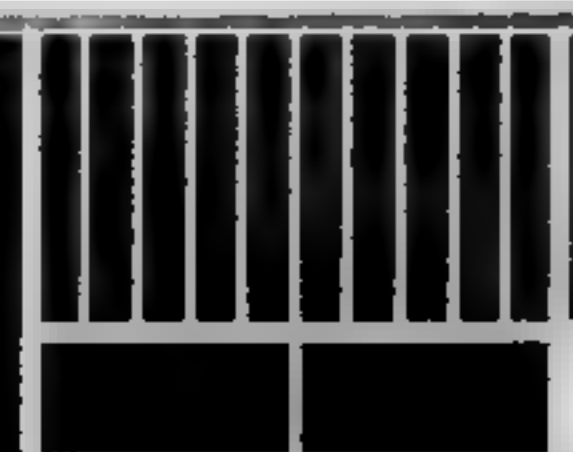
HERBARIUM OF HARVARD UNIVERSITY,

BOTANIC GARDEN, CAMBRIDGE, MASS.

July 5<sup>th</sup> 1876

Dear Dr. Engelman,

Dr. Gray has sent you today flowers from the Hesperaloe now in bloom in the Garden, originally from Wright's seeds of a good many years ago, and showing the characters which you give to the genus in your description. The flowers sent by you some time ago from the Brucers River must certainly belong to something else. The ~~one~~ apparently the same as some that came to me from Mrs. Young, collected on the Rio Frio, W. Texas (very nearly the same region). Nothing but the flowers. They might belong to an Aloe. I find no descriptions of any Mexican Aloes, and no trace of but one, "A. Sabila, Karwinski", in Steud. Nomenclator, of which I can learn nothing more. Croce's 583 looks much like A. vulgaris. Something for you to see to — after



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you are done with the Conifers, &c.

Yours very truly

James Watson

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Recd July 4<sup>th</sup>  
Nov - 14

Cambridge, July 5<sup>th</sup> 1872

My dear doctor,

Your favor  
of 1<sup>st</sup> rec<sup>d</sup>. Thanks for the names  
which I did not expect.

We have *Quercus filanucosa*  
and *arguta* in the garden,  
both perfectly hardy, and the first  
will be in bloom from next  
week on. I will see what  
can be done in the way of  
fertilization as you propose.  
With I had time to run  
around among the prime  
woods myself.

I send you another box  
today containing what I  
hope will please you - speci-  
mens of the bracts of  
Whitaker's collection - all



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found apparently in Southern  
Nevada. Also the cactus  
flowers asked for, and  
some other cactus fruit,  
overlooked before. Keep  
them all. The *Arceuthobium*  
are to numbered as you take  
them out, 1. 2. 3. 4. 5.

What do you make of the  
enclosed ticket? I am  
dank enough to guess  
at most anything and have  
deciphered most of Bischoff's  
notes, such as they are, but  
this one "gets" me, though  
the words seem plain enough.  
I ask for the curiosity of the  
thing.

Dr. Gray was heard from at  
Chicago, getting on nicely &  
Mrs. Gray already feeling the good of  
travelling!  
Yours very truly  
Frederick Watson



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Recd July 26<sup>th</sup>

Ans Aug 9

Cambridge, July 22<sup>nd</sup>

My Dear Dr. Engelman

1872

I sent you this morning box containing branchlet & young cone of supposed *Abies Fraserei* of Mansfield Mt. (collected July, 1860) - also specimen of the real thing, if there is any, from the Mts. of Carolina, collected by Buckley.

It seems that Prof. Whittaker was visiting in Mansfield in July 1860 and took to the *Abies*, finding as he supposed both *A. balsamea* and *A. Fraserei*. He sent specimens of both to a friend in Boston, which reached Dr. Gray, and now a portion have reached you. The Dr. wrote to



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him to get if possible unknown  
cones and Prof Whelock went  
again to the same locality in  
October. He sent for the cones  
of his *Fraseri* a quantity of  
such as you already have. Whether  
he made a mistake in identifying  
his trees or not, I don't  
know. There is, at any rate,  
no difference among those he  
sent.

Keep the *Loosanth*!

Have seen nothing *Agaraceae*  
in Bischoff's collection. I have  
come across little there in new  
— a second *Petalomyces*, a new *Lophania*,  
Arthur's *Oxytenia*, etc.

