New York Dec 21, 1863

Dear Doct. Gray.

I have got through with my California grasses and am about to send off mine oats (joke!) but here is a little tough customer which I don't make out. It grew in front of a Chinese lime house and is undoubtedly of celestial origin. It wont tell its name to Dr. Torrey nor myself - you will probably recognize it a crow muchly. - Be as jocous as you please, only tell me its name. Also - please

San Francisco Aug 16. 65.

Dr. A Gray Cambridge Mass.

My dear Sir,

Your favor of May 3rd has been duly received. In looking over Prof Thurber's names of my grasses, I felt the necessity of making some remarks in regard to his determination. As yet I have not received an answer respecting them. My object being to assist in the understanding of Calif. plants I thought it well to delay the lists untill they are satisfactorily disposed of.

Some time ago I sent a set of the same Grasses on request to Sir Wm Hooker who wrote to me since that he submitted them to Col. Munro and would let me know as soon as

possible his opinions about them. If then you have no objection I shall wait untill I hear of both again, namely Prof. Burbidge and Sir Wm Hooker.

Sometimes ago I sent you two small parcels of seeds of the A. Alephoroplylla. I hope they have safely arrived.

As it is highly desirable for me to possess your various articles on and revisions of Am. Genera I would like to propose to you an exchange.

As your habarium may not yet be supplied with good perfect specimens of Calif. cryptogamic plants, especially the new mosses and Lichens discovered by me, I would like to furnish them for you in large showy specimens for the publications above mentioned.

Since I was made Curator of Botany by our Academy, it becomes a necessity to study up the phanerogamic plants in our herbarium.

On the 31st of last month I made a trip especially for procuring the fruit of Pickeringia montana, but it was too early. Some had just began forming the pods and other were just in bloom. At the close of this month I will be after them again.

Dr. Torrey is now at Reese River Nevada.

Since it is doubtful that I get any help from the Survey to visit the Sierras, I shall go on my own expenses to Eureka, provided I can go overland. There is a good trail used by the mail carriers, but visited by hostile Indians. it may be however that all is right by the 15th of next month.

With due regards

Yours
very truly
Henry N. Bolander

When ever anything is due to me of the money for the grapes, you would oblige me very much by sending it to

B. Westermann & Co.
440 Broadway
New York City.

as I intend to buy a botanical work for it.

Yours
most respectfully
Henry R. Bolander

San Francisco Sept. 65.

Prof. Dr. A. Gray Cambridge

Dear Sir,

Your favor of July 26 has been duly received. I am sorry of having delayed the return of the lists, but all was done with the best intentions, explained in my last. But since Prof. Thurber is a very slow correspondent, I shall copy them and send them on with the next steamer.

Those seeds were those of Arabis blepharophylla, collected on the Mission Hills near this place.

Dr. Torrey will correct himself my statement in regard to himself.

whose substratum is a bed of fine pebbles strongly cemented and but slightly covered with a yellowish dust and sand. This track is almost perfectly level, rather slightly depressed in the centre and here and there dissected by rems, bordered by Redwoods. Upon this I found a most peculiar combination of our flora.

1. Pinus contorta (?)
2. Pinus muricata? (a strongly marked var.
3. Castanea chrysophylla 40-60 f. h. 2-3 dia. in full blossom on the 23/9 63.
4. Arbutus Menziesii
5. Myrica Californica
6. Arctostaphylos tomentosa & pungens
7. Vaccinium ovatum & another
8. Kalmia
9. Rhododendron
10. Gaultheria Shallon. 11. Cupressus (?)

Around the shrubs in depressions peculiar mosses, a Gentiana and the above mentioned Calamagrostis also. Another coarse rough grass apparently a Carex spreads over the drycst parts. The settlers know this track under the name „plains".

San Francisco Oct 20 1865.

Dr. A. Gray. Cambridge Mass.

Dear Sir,

Your favor of Sept. 11 and a note of earlier date in Prof. Brewer's letter have been duly received. The lists of grasses will have reached you ere this. I feel really sorry for having delayed the matter so long, but it was done with the best of intentions.

With the greatest pleasure shall I send you plants, seeds, cones &c, whatever may be of interest. The collection of cones just made in Mendocino and Monterey Co. will just enable me to send you fine cones of 4-5 different species. I am just now filling a box for Dr. Engelmann. It was especially in his interest that I spent a week at Monterey. I have satisfied myself that there are no more but two species of pines near that place: Pinus insignis & muricata.

The characters of the former especially are so strikingly constant that it is quite curious to me how that pine could get so many names. It is true, there are in a few rare cases two different looking cones on the same tree which may by considering them individually give rise to synonymic (you will see them)

My attention was also directed to the various oaks. In Anderson Valley Mendocino Co I found no less than 7 different species. Considering all the variations of Q. agrifolia as one sp. only. The settlers distinguish them also. Next spring I hope to be able to collect them all in flowering state. Many of the varieties of Q. agrifolia had no acorns this season.

Passing through the Redwoods at the North end of the valley I found Podophyllum peltatum quite plentiful. The settlers call it May-apple.

At the banks of Rancheria Creek at the south end of Anderson Valley I met I fine colony of Libocedrus decurrens; the station is new as far as I know. We have that tree then at three isolated localities on the Coast range: at San Diego, east of Salinas river Monterey Co. (fide Dr. Canfield) and at the creek just spoken of.

Dr. Canfield has quite a collection of plants, chiefly made in the Salinas. He spoke of sending them to you. He mentioned a box, sent to you some time ago, of which he has heard nothing since. Knowing you punctuality I infer, it must have been lost.

In two extensive swamps at Mendocino City I found a Calamagrostis unknown to me; it is different from the four known to exist here.

Abies amabilis & grandis both seem to be one and the same tree. This as well as Tsuga Douglasii seem to crowd the Redwoods at that section of the country.

From the banks of the Albion up to Noyo, a distance of 30 Miles, & about 3 Mi from the coast is a peculiar tract of land 6-10 Miles wide

As far as I have seen Calif. I know of no such combination. The aspect is most peculiar.
I forgot to mention also Ceanothus rigidus & dentatus as very low straggling shrubs there. The very same forms I found again at Monterey, associated there with Pickering's montanus.

Botanical (Am.) books in my possession mostly through the kindness of Dr. Gray.
Vol 4. P. R. R. Report.
Vol 2. Mex Boundary Report.
Plantae Fremontianae
" Wrightianae part I
Flora of North Am. Vol I but pages 105–112 contain, instead cruciferous plants, a treatise on the infinitive of the Hebrew language. It is rather a curious circumstance to find Hebrew among the cruciferous.
Your Manual of North. States.

Please send the package through the Smithsonian.

The death of Sir Wm Hooker is quite a loss to botanical science His letters were always very dear to me

Dr. Torrey will be with you again — we all regretted it very much that his stay was of so short a duration.

Alex. Braun of Berlin studies now our Chara of which I collected several — one he calls Nitella Californica — I shall take much pleasure in sending you specimens of all plants of the various lower orders worked up by our authorities. The chara are the only plants that have gone to Europe through Dr. Engelmann. I, for myself, adhere strictly to the rule that our plants shall be studied first in this country, when it can be done

With due respect

Yours truly

H. N. Bolander

San Francisco Oct 25/1865.