Have been experimenting with the  
*quecas*. Some of the ovaries  
are evidently fertilized, others  
fail & drop off. Yours very truly  
Sevens Watson



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Rec<sup>d</sup> Aug 5<sup>th</sup>  
Aug 9<sup>th</sup>

Cambridge

Aug. 2<sup>d</sup> / 1872.

Dr. George Engelman

Dear Sir,

The boxes  
of Cacti from Prof. Agassiz  
are not yet received at  
the Museum here. The  
Curator promises to  
notify you of their  
arrival and to forward  
as soon as possible.

Dr. Gray writes from  
Yosemite that he is having  
a "grand time". He is  
probably by this time



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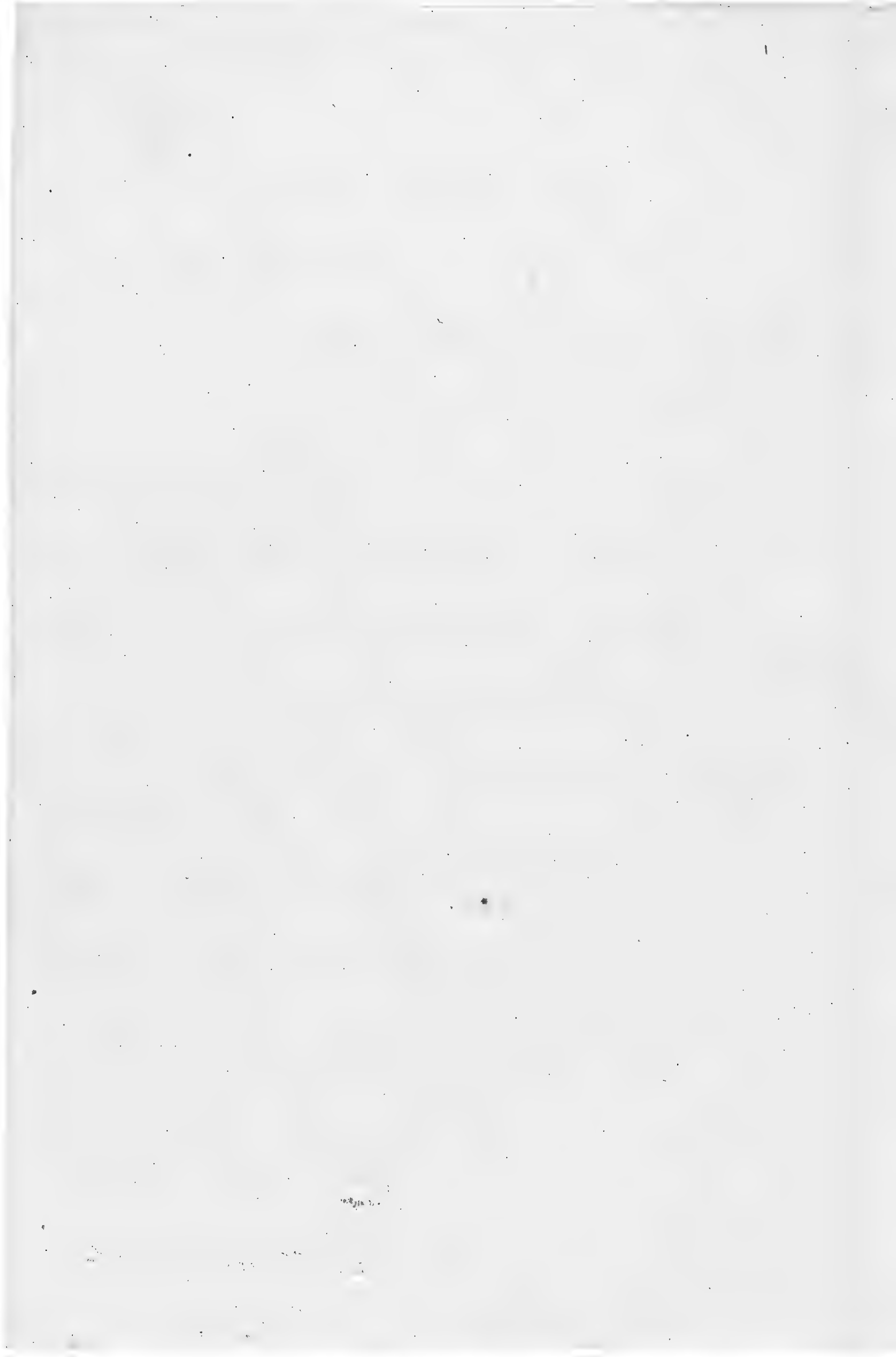
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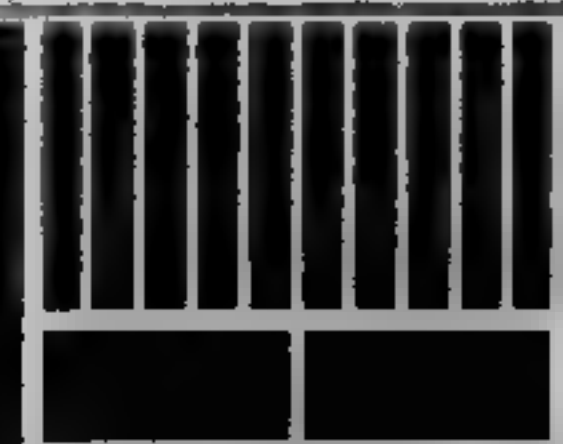


on his return towards  
Colorado.

Rischoff collected in the  
mountains of Arizona  
*Pinus flexilis*, *Balfouriana*,  
*ponderosa* and *edulis*,  
and *Abies douglasii*, *Engl.*  
*mannii* and (foliage only)  
*concolor* and what I take  
to be *grandis*. Will send  
you specimens of the  
last (and any others if you  
wish) though not of much  
account without the cones.

There is but a single *Agar*,  
and dried capsules only of  
that, which from their small  
size seems to be a *Whalen-*  
*ia* — this big , or a little  
larger.

Yours Very Truly  
Samuel Watson.



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Rec Lett 14  
Aug 15

Cambridge, Sept. 19.  
1872

Dear Dr. Engelman,

Your favor of 9<sup>th</sup>

ult. came duly to hand. Excuse  
delay in answering it. Rev. Mr. Foster  
of Bass River, N. B., is now here and  
says the *Ab. balsamea* is abundant

in this region and I have asked him  
to send you and me specimens  
of the thing, and have also set  
him on the look out for *Ab.*

*foenicifolia*. I find the original  
letter of Pres<sup>t</sup>. Whelden in which he  
gives all that I can learn as to  
the habit of it as distinct from the  
other, and give you what he says.

"The general aspect of the tree in  
the forest, will not, to my eye, settle  
the question, (as to its being distinct)" though  
my opinion is, that in the open  
ground the *foenicifolia* will be the smaller



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tree of the tree, with darker and  
closer foliage, and contain the  
greatest quantity of the Picea balsam,  
& is the most fragrant."

He certainly failed to distinguish it  
when he came to collect the mature  
cones.

I send you today specimens of the  
Abies from Arizona (probably Bill  
William's ~~San Francisco~~ the Mt.) &  
of all the other pines in Lieut. Wherry's  
collection. I take them to be —

- *P. monophylla* - Belmont, Nevada
- *P. edulis*, Arizona
- *P. ponderosa*, San Francisco Mts; Arizona
- *P. Balfouriana*, same loc.
- *P. monticola*. Same loc.
- *P. flexilis*, Arizona
- *A. Engelmannii*, San Franc Mts.
- *A. Douglasii*. Arizona
- *A. grandis*, or *concolor*, or both —  
or neither — foliage only.

Of these you need return but the  
specimens of Balfouriana, monticola,  
and Engelmannii — please send



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those back.

Sept 10 '72

They go in two boxes. The long cones of *monticola* in in one box, the foliage in in the other. The two came together, wrapped in the same paper.

Is not *A. Engelmannii* a rather shabby species? I am thinking so.

The difference in leaves of fertile and sterile branches of *A. grandis* etc. I do not believe amounts to anything. The loose, longer, more spreading leaves belong to young trees, or to feebler growing down out branches, while ordinarily the mass of the foliage on the tree will be of the close upward curved character.

*Cereus Engelmannii*

I enclose a cactus blossom, sent by Mrs. Thompson from <sup>N. Arizona</sup> ~~Arizona~~. She says - "Heads in mass from single base. Eight ribs. Spines verticillate, in clusters of eight. Plant dark, bright-green. March." Can you spot it?

I am sorry to say that my experiment with the Mucos was a failure at least, while most of the flowers treated remained on the branches longer than they otherwise would, yet they all finally fell off. a



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considerable number continued on  
for a week or more, instead of falling  
as soon as the perianth faded, and  
one which I hoped to save grew for  
over a fortnight, becoming as large  
as the end of my finger, but  
finally it too dropped. Whether  
it was due to my faulty manip-  
ulation or to the very wet season  
we have had, I do not know.