Dr. A. Gray Cambridge Mass.

My dear Sir,

Your letter of Sept. 26 was received yesterday. I thank you most sincerely for your note to Westermann & Co.

In my last, sent but a few days ago I gave a list of what I possess of Am. literature (Lat.) If you find it more convenient to send to Westermann, you may do. They will forward them with those I expect from Europe. (Trinius on the grasses)

It is my desire to make up some more sets and especially to complete those 16 sent, not only to 100 but as far as I can. Although I work as constantly as I possibly can, yet I find it pretty hard to overcome all the work, that I must do now.

Messrs. Sullivant & Lesquereux
Prof. Tuckerman, Mr Austin, Dr
Engelmann, now also the Charac-
mers in Europe keep me constantly
running (for this I must call it)
and packing. Besides have I some
other foreign correspondents as
well as American - in short
since I am alone - for our friends
Dr. Kellogg & Bloomer are prevented
by circumstances to do anything -
I must work hard, very hard in
order to advance the knowledge
and understanding of our Flora.
Just now on the eve of having a
Manual, it is the more necessary
But believe me, my dear Sir,
that I do it with a cheerful, de-
lightful heart - yes I might say
with propriety: now I live and
enjoy my life.

I am especially pleased in Kansas
that I can do yet something for your
collections. I often regretted it
that it had not been my good
fortune to be placed so, as
to render you any service

Your letter before last con-
vinced me of the contrary and now
let me prove that my deeds are
as good as my words.

The question regarding Prof.
Thurber is easily settled by sending
you his own letter, which he wrote
as a reply to my notes on his
determinations to which I still
adhere. But he may have forgotten
it and my sole object is to place
us in a true light.

№ 40 I consider as good a species
as there is one in California.
I will write to him and give my
reasons.

My compliments to Dr. Torrey

Yours
most respectfully
Henry N. Bolander

Next year I would like to spend the spring-months in Humboldt Co. I could well go overland with the mail carrier and send my papers, the larger portion of it, to Eureka. On that trip I would lose only from 60-80 miles, yet a stay even within that space could be made, as there are 3-4 intermediate stations. This is a mere opinion of mine.

Mr. King spoke of an article you had written, relative to Prof. Wood's Manual, could you send it to me? That man becomes a troublesome and we are all on the qui vive. He made known, that he intended to give us a manual in the space of one year. He discovered all ready a new Linosyris with purple flowers in a Corethrogyne and several new grasses. The one he spoke of particularly was Calam. Mentica. But he has now withdrawn from us all—

Excuse me having touched this unpleasant affair—but if Prof. Whiting deems it perfectly proper to watch, why should I not mention it!

Yours
most gratefully
Henry N. Bolander

Carson, Feb. 23.

San Francisco Jan. 26. 66.

Dr. A. Gray Cambridge Mass.

My dear Sir,

Your favor of Nov. 25 has been duly received I thank you sincerely for the information.

My second box is ready, with the next steamer I hope to get it off. It contains the cryptogamic as far as I had reliable specimens on hand. During this spring I will try to add many more. I shall prepare them hereafter right off. Wherever I have not obtained the necessary perfection of the specimens inclosed, I shall replace them by far larger once. They are all taken from the sheets on which our various authorities have based their descriptions

I enclosed also a set for Prof Eaton and Dr. Torrey.
The first box may have reached you by this time.
Your passage relating to Dr. Canfield I copied and sent it on and as Mr. Dall is with the Dr. now, he will likely not answer before Dall returns.

Whatever faults you find with our specimens, I hope you will make known to me. As there is here nothing to be seen it is always agreeable to me to be informed of their defections.

I thank you very much indeed for your books and articles sent, also for the offer or rather permission to obtain your advice in regard to the purchase of books. If the school of experience is any where dead, it is surely in this case, for one often buys a book which is unnecessary.

Of the works of Trimen I ordered only that part, treating of the Genera Agrostis and Calamagrostis.
Stendel's work I perhaps since I am here.

Prof. Whitney promised to send me into the field, if he receives an appropriation. The question has not come up yet in our legislature.
Do you approve the plan of going to Clear Lake, thence as far north as it can be done by one person on account of the Indians and from there to Mendocino City on the so called plains as far north as Noyo? This trip would however embrace only the spring months, untill one could go to the higher Sierras, which could not well be ascended before the beginning of June. A party of the Survey will go to Sierras and Plumas Co. in order to explore the higher regions. With that party, Prof. Whitney thought, I might go there also. If the Survey be continued and money appropriated, it would be well to consult Prof. Brewer and come to a definite plan in order to waste no time.

Return soon to J.G.

If we obtain money, I shall take the advice of Prof. Brewer and take the Ecuador pass.

Yours
most respectfully
Henry N. Bolander

Return

P.S. Dear Doctor would you have the kindness to send me your photograph? Indeed I was too timid to ask you for it and requested therefore Prof. Brewer to do it for me, but he seems to have forgotten all about it.

San Francisco 16/3 66.

Dr. A. Gray. Cambridge Mass.

My dear Sir,

Your favor of Febr. 16 has just come to hand. I am pleased to know that my box No. 1. reached you safely.
You ask me, what you should do with those plants. Indeed I am sorry that I did not explain sooner. The whole box is a contribution, intended for you. If there are any plants, worthy to be seen by those Gentlemen who work up some genera or orders, please send them to them, for I wish to do all in my power to make our future Manual as full and complete as possible. Besides I am sorry that I had not a greater variety on hand to make the box more worthy of your

acceptance. Box No 2 is on the way and hope will reach you soon. What I intended for others in there, I marked. Please accept them also as a token of my good will and as a slight beginning of a compensation for your publications.

For sets for sale I have not done any thing thus far. I expect still to be employed, as promised by the Survey, and then I shall see if I can not get up a large collection. Prof Whitney says, his prospects are fair.

As it is too early to go up the Mountns, during my spring vacation, commencing on the 1st of next month, I shall go north on the plains of Mendocino

Your contributions arrived thank you sincerely — they made quite an impression on Prof. Whitney, indeed he became more enthusiastic as I ever saw him before.

Westermann & Co. told me in their last, that the work of Trimen had not arrived and they were of the opinion it could not be had. I told them to omit it, if not too late and get me Boott's Carices in Catalogue 148.

What work, elementary of course would you recommend me for the study, collection of the Fungi for I can hardly bear the idea that ours should not be made known. Our cryptogams, especially around this place, are great in number. The lichens and mosses have their masters, but the Fungi have been neglected. You will be surprised to see them all enumerated, which Prof. Whitney likes to done in his reports. Prof. Tuckerman will, I hope, do it with the Lichens and Mr Sullivant & Lesquereux with the mosses

San Francisco 29/3 66.