Dr. and Mrs. Gray reached home  
last Saturday morning, having  
apparently enjoyed their trip  
very much. He brings home  
some ideas about the western  
conifers, which he must give  
you himself.

Yours Very Truly  
Crosby Watson

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Rec<sup>d</sup> Oct 12<sup>th</sup>

BOTANIC GARDEN, CAMBRIDGE, MASS.

Oct. 8<sup>th</sup> 1872

Dear Dr. Engelman

In Lieut. Wheeler's collection is a grape which I had put down to *Vitis aestivalis*. Coming today across your arrangement of the genus in Riley's Report I began to query whether it might not be your *V. Arizonica*.

It is however not glabrous, though becoming smooth for the species, the raphe of the end is as prominent as in St. Louis specimens of *aestivalis* of your own naming in Herb. Gray, & it matches very



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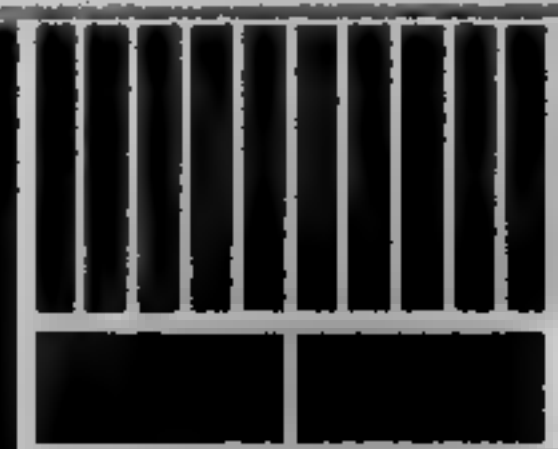


Dr. Gray has not your original  
article on Vitis in the Trans. St. Louis  
Academy — so far as I can find.

Have you a copy to spare? or if  
you think he has is already, just show in  
the Trans. is it to be found?  
S.W.

2  
Sep 13 1891

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wild upon the New Mexican  
specimens that have been  
considered *r. aestivus*.

However I send you  
box today with some of  
it, from which you can  
decide.

Sent you the other day from  
Dr. Gray a couple of Rus-  
sian documents. If you  
had not them already keep  
them - otherwise please return.  
What do you think of the  
disposition of our larvae?

Received yours acknowledging  
receipt of the Arizona cones  
& thank you for your  
notes. The specimens to be  
returned have not yet come.

Yours very truly  
Serrin Watson



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Rec<sup>d</sup> Nov 4<sup>th</sup>  
Nov — 16<sup>th</sup>

BOTANIC GARDEN, CAMBRIDGE, MASS.

Oct. 31<sup>st</sup> 1872

Dr. G. Engelman

My dear Sir,

Prof. Sargent,

who has charge of the  
newly started Arboretum  
at <sup>the</sup> Bussey Institute, and  
will be of the Botanic  
Garden here, (to the relief  
of Dr. Gray,) asks me  
to write to you in rela-  
tion to the procuring of  
a supply of the fruit  
or of wadded trees & shrubs  
for the stocking his nurse-  
ries. Can you give