Prof. Dr. A. Gray Cambridge

My dear Sir,

Your favor of Febr 23d has been duly received. I thank you most sincerely for the information given.
You astonish me by stating, there are some new plants in my last spring collection, for I never get came home less satisfied with my results than that time.
Aphanostachia exilis covers near Auburn a large tract of land, so does the Balsamorhiza and still more that new sp. of Ranunculus; the larger specimens of it under a higher number are

from New Castle where it is one of the most common plants among bushes in a light mellow soil.

This is then another evidence that a great deal of work is yet to be done, even near by.

I have succeeded in monopolizing all persons, feeling an interest in Botany, for the Survey. We have an industrious man (a teacher) at Placerville and Dr. Canfield at Monterey. Mr. Holder, Dr. Stives are also with us. Mr Bloomer, Dr. Kellogg and myself have done all in our power to concentrate, so to say these men, for one idea: the Survey and the manual. It was a necessary step for Prof. Wood tries to stir up whatever he can.

To morrow I will go to Monte del Diablo for 3-4 days. At my return Prof. Whitney will know, what he can do. If I get his assistance I will do as I said, go to Clear Lake, then north of it, thence west to the coast as far as Nogo. In June then up the Amador pass route as Prof. Brewer desires. Next year in February I might go to Eureka thence southward within a 100 or 50 miles only of Nogo and then again in June up in the Sierras.

With sincere wishes for your good health

I remain
Yours
most respectfully
Henry N. Bolander.

Ans

San Francisco 28/5 66.

Prof. Dr. A. Gray Boston

My dear Sir,

Just returned from the field I find your books & pamphlets from Westermann & Co. Allow me to thank you most heartily for so valuable a gift. I shall try to offer you some compensation in fine specimens, seeds, &c. &c.

During my trip north I collected 200 sp. of phanerogamous plants and about 25 crypto-

genus, most of Lichens.
On the coast I found a Sphagnum swamp in which I got a fine assortment of Carices and some grasses I never saw before (3) + (2)
Aplectrochaete exilis I found to be a very common plant throughout Mendocino Co east of the Redwoods
De Cantolle's views of our oaks seem to be correct. The three white oaks run close
Qu. Wislizeni
Lonomensis
dumiflora – are biennial
I collected a fine material showing this most strikingly
Qu. agrifolia is annual and can not be confounded with Wislizeni as I asserted in my article.

I hope the box, containing those cones from Mount Diablo, has reached you safely.

In a few days we start for the Sierras, where I expect to make a large collection.

Yours
most grateful,
Henry N. Bolander

Respecting Prof. Thurber's charge I do hardly know what to say; but I will gave sometime, when I have more leisure, a full explanation. I do not feel as if I had wronged him in the least.

Yours
most respectfully
Henry N. Bolander

San Francisco June 5th 66.

My dear Doctor,

Yesterday I received your favor of May the 4th. I was indeed glad to hear from you before we start for the Sierras; for just now we received order from Prof. Whitney to start immediately. We are full of expectations.

You never spoke before to me about Mr. Schmitt. I shall be happy to furnish him Composites, but let it, if you please, be done through you.

I have been in correspondence

with Dr. F. Müller of Melbourne for sometime. Last summer I sent him a cy feet box with specimens and seeds via Sidney but I have not heard anything about it. With your books arrived also a parcel of specimens and seeds from him. I shall write to him however as soon as possible in the manner you say.

Rannunculus hysticulus I have plenty. I found it also again at Round Valley in the northwest corner of Mendocino Co. this spring. In the dry regions everywhere I found also your Asphanto dacta chilis.

The enclosed seeds of it are from Anderson Valley.

Allow me to offer my most sincere thanks for your Photographs.

I shall not fail to write to Rev. Dr. Curtis of Hillsboro.

Your offer, respecting that new genus, is flattering in the highest degree. I hope to be successfull and there may be yet a chance left.

tion telling the public of Cal. of that he has collected already 1400 species of plants, starting from San Diego, following the coast up to Shasta. If Prof. Brewer's report is correct (1600 sp.) then that man is a great outrage. Again, he went into the female seminary at Santa Clara, telling the young Ladies all flowers around them were new, they should collect them and he — don't be astonished — would name them after them. Again, at Sacramento he went in a church in the evening and speaking about the wonderful things of the creator, remarked that the Creator kept our cattle in spring on a species of Geranium, meaning Erodium, the Spaniards alfileria

(Cloud) July 1, 6.

1866

Mariposa Big-tree Grove Aug 5th

My dear Doctor Gray,

Your favor of June 26th was received last night. It is pleasing to me to know that those two boxes are at last in your possession; they gave me a great deal of anxiety.

Veratrum new? Helenium new? Such common and showy plants along the upper coast! Veratrum occurs only west of the Redwoods on wet swampy flats covering them with a profusion of white flowers in Sept. (65)

Enclosed I send you a specimen or rather a part of one, likely the same species; it has the same station covering the mountain meadows (from 4 — 8000 feet alt.)

especially around the big trees. To morrow I will secure a large lot of them. This Veratrum, the composite and Lupinus latifolius form the main bulk of a large meadow around the big trees. The little Epipactis grows in the Yosemite Valley and here in wet meadows generally associated with a small Sporobolus. I believe plants of its character grow under the Lemna Abarisens or some name like it. (We have no books here)

Under these circumstances I shall not feel ashamed to submit to you my spring collection made on the coast. With yours came a letter from Lesquereux giving his account of the species Tridontium subulatum sp. nov having only a representative at Kew Tasmania seems to delight him particularly Sphagnum subsecundum var. Fichelmii Levantii and Eucthrostodon Templetonii he refers to as fine discoveries. Prof. Tuckerman has not reported yet for him I had a fine lot, I thought so at least.

For the Hepaticae we must have a different man. It wont do to have it done poorly to say the least.

A week ago I sent you an envelope full with seeds of Sequoia gigantea. I hope it will arrive safely; the seeds are from last fall.

Now an unpleasant affair. What is to be done with Prof. Wood? On the 9th of June he has a letter published in the Bulle

Now he is an author! I beg you very much to tell me in which number of the Scientific Journal your account with him is settled. Has he ever published any new plant or article in a scientific journal of some kind? Did his book embrace any territory which yours does not embrace, before Chapman's was published? Will Prof. Brewer's book be published in a suitable school-book form?

This winter I will be speaking before and teachers in Clan T. and I must tear the mask from the face of that man. I have facts, but I like to have some more. Anything else but hoping in an exact science

I would rather have him present.

That man knows, how troublesome it is to collect; he knows the work is to be sold for the benefit of our schools and above all he does know, that he is the last man, fit for such an undertaking and yet he will not desist from such an illegitimate work. But enough. If you have not the necessary leisure let Prof. Brewer furnish me with those items.

Please give Mr. Storm my compliments, shall answer in a few days.

With high regards
Yours
most sincerely
Bolander

San Francisco Sept 27. 66.

My dear Sir,

Your kind letter of Aug 27. has come to hand. Thompson's letter I will return in my next. I will see what I can do in the seed line.

This day a week ago, I arrived here in good health. My plants have not yet reached this city. As soon as here I shall go to work in order to send them as soon as possible.

I, for my part, am very much pleased with my trip; it was

Give my regards to Mr. Mann & Prof. Brewer of whom I have not heard anything for some time.

With due regards

Yours
most sincerely
H. H. Bolander

a happy summer indeed
Lesquereux' report on mosses
from Yosemite valley is
encouraging. Out of 14 numbers
sent in letters: four are new
to science and five new to
California. What will he say
when he receives my collection
principally made at the foot
of Mt. Dana?

The number of Carices
will be considerable.
Among my grasses, I find
18 species not before
collected by me or Prof.
Brewer.

Species I collected at three
different localities near
Mt. Dana. also another
little water plant entirely
strange to me.

A fine Chara also at
the foot of Mt. Dana.
Among my grasses is
a Vasega from Mono
Lake - a fine grass.
I enclose a specimen
of Calamagrostis which
seems to be the true
strigosa Bong. Collected
near Mendocino City, Mex.

Near Mono Lake I collected
2 fine species of Juncus
not seen yet by Dr. Engl.

The Veratrum sent, ascends
to 12000 feet on the western
and eastern slope.

I am yet indisposed to
writing and sitting, but hope
to overcome it soon.

new species? No answer. That they were new I knew at the time I sent them and I find it now confirmed by Col. Munro's Report on the same species.

Why shall I not have the pleasure to know what a new species has been called? Or shall I wait like the rest of mankind untill the Manual is published?

What reason had he to recommend a young man in the last stages of consumption to Prof. Whitney, as the most proper person to collect, saying there was nobody on this coast able to do it?

My dear Doctor, I am also endowed with a sense of

San Francisco Oct. 10. 66.

My dear Doctor,

Your kind letter of Sept. 8 is before me also the enclosed account from Westermann & Co. Thank you heartily for the settlement.

I made a small collection of seeds which I will send as soon as possible

I fear rather the envelope would not last.

The enclosed grass sent a few days ago I called C. strigosa if I recollect right. I meant to say C. purpurascens N. Br. but the description is so short that I can hardly rely upon it.

This brings me to the subject of grasses

I once gave an answer to the charges made against me by Prof. Thurber. The article in the Agricult. Report was written with a great deal of hesitation, knowing beforehand how poor and miserable an affair it would be. Laboring under these convictions and taking the names from my own herbarium I could truly not venture to take refuge to a name or authority to whom it would have been more a disgrace than an honor to be mentioned in connection with that production.

I myself was pressed and driven to it by the Secretary of that Lust.

But in my own humble opinion it was not the article in question which allowed Prof. Thurber to say that "of course the names badly misspelled" – and other remarks equally unjustified. Ten letters of mine at least he left unanswered. Of bundles of grapes I sent, I have not been informed, whether they arrived or not. Grasses sent in letters ditto. Does the Gentleman perhaps believe I would avail myself of the information obtained through him and describe new species? Now, never! If I ask about a species, it is no more my intention to publish it. But to some little information a collector ought to be entitled I rather think so.

No, my dear Doctor, my crime consist merely in having described three species which I collected. I have asked repeatedly, what did you make such and such

honor and I feel clear in this case that I have not been negligent. Not having mentioned him was done on a point of delicacy and not by usurpation.
So much concerning this. I am sorry — but an explanation was due and in place.
(I read no proof-sheets of that article.) They were not sent and we all resigned in consequence of it.

I collected, as I stated before, 18 species of grapes not seen by me or Prof Brewer. So far I find none enumerated in the various catalogues and I am sure that some must prove to be new species.
With the greatest care I

searched for them, for it always seemed to me as if the grasses ought to be more largely represented here, than usually enumerated.

What shall I do?

Can I expect justice from a man who allows himself to treat me in that style?

Col. Munro who had the same specimens in consideration differs widely from him in many cases

Who is right? Both evidently separate plants that are most assuredly of the same species and unite others that are decidedly different.

Please excuse, I beg you, my delaying the matter so long, will prove to you how unpleasant an affair it is for me fine gänzlich Hagiwung ist dem Menschen unmöglich.

Yours
most respectfully
Henry N. Bolander.

San Francisco Dec 30. 1866.

Prof. Dr. Asa Gray Cambridge

My dear Sir,

I forwarded this day by mail a small parcel of seeds of the Big trees. In a few days I will send you some more especially some seeds of that little new Cypress from the big trees. I have completed now the Compositae, Ranunculaceae, Carices Liliaceae & Coniferae and will try to send them with the next steamer by way of the Smithsonian. You would oblige me very much indeed if you could let us have the names of the compositae as soon as convenient to you in order to

enable me to make a catalogue of the plants growing in Yosemite Valley and the Mariposa Big tree Grove.

Those bundles marked Dr. Gray Survey are exclusively for you and Linda that are working up families for the survey; those marked L.M. are the corresponding numbers of the same plants to be sold for my own benefit. Mr. Mann promised me to tend to it, I mean he will lay them out in sets. I have my intention to have twelve sets — one for you, one for Mr. Mann and ten to be sold. The surplus may be divided in smaller sets.

I hope Mr. Mann will make above all two choice sets for you and himself.

I have another whole sheet of

San Francisco 25/4. 67.

My dear Doctor,

At last once more a sign of life from you. I had given up all hopes of hearing again from you.

I feel very uneasy about my account. When I ordered the books, I hoped that my plants might be in your hands by that time the bills might reach you. To my utmost regret I learned to day from Mr. Samuel Hubbard the agent of the Smithsonian that he has not sent the box yet but will send it with the next steamer. Were my plants in your hands I would feel more content, for I know they will sell readily, having among them a large number of such plants you described but lately.

I gladly offer you the interests on that money or I might send it, since my circumstances are now better. The Carices of Boott came by mistake I countermanded the order but too late. But since the work is in my hands I shall keep it, for it is a monument to science and as soon as I am able I will ask your kind interference in getting the rest of the work for me.

I sincerely hope you will not consider this money-matter as a want of delicacy from my part, for of such a delay of 5 months I did not dream, when I made the orders. Nothing would be more disagreeable to me than to have you think that I made ill-use of your kindness.

The second box is also ready to leave. I will try to induce the Prof. to send it by Wells Fargo.

I am now labeling Brewer's plants and engaged with the making of that catalogue of the Yosemite and Big tree-grove.

The months of June I will spent in Humboldt Co. since the Professor desires me to go there. I would commence collecting when I stopped last spring, namely in Long Valley.

Lesquereux is delighted with the mosses; he has now about 200 species from me, quite a number are new.

Yours
most sincerely
Henry N. Bolander

San Francisco Aug 12th 67.

Dr. A. Gray Cambridge.

My dear Sir,

With the last steamer left a box for you, containing my collections made during the month of June in Mendocino Co and the southern portions of Humboldt. I hope it will reach you safely. I am anxious to hear from you on that small collection, since it contains some few interesting plants.

My second box containing some of the Survey and mostly Dr. Kellogg's plants may be also in your hands now.

Do not blame me for the

condition of the Dr's plants it is his work entirely.

Whatever plant sufficiently represented of my Humboldt collection may be added to my sets.