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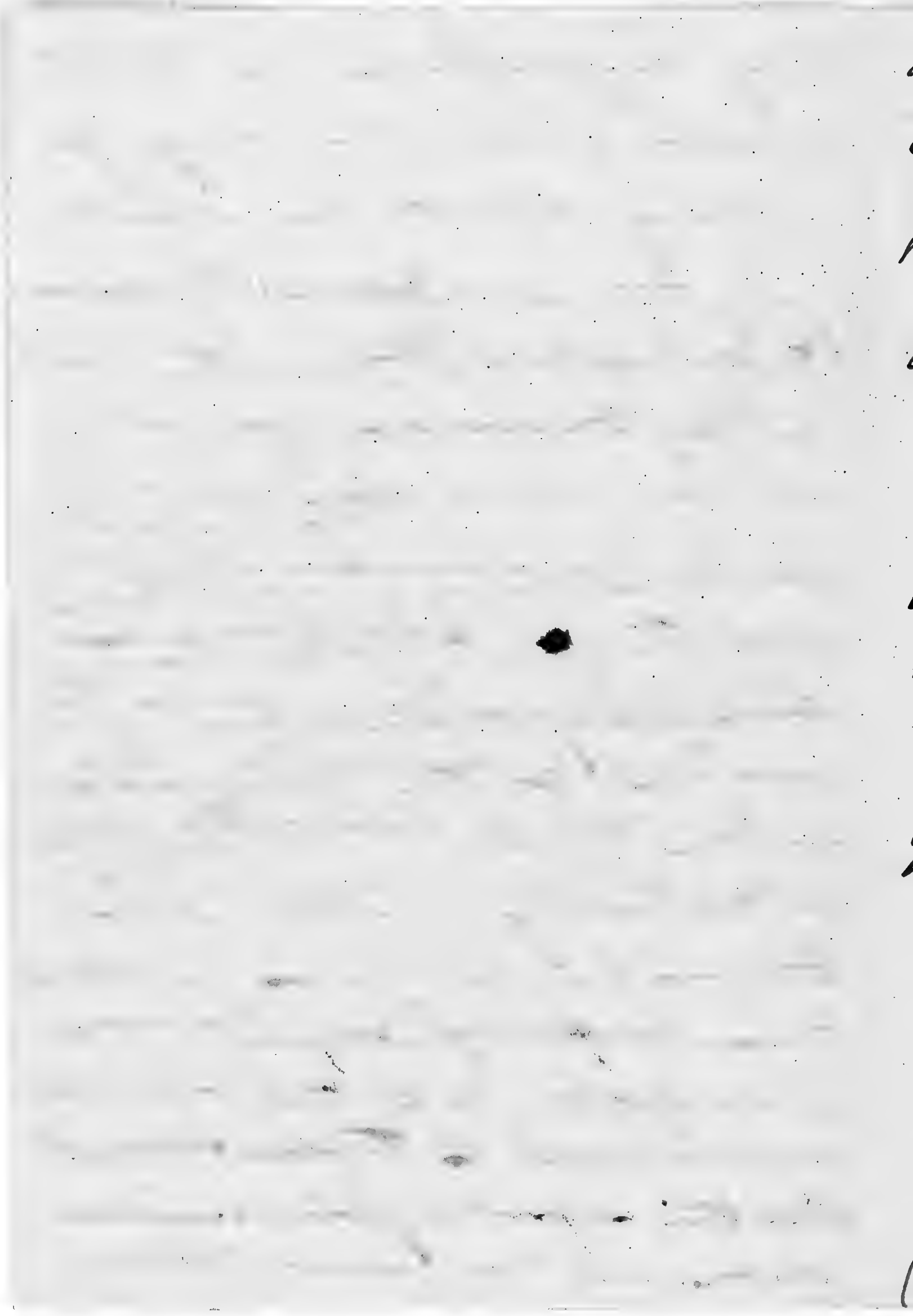
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any suggestions as to the most feasible way of getting what he wants.

In the overplus of our greenhouse plants, which he is desirous of getting rid of, is a number of fine specimens of young plants of *Sivistonia Gandichandii*, from the Sandwich Islands. Do you think that Mr. Shaw would like one of them?

You referred my "*Pinus monticola*" of Lieut. Wheeler's collection to *P. flexilis*. I took it for a facsimile (as nearly as such things



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set to be) of specimens  
collected by Mr. Hall last  
year in Oregon, as named  
by Dr. Gray.

Yours Very Truly  
Allen Watson

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Rec'd Dec 10

BOTANIC GARDEN, CAMBRIDGE, MASS.

Dec. 5<sup>th</sup> 1872

Dear Dr. Engelmann,

The boxes of  
cones etc. were rec<sup>d</sup>

3 or 4 days ago -

The operations pretty  
well dried, but are now  
set out & may revive.

I am now that a  
little closer examina-  
tion would have set me  
right as to the long  
Arizona cone. In