If it were possible to make out a list of my Yosemite plants and my former parcels it would assist me greatly in getting ready that catalogue for Prof. Whitney. He is very anxious and yet I have no means of determining them. Of the monopetalous plants we don't know anything here, no work gives us any satisfaction. Besides I am now putting up two Herbaria for our public schools to enable them to pursue the study of Botany, but many I must leave untouched, being unable to make them out.

If Mr. Mann could help me in that I would be very glad and willing to make him another set of plants to compensate him.

May I ask you a matter favor? Should that Dichelostemma? (red) be a new plant to science would it please you to call it after Prof. Whitney; or am I rather intruding by such a remark? The Prof. gave me 300 Dol. for that trip and I would like to have his name connected with a beautiful species.

These days I will send you a curious plant collected by Dr. Ayres in Borax Lake near Clear Lake.

Yours
most sincerely
Henry N. Bolander

San Francisco Sept. 7th 67

My dear Sir,

Yours of Aug 15th has just now come to hand. You announce the arrival of my second box; the 3d one will be now in your hands also, I hope.

When I set out last year for the Sierras I told Dr. Kellogg to collect plants around San F. and then add them to mine from the Mts. He has done so, but when I saw the specimens, I was disappointed and did not care to have them mixed with mine. He however desired me to send them east nevertheless; so I have done. They may, in some cases throw some light on some species. But I do not think that any of them are salable. If so, Mr Manes

And it seems also, judging from its habits and stations restricted to the central portions of the northern Coast Range.

There are but few of the Ranunculus hystriculus left. I am sorry for the mistake; also that I was unable to get that new Veratrum fimbriatum. Next spring I may go to Auburn to collect the Ranunculus hyst. Balsamorhiza Bolandri and Monolopia valdiviae folia, Plagiopappus Bigelowii &c. — if another place should not be more promising. Such desirable plants might be furnished to the subscribers hereafter.

I hope will tell him all about it, when he returns from the north. Rattan's specimens I sent as they were given to me. Dr. Cooper's specimens I found in the possession of the State-Survey. They may be of some use to you, Prof. Brewer or Mr. Mann. Only a few parcels belong to the Survey collected by myself. those I marked particularly. Some labels of Dr. Kellogg's are written by me. I tried to do something with his specimens but found my time to limited.

The news concerning my "new Dichelostemma" is sad indeed the more so if it should prove a good new genus. It has decidedly the habit of Dichelostemma and a superficial investigation in the field, making a comparison with the blue, led me to the belief that it was a Dichelostemma and therefore I ventured in one of my letters to ask you to call it after our dear Whitney. !! Sic transit gloria mundi !! That my plant I collected in 64 at Ukiah, but it was not sufficiently advanced and one specimen only. Being in buds merely I and Dr. Kellogg, whom I gave the specimens, decided at that time that it must be a new species of Dich. Wood undoubtedly got it north somewhere near Jacksonville in southern Oregon for the Coast Range in Calif. he seems to have not visited. He passed through the Sacramento Valley making his way to that place. This plant does not occur south of the main Eel and Russian Rivers divide

Now to our business.
Circumstances which I could not control, forced me to write that to Westermann.
When my sets are done you would oblige me very much if you would send me my account in order to enable me to come to a final settlement and to pay you the balance, the more so, since my income has been enlarged increased.
I should feel exceedingly vexed if you should feel or ascribe to me a want of delicacy in this matter.
My new position obliged me to order many a book which I would not have bought under any other circumstance.

My school numbers now 1053 pupils with 17 teachers.

That such a school with such new features, involves great care, I need not explain to you.

I call new features: this that English French and German are taught in the classes by natives of the resp. languages and that we aim at speaking more than anything else at the start.

Nearly one half of my pupils are native Americans the whole affair has been called into life by our City Board of Ed. in order to meet the working of our cosmopolitan population.

Give my kind regards to Mr. Mann & Prof. Brewer.

Hoping to hear soon from you

I remain

Yours
most sincerely
Henry A. Boldenday

Could you induce Dr. Torrey to send me a description of that new genus?

Manual. I may wait untill January. Mailing it, will do so far nothing was lost that way.

I made a trip during Sept. along the coast from Pescadero to Santa Cruz, in order to study the distribution of Pinus insignis north of Monterey. Formerly we thought this species restricted to Monterey and its vicinity, but now we know, that it occurs abundantly along the coast (on bituminous slate rock) commencing at Seale's Ranch 12 miles below Pescadero and that it extends almost to Santa Cruz. A friend of mine visited San Simeon Bay much below Monterey and brought me cones from there. He states that "this species goes down the coast for many miles".

San Francisco Octb 22d 1867.

My dear Sir,

Your favor of Sept 20th has been duly received. I hope the continuation of my notes has safely arrived; it was mailed sometime ago.

My collection made in Humboldt Co was small. There is an extreme barrenness in that region; the most & best plants I found on the coast near the boundary line of the two Co. My outfit, the difficulty in transporting heavy loads through a country so much broken up by deep cañons, induced me to take only such plants I had not noticed before. Red Mountain makes an exception. In a swamp of that mountain I saw good things; and I collected freely. I am extremely

anxious to hear something from you on some of those plants.
Is not that scaly fleshy plant (it grows always in the vicinity of Quercus densiflora) a species of Sarcodes? What is that Melanthacea plant from that swamp (yellow blossoms, stamens dense, hairy and Iris-like leaves? I have looked in vain to find out what it is.
It was my opinion to have only a few of the Duplicates to go in to those sets: Helenium Bolanderi and Wood's new? genus for example. Please do not rob yourself but leave as many as possible in your possession.
I wish you had given me the number of that new Pappophytum. Don't know the Genus at all.
Wood's notes characterize the Gentleman fully, needs no comments.
The small extra package sent by mail, containing those bulbs of the new plant, may have reached you by this time. I hope you will be able to grow them for the plant will give you great satisfaction.
At last I know what your Ranunculus hystriculus is; I recollect also that it was among Rattan's plants. His was collected back of Placerville in deep canons just like mine (alt. about 2500 feet) Mine I found on a bank in a canon at Forest Hill, about 2 feet above the general height of the water in summer. The color is white, forms large patches and offers great resistance in taking the plant up, similar in that point to our Carices growing on rocks in deep canons.
I thank you in advance for the new addition of your valuable

the cone he brought up is of great interest, since it establishes the fact that the pine figured in Capt. Beechey's Bot. under the name P. Sinclairii is this species and no other. You will find that this figure has been referred to a great many different species. The cone, now in the possession of the Survey could be taken for the cone according to which the figure was made.

Dr. Engelmann is delighted about the material on the coniferous trees of Calif. I hope it will enable him to settle once and for all that question.

Yours
most sincerely
Henry Bolander

Since Prof. Whitney gave me Nuttall's characterization of his genus "to annoy me" as he said and Prof. Brewer sent another, I may return one to you again.

Hoping to hear from you again I remain

Yours
most sincerely
Bolander

Octbr. 23. 67.

My dear Sir,

Just now I received your favor of Oct 4th in which you announce the new genus. I am very much obliged to you for this act of extreme kindness.

You have not given me the number of the plant and thus I am left in the dark which it is; for, if it is not large, represented for the sets, it may be possible to procure it this spring.

I will go to work and make up some addional sets next spring. If nothing prevents me, I will go to Auburn in Spring and fall and in June the new Pacific Railroad which goes now to the very summit. The whole month of June spent

on that road would give me a large number of plants.

I am glad to learn that all sets are engaged and I do not doubt the buyers will be pleased with the specimens.

Anxiously do I await your revision of the liliaceous plants of California. Of some I have a large number of bulbs in cultivation, which I take up every fall. If you desire some I will send them on immediately.

My school is a public school and the salary paid per year is 2100 Dol. This situation will enable me to do considerable every year in collecting, especially in the month of June which is entirely my own.

San Francisco Nov 14th 67.

Prof. Dr. Asa Gray Cambridge

My dear Sir,

I must hasten to answer your letters; I received no less than three within a week. First yours of Sept 24th. I am glad that the bulbs have arrived; another package of bulbs left with the last steamer. Dispose of them as you please. Dr. Ager's plant is out of Borax lake the water of which is surely more than brackish.

Thompson letters I will answer now also. To the desired seeds I will tend as much as I am able to do in my present position.

Yes my number 6534 is a splendid plant (Oenothera ~~Watt~~ Whitneyi) Could you but see how it blooms.

How it covers the field like a large rose. I am sorry that it grows rather in a locality very little accessible in a short time. Still I may be able to manage to get some.

My grapes I shall take up again although I should not have objected if Prof. Th. worked them up with the understanding that I would be informed of the result. I am hard pressed with work, can only work at them at fits and starts.

Ceanothus papillosus Dougl. is an exceedingly common plant in the Redwoods about 28 miles south of S. F. extending southward, especially beautiful on the road to Santa Cruz. It is a species highly worthy of cultivation; its flowers are a bright blue in great profusion. Did I not send enough of it?

I do insist upon that Mr. Sullivant takes up again his moss-studies. What a pity of our Calif. should not be illustrated and delineated and added to his noble works!

I rejoice to learn that you find still new things among my collections. Much remains to be done. In one sense I am glad that something is left for me, for there is nothing like roaming over our hills and camping in and woods. Of course I do hope that you will not construe this as if I considered the finding of new things the end of botanical investigation; this is our alphabet only.

Yours of Oct. 4th 67.

So we have the genus Bolandra thank you again and again for the honor conferred upon me. I know now the plant and a.o.

but this relieves me from my anxiety.

Now I will tell you that I have procured a fine lot of seeds from the Mts

Pinus monticola, Lambertiana
Picea amabilis (the tree!!!)
Sequoia gigantea and Ceanothus integerrimus the finest with white flowers.

Gow and Mr. Thompson must have some of it; they are from Mr. Clark and perfectly that what I say. It may be that I get yet Fremontia before these are sent. (Also some few other seeds.) Also cones of the P. amabilis fine indeed. If they come to me as the first two came (from Clark) and if you get them so well preserved you will be delighted!

highly pleased with it. It is a beautiful plant, growing on shelving rocks in mosses near the Vernal Fall in Yosemite Valley; a place or rather spot where I found also some most excellent new mosses. It is rather plentiful there but hard to collect, being extremely tender, it bulbous roots break off very easily.

The bill paid by me at Westermann's was one of Mr. Bloomer who had things ordered in my name.

Yours of Oct. 10th.

November 6 & 7 I think closes my notes for the present. I am sorry that you did not accept a set of my plants; my offer was made in good faith and the best of will.

Thank you for the account; I was afraid I might run in debts.

defined by nature. Lumbermen only have created that confusion. these four species no Botanist can mistake nowhere and at no times. Neither Prof. Brewer nor I nor anybody else has so far collected another sp. in Calif; I know nothing of it at least.

The seeds will please you certainly for they are fine.

Pinus deflexa of Torrey is undoubtedly a variety of P. ponderosa.

Excuse my haste dear Sir and let me hear from you soon again.

Yours
most sincerely
Henry N. Bolander.

those cones of the P. amabilis and an article published by Murray of Scotland induced me to investigate the question.

You will remember that I said once P. grandis and amabilis might be the same, now I wish to say, they are very distinct indeed. During last summer I took the pieces, growing from 7000 upward for the nobilis, as there were no cones. the grandis I saw a great deal on the coast, and considered the one growing on the Sierras from 3-7000 to be amabilis. Now I can state most positively that on the coast and in the Sierras from 3-7000 feet is grandis

the figures given by Newberry as grandis and amabilis belong both to this species.

the one from 7000 upwards is the true amabilis Dougl. = the Cassiocarpa Hook. = the magnifica of Murray. the three names are good and characteristic. I am sorry to say we have but one tree for them, but one whose grandeur is surpassed by none of the tribe. that tree cannot be described, there are no words. What has commonly been sold for amabilis is generally grandis. this is the case in our gardens here and I judge from Murray's paper the same was and is done in England.

Next comes P. nobilis whose cones cannot be mistaken; also those of the next bracteata could not be mistaken.

Thus we have four distinct species remarkably well de-

San Francisco Dec 1st 1867.

Prof. Dr. A. Gray Cambridge Mass

My dear Sir,

In working up my grasses I find it necessary to consult you in regard to a few species.

First enclosed I send you specimens of a Calamagrostis (my No. 4787 4766) collected by me in wet meadows close to the sea coast in Mendocino Co. It was blooming when collected. Roots long and creeping

In Steudel I find no spe description answering to it. In Desvaux' Grasses of Chile is one figured under the name of Deyeuxia chrysostachya, the general aspect could answer and the palea as figured there agrees very well, but that's all. Is it a new species?

The awn is straight when green and wet, but twists immediately when drying the panicle remains very open after shedding its seeds.
Glumes also spreading

The 2d is a Calamagrostis also, my No 6471. collected last June in the same locality.
It agrees pretty well with the description of varia

given by Munro as varieties of the above { var. puppurascens R B. / Montana Host

Could you send me 1–2 spikelets of Stipa Richardsonii ? in your next letter ?

Now another curious affair. By working up the Melica I found Prof. Thuber's view correct in making my No 40 of publ. Grass sets a variety of M. floaeoides For the last two years I observed it closely and found the above opinion correct. I call it var. bromoides No 6119 recently sent.

If we find this correct, we must also take in my number 4698 (recently sent) from the sea coast. I call it var ciliata or probably better acuminata.

If these are in No 6121, from Los. Valley must come in I call it var. inflata

Having all these in, it becomes a necessity to receive also under that species my No 53 prfs sets and sent again recently with notes. Thurber left it undetermined, Mann says, it is a new species, but I am satisfied it is a variety only. I followed it up through long distances and found transitions I call it Ab. foxericbs var. brevi-aristata.

Having taken this in it becomes a question whether 4861

should come in also or stand as a distinct species.
I myself doubt it being distinct.

if regarded as distinct I would like to call it

M. longiaristata.

A rather curious name for a Melica, since the awn is not recognized in that genus, but the awn gives no reliance whatever with our grasses.
And should it be referred to any other genus for that alone, when every thing else proclaims it a Melica?
I analyzed them all I and I found them "inwardly" perfectly alike.

You would please me very much if you would give me your opinion on these questions.