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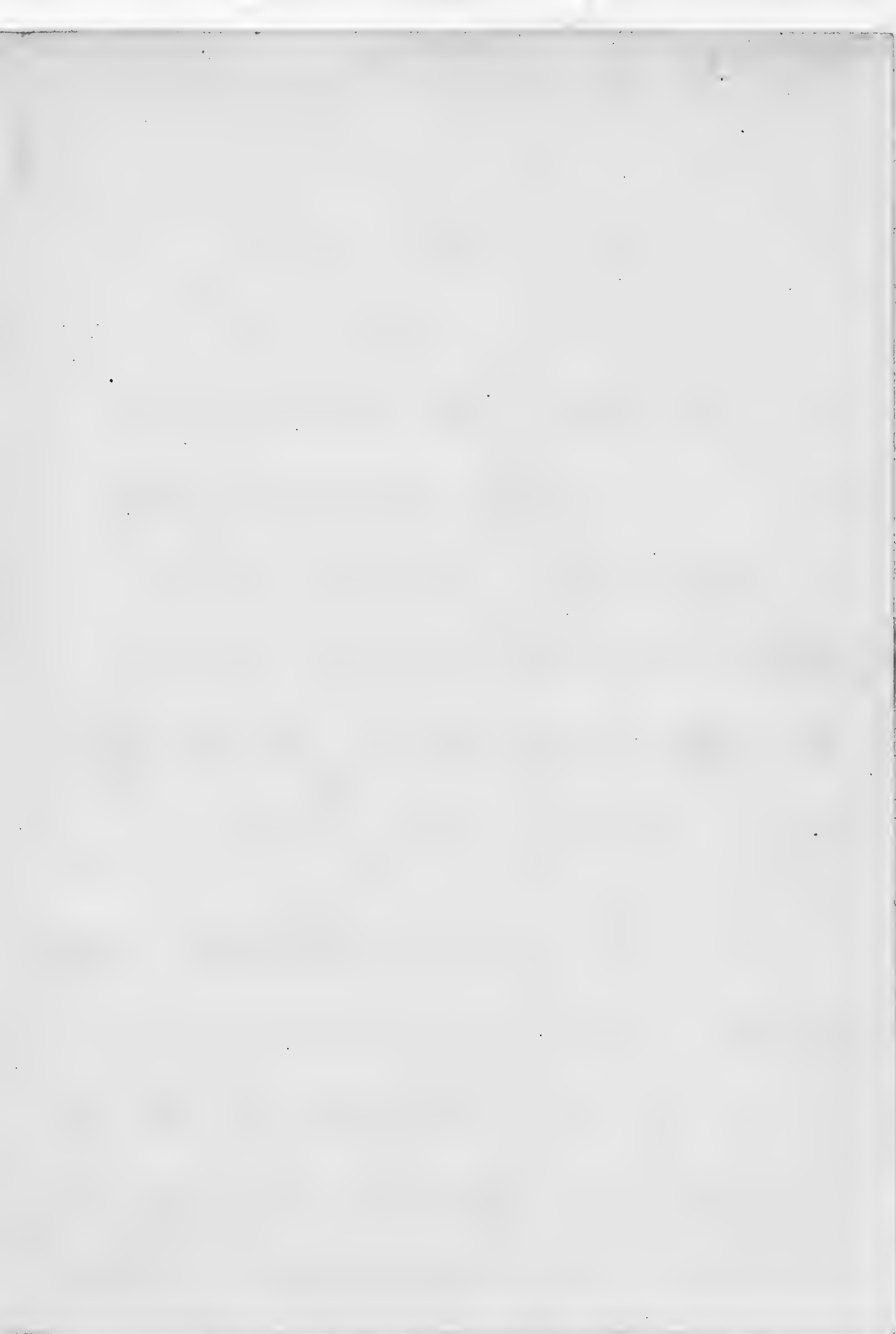
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fact I called it *P. flex-*  
*ilis* myself at first.  
I send document  
giving account of the  
Bussary habit?

We have a good stock of  
*Yucca angustifolia*, perfectly  
hardy but not flowering  
yet — and a number of  
other s.w. Yuccas or agaves  
started from seed. Also  
a *Dasylicium* that appears  
to be new.