Rd

San Francisco Dec 10th 1867.

My dear friend,

A few days ago I wrote you about some grasses including also one, which I thought might prove to be a new species, but that even was an error. Dr. Kellogg having returned from Alaska submitted for investigation his grasses to me, Among these I found Calamagrostis Lapponica and by a careful investigation I came to the conclusion that my little plant must be referred to that species. My specimens are very small but in every other respect they agree. Ledebour's Flora Rossica helped me more than Mendel.

Gabb will go East soon probably, he will take some things for me

There will be another bill soon. When the last one is paid I will let you know, therefore retain all.

With high regards

Yours

most sincerely

H. N. Bolander.

The Dr. brought also down that dubious grass so poly-morphous with us Agrostis exarata. Mr. Munro & Thurber both referred my specimens mostly to Ag. aspersifolia but I can now speak with absolute certainty that it is the true Ag. exarata.
Wherever I have given you aspersifolia, exarata should stand.
The different forms I will place together and send to you soon.
I feel quite cheerful over these two discoveries.

Enclosed some seeds of the Eucharidium Breweri
Let Thompson have a few if you can spare them

San Francisco Dec 29th 67.

Dear Sir,

Two boxes for you, will leave to day in care of the Smithsonian Washington. The large box contains a complete set of Dr. Kellogg's plants collected north in our new possession, and some valuable seeds. The large bag, Picea amabilis = magnifica, contains probably too many to get England at once. Please help yourself and if you know any body else let him have some. It would be well to send some to the Smithsonian. Perhaps Mr. Mann will do it for me. In the small bag you find the

Did you receive to packages of seed: one contained none but Chilian seeds and the other some from our Mts?

Ere this arrives we will have paped the year 67 and entered another. May the Almighty, in whose hands our life rests, permit you to live yet a long series of years, useful and blissful to your fellow-beings — and grant you good health and a joyful disposition to advance our beloved science more and more. — A happy joyful New Years!!

Yours
most sincerely
Henry Bolander

the seeds of the Fremontia, take what you want and give the rest to Thompson. Please examine all the seeds and keep whatever you like of them. Helenium Bolanderi you will also find among them.

The smaller box contains two fine cones of P. ponderosa one for you and one for Dr. Engelmann. The coniferous branches you may divide with the Dr. if he is not already supplied with them. Those little packages marked "Expedition to Alaska" are for Dr. Engelmann.

I hope you will excuse me for sending all these things to you first and beg you to distribute them for we could not find suitable boxes to divide them at once

San Francisco Jan. 4th 1868

Prof. Dr. Gray Cambridge Mass.

My dear Sir,

Yours of Dec 4th has been duly received.
The rays of 6170 single specimen are purple. It is a curious circumstance that only one plant could be found. It grew on light sandy soil (derived from Granite) near the debris piles in Yosemite Valley. The next day I set out purposely to find some more but all my efforts proved fatal. Being so near the Bridal Veil Fall I supposed the seed might have been swept down from higher portions of the Sierras. Consequently I made close search for it when we went higher up

but all in vain; my plant remained a single specimen. May it turn up soon from some direction! The plant is so fresh in my memory that I will always know it.

4994. Hulsia brevifolia is very common near the falls in Yosemite Valley; also on the Mariposa trail and especially in the Big Tree Grove. Generally on gently rising slopes in light soil, forming large tufts having 10-20 stems arising from a common rootstock.

I am pleased to learn that the bulbs have safely arrived.

I am anxious to see the new vol. of Boott's Carices.

In those two boxes sent a few days ago is also a small package of Lichens for Prof. Tuckerman and a few Lichens for Mr. Mann.

The first memoir of our Academy is out. It is a catalogue of the mosses of the Western Coast by Lesquereux. The material described therein is still in my hands as soon as I am able to work at it again, You shall have your share.

The continuation of our Survey is still doubtful. I am of the opinion that they cannot stop it now. Much fall may be expected from a legislature in California!

Our rainy season is unusually hard wind and storm. It rained for weeks in cataracts, the valleys are overflowed and great damage has been done by the rushing waters.

Yours
most sincerely
Henry N. Bolander

science to make also the jackasses of the people of California speak once more sensibly.

The news of giving away the famous Yosemite Valley has undoubtedly reached you — What next?

We have now rain and nothing but rain; over 30 inches have fallen already. Seeming a promising season, though dreadfully hard to endure. Keeping in the house makes me sick and melancholy.

I hope to hear soon from you.

Yours
most sincerely
Henry N. Bolander.

P.S. Could you tell me how I could obtain some seed of the plant from which the Persian Insect powder is obtained?

San Francisco March 3d 68

Prof. Dr. A. Gray Cambridge

My dear Sir,

Your favor of Jan. 19th should have been answered some time ago; the delay is owing to the presence of our friend Dr. Parry. I was most happy to make his personal acquaintance. He left for the East last Saturday.

I am daily looking for the new issue of your newly described plants.

I have made such arrangements that I may hereafter furnish more bulbs and seeds to parties. The boxes sent some time ago may be in your hands by this time. Premonitio has come up already from seeds of the same lot sent to you.

that shrub differs considerably in appearance. Near Clear Lake it had small insignificant leaves and was of a barren look. How different in the Sierras at about 4000 alt. where it occurs very abundantly. There the leaves are large, fairly dense and the whole shrub covered with its large yellow flowers. If it should grow in a similar manner in Europe, it will become an object much sought for. I hope to bring into market also Arctostaphylos Whitneyi next year. I am fully of your opinion in regard to Mr. Thorington's money. When delivered it is time enough.

By my arrangements I will also be able to furnish the seeds of Adenostylis = Cacalia magna fall.

Well, was I aware of the Sanguisorba collected at Mendocino; it occurs however only sparingly, yet apparently indigenous.

Prof. Whitney is at Sacramento. The poor Professor has also his share of troubles. You may imagine of what sort they are when he is asked by the Committee to explain of what practical use maps are. Is it not enough to sink a man or make him shudder in all his limbs! Poor man! The patience with which he bears for science' sake such talk, seems to me almost more praiseworthy than that what he accomplishes.

In a few days all will be decided: continued or not continued. If God had the power of making Biliaeus' jackass speak sensibly, why should he not have mercy upon the Professor and

Did you ever see the enclosed Compositae? Dr. Kellogg collected it near Oakland a few days ago. Strange to say, I never noticed it.
Col. Munro sent me his views on my grasses. I will make a copy of it and send it to you it may interest you.
On the 6th of April I discovered two new species of the genus Bolandra, since the genus is so clearly set before me and the species undoubtedly new, I took the liberty of naming them myself, otherwise I should have gladly referred them to you.
I called the one Malvina and the other Thekla; both are fine specimens.