Yours Very Truly  
Brewer Watson

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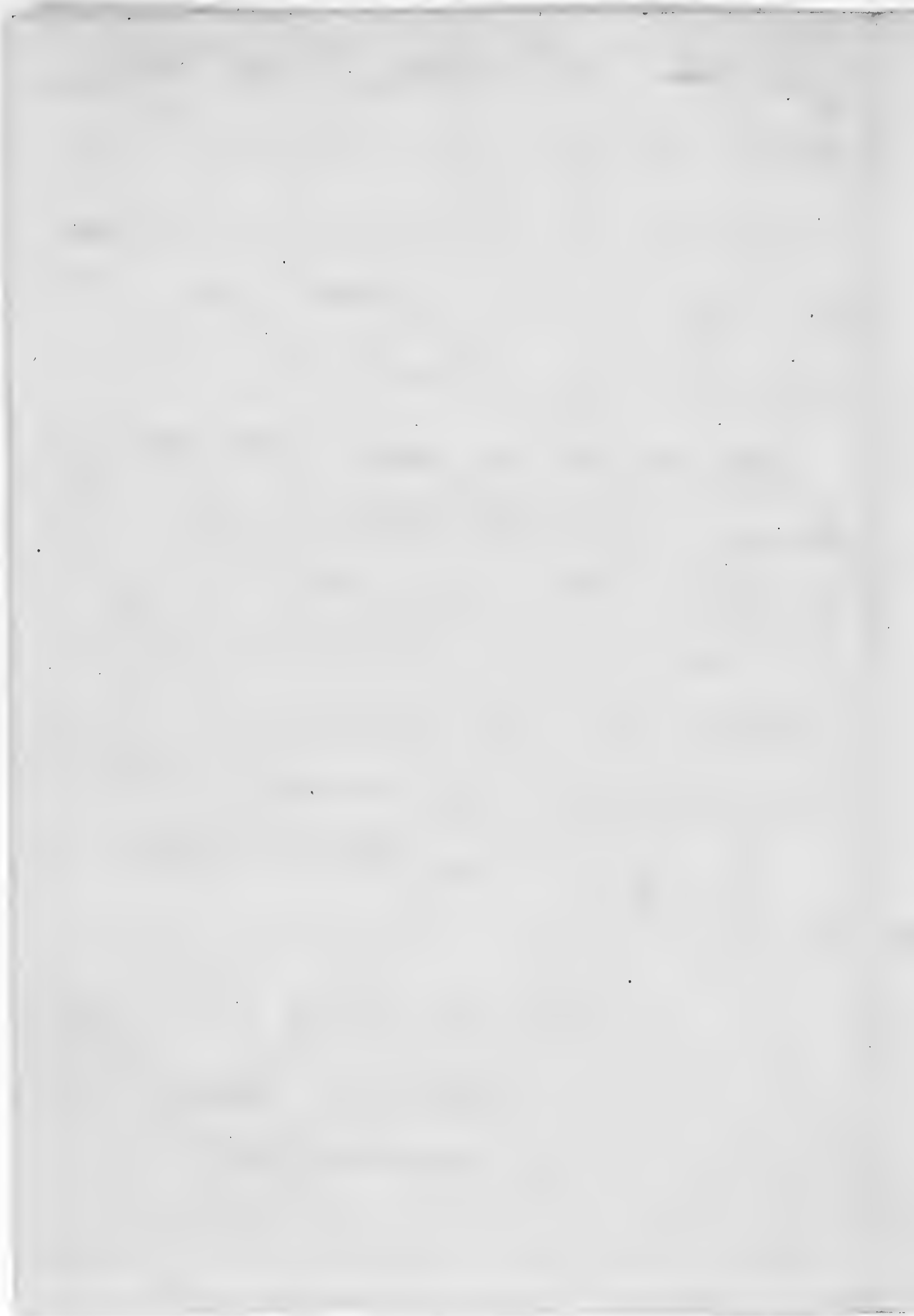
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Rec'd March 7  
Am - 9

BOTANIC GARDEN, CAMBRIDGE, MASS.

March 4<sup>th</sup> 1873

Dr. George Engelmann

My dear Sir,

Dr. Gray has rec'd from Florida a tin case of *Naiadaceae*, preserved in alcohol, which were originally designed for Dr. Achenbach.

Can you tell whether he is still in want of them?

Yours very truly

Frederick Watson

P.S. Dr. Gray has rec'd your list of *Naiadaceae* specimens of sendy of Mr. Hall's plants and is much obliged. He is preparing a list of the whole collection.

F. W.



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Rec<sup>d</sup> March 15<sup>th</sup>

BOTANIC GARDEN, CAMBRIDGE, MASS.

March 12<sup>th</sup> 1873

~~Dear~~ Dr. Engelman

Your letter to Dr. Gray  
& myself are as hand this  
morning. He would write  
you, but is preparing to  
leave as once for New  
York to attend Dr. Torrrey's  
funeral, which takes place  
tomorrow, at 2 P.M. Our  
old friend, the friend of many  
and all botanists, is gone.  
He spent Thanksgiving here,  
looking much as usual. Some  
weeks ago he was attacked  
with pleurisy, from which



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or his Californian flowers. Have worked  
up our Shore pines of - lupinus and  
nearly of - Penhilla, and wish I think  
publish - monograph of them.

His name informs you of the loss of the  
40<sup>th</sup> Par & excellent! They were bound up all  
ready for shipment to their intended publica-  
tion, but while waiting Mr. King's approval of the  
proofs distribution, the building in which it was  
shown was burned, and all destroyed but the first  
four sets - which are sent to Eaton, Gray, Torrey, &  
Washington. - It was a great pity.

Yours Very Truly  
Samuel Watson



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Mar 12 '73  
He was recovering, but  
bronchitis (or pneumonia)  
followed under which he sank.

Dr. Gray has advanced sheets  
of Benth. & Hooker's Genera,  
344 pages of - the new volume,  
covering up to 422 out of  
766 of the genera of Compositae.  
The volume will be  
completed soon.

He is busy on hand - now  
making out a list of Hall's  
Texan collection - but in  
getting tired of that kind of  
work.

I am deferring my Catalogue  
at present, after getting just  
nady to begin the printing  
it, and am helping Prof. Bowen



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I enclose a Mexican spec<sup>m</sup>  
that may be interesting. We have  
only scraps.

BOTANIC GARDEN, CAMBRIDGE, MASS.

Rec Aug 22

~~Am Sunday~~ Aug. 18 1873

Dear Dr. Engelman

You are  
our authority on *Loranthis*  
— so I come to you to put  
me up on the *Arceuthobium*.

Eichler in *Flora Brasiliensis*  
says that *A. cryptopodum*  
is the old *Viscum vaginatum*.  
HMK! Is he right? —

He also recognizes *A. Ameri-*  
*canum* as distinct, giving  
574 Hall's Harbour — but still  
speaks of *A. apycedri* as  
*Americanum*. What do you



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consider are distinguishing  
the two species beyond the  
shape of the scales?

Are there not two species  
confounded in the plates  
in Hook. Fl. Bor. Am.? *A. Amer.*  
*icannum* and *A. cryptopodum*  
(the fruit)? Hooker says  
that the fruiting specimens  
were all from Oregon, on *P.*  
*ponderosa* - and I have seen  
no *A. americanum* from  
so far west. However, in  
*Pl. Lindl.* you say "Oregon,  
on *Pinus Nuttall*", and of course  
had Nuttall's own specimens.  
But you say they were only  
sterile. A specimen here



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from Mrs. Durand, ticketed  
by Nuttall "A. americanum,  
Oregon", is in young fruit  
and is A. cryptopodium.

The specimens thus proving  
mixed, perhaps the locality  
of yours ~~is~~ may be  
doubted.

How do you distinguish  
from A. cryptopodium your  
new species A. abietinum?

That is all. -

I read your article on Yucca  
some time ago. for which  
am much obliged. It is a  
good thing well done. Will  
send you a little tract of my  
own shortly. Yours very truly  
Seymour Watson.



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Recd Sept 28<sup>th</sup>

Portland, Me.

Aug. 25<sup>th</sup> 1873

Dr. George Engelmann

My Dear Sir,

I am  
pleased to hear from Mrs.  
M. J. Young that she intends  
calling upon you in  
St. Louis, and that I have  
the opportunity of introdu-  
cing her to your acquain-  
tance. She has been recently  
appointed State Botanist  
for Texas and is especially  
interested in the Cactaceae  
of that state. She hopes  
to gain your assistance  
in their study and  
I feel great confidence



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from my own experience  
in assuring her of your  
ready cooperation.

Yours Very Truly  
Arthur Watson

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Rec<sup>d</sup> Sept 27  
Ans — 29

BOTANIC GARDEN, CAMBRIDGE, MASS.

Sept. 24 1873

Dear Dr. Englemann,

Yours rec<sup>d</sup>,

I wish I have forwarded  
to Dr. Gray his portion,  
with notes from M. Place  
show himself & Mr. Riley.

I enclose samples  
of Bigelow's and Whelan's  
~~Arceuthobium~~, and  
also one that came in  
yesterday (! ♀ & ♂) from  
the Columbia region.



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Brown to Mr. you know just above  
the corner in regard to the corner.  
I hope you will be able to send me  
with you upon the subject.

Yours very truly

Brown Baker





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Sept 24 '73  
locality & collection not  
yet reported. Apparently on P.  
pondrosa, judging from leaves  
& stems.

I do not imagine that  
I had escaped errors in  
my notes, and was by  
no means aware of  
the value of the some  
of the characters. Thought  
I had done tolerably well  
with the material I had.

It will probably be a  
year before the matter  
will be wanted for the  
California flora, & I hope  
that by that time you will  
be able to give a revision  
that will be satisfactory.

I will advise Prof.



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