Yours
most sincerely
Henry N. Bolander

San Francisco Apr 18. 1868

My dear Sir;

Both letter of yours 20/3. 21/3 were received this morning. The red Pentstemon in question, of which only two or three specimens were collected in Yosemite Valley, affords one of those exceptional cases of our vegetation. The same holds good with regard to the Mulsea heterochroma from the same region.
It may be said as a general fact that our plants occur always in large numbers together and there is no difficulty in finding good specimens.
The two species in question were undoubtedly stragglers, not belonging

to the valley properly speaking. the seeds were swept down by mountain streams and happened to germinate. My conclusion is, I think, fair, for I was all over the Valley, made special trips for the Mulsea, but in vain. the very place of their occurrance (station) supports it, for they were found near little falls.

the Penstemon is of a scarlet color and would be an acquisition for gardens. the contrast is great with the dim foliage of Alnus. I flattered myself to find them higher up in the Mts, but I did not. Another plant of that kind is a single large specimen of Chrysopsis (found on the banks among Alnus) that however was met with in plenty back of the Valley at 8000 feet also in the Big tree Grove

6570.

Please do not omit the description of Helenium Bol. and Veratrum fimbriatum.

the continuation of your plants just published arrived a day before. When all completed I hope you will send us a small supply of sheets

I have determined now to spend my vacation (June) on the coast at Mendocino Co. I have been there often, always making new additions, it is likely that I may do so again. the region is so peculiar from the rest that I love to go there. besides it is cheaper for me to do so 60-70 dollars will cover my expenses. If there is anything particular to tend to let me know the new plants from there I will collect largely

to cure, took me some two weeks. I saw root leaves much like those of that plant on Mt Bullion and also in Yosemite Valley (also old heads which seem to belong to this plant in question.)

Number 6007 is a plant in which Prof. Whitney was very much interested. He and King brought it down first from a Mt near Yosemite Valley some 9000 feet, but quite young and undeveloped. My specimens were found on a almost bare slope of the Sierra back of Yosemite Valley. The whole slope seems to be formed of imbricated slabs. In the crevices of which this plant grows in very great abundance this slope is of southern exposure

San Francisco Apr 27th 68

Prof. Dr. Asa Gray Cambridge

My dear Sir,

Your letters of the 27/3, 2/4, and a few lines without any date are before me. Dr. Hooker's present delights me very much indeed. it is a noble present. thanks you for all the trouble you have had with it. You as well as Dr. Hooker call the new Vol. the fourth, what is then the one Syn. fl. It contains pl 1—200 and was published 1858. Please send it to the Smithsonian in the name of our Calif. Academy.

Give Dr. Parry my best wishes and tell him to let me know freely

his desires as to plants.

The bill of lading arrived, the box will go to the Smithsonian

4929 Pedicularis semibarbata is a pretty common plant on the bare slopes on the Yosemite trail down into the Valley, dry loose soil in open pine forests, also in the Big tree grove. Do not think it occurs below 5000 nor have I met with it in the higher Sierras. It grows rather scattered yet tolerably plenty. Its color is lightly yellow, cream-colored (but even that not bright) rather dull.

The second species P. attollens occurs only in the higher Sierras in swamps (like our Eastern) always scattered, sometimes 3-4 stems together. Its height also differs considerably, some are nearly 2 feet high while others are scarcely 8-10 inches. Flowers purple or red.

P. semibarbata is in habit much like our bright red species here on the coast, dry loose ~~hillsides~~ soil on hillsides in open woods. I never learned what the specific name of ours here is.

4928 occurs with 4833 sparingly on the slope, on which we descended into the Valley at 7—5000 feet its color is very light blue, scarcely tinged with blue, so is also number 4833 which is however more common especially at Ostrander's Sheep-Ranch (8000) also open woods of Pinus contorta.

What is my Composite 6187 from Long Valley, almost the earliest plant there and quite showy growing in immense tufts. A plant difficult to

exceedingly dry (8000 feet) Saw the plant no more afterwards in any other locality. Could it be your Ivesia santolinoides?

Thank you for the seeds of Pyrethrum. Will see what I can raise from it.

Prof. Whitney will leave for Cambridge in a few days (Thursday)

What will become of our Vol. on Botany? Now when we thought ourselves nearly in possession of a Manual, we find our hopes rudely destroyed by a set of ignoramuses

Still there is one hope left for us unhappy creatures — Wood will step in and put all in good order — think the blow is worse for him than any one else

If the publication should be deferred for some years he will show his true color and verify my assertion that he meant to copy - pluck the fruit when it was nearly ripe.

Yours
most sincerely
Henry R. Bolander

Of the enclosed Saxifragaceous plant I found 1-3 specimens among rocks in the higher Sierras - rare -.
Don't know whether you got any of it at all.

6052. Pinus monophylla
Mono Lake

those are all the numbers
that I am in possession of.

Yours
most sincerely
Bolander

S. F. 19th 68.

My dear Sir

Enclosed I send
you the desired names of the oaks
and pines as given by Dr. Engelmann.

6257 Quercus lobata. Mendocino Co
6068 " " Wislizeni Engl. Bear Valley
6067 " " Sonomensis Benth.
6066 Hillsides Coast Range
6066a " " lobata
6066b " " " "
6065b " " Wislizeni Engl. Anderson Valley
6065a " " " " " " "
6065 " " " " " " "
6064 " " " " " " "
4823 " " " " " " "
6062 " " " " " " "

Very variable in foliage also sometimes
the cups of the acorns, but decided-
ly the same species.

6061 Quercus lobata
6060 " " "
6059 " " Wislizeni Engl. Ukiah
6058 " " agrifolia Nees Cloverdale
6057 " " Sonomensis Benth
6055 " " agrifolia
6056 " " lobata var. Lambeliae Ukiah
4650 " " Sonomensis var.
6054 " " chrysolepis Coast Range
4835 " " densiflora Hook " " "
4779 " " " " "
4891 " " vaccinifolia Kellogg

This last species seems to be distinct from chrysolepis, its cups are different and it is only met with as a shrub in high altitudes with chrysolepis in tree form. The blossoms sent to Dr. Engl. will probably decide. thus far I always found the empty cups only.

4554 Taxus brevifolia Nutt.
Forest Hill
6045. Pinus flexilis Torr.
Mono Pass
6051 " " Lambertiana Dougl. 8-9000
Mount Rémond.
6053 Abies Mertensiana likely
not different from Canadensis
Dr. Engl. thinks there is no difference and Douglas calls the tree always Canadensis in his memoirs, but it is nevertheless strange that those Maine logmen never recognized it as such.
6050 Pinus monticola
Mount Rémond 9000
6049 " " ponderosa Big trees at
Clark's
6048 " " contorta Dougl.
Yos. Valley Trail 8000
6047 " " ponderosa Dougl.
var. Mt. Rémond 9000

Over

San Francisco June 30. 68.

My dear Dr. Gray,

Your letter of Apr 27. and Mr Thompson's reached me safely. I thank you for your kind interference and also for the trouble of sending the package to Westermann's.

I told Mr. Mann about my being incapable of deciding where to go in order to do best. It may be that I make a flying trip up the Sierras in order to become acquainted with the localities and then go to Mendocino.

The steamer arrived just now and I am informed by Westermann that your packages are on it.

Bob

Dr. Kellogg is collecting very diligently around here and Mr. Harford went down to San Diego to get the seeds of the Pinus Torreyana and Prof. Tuckerman's Composite if possible, he will also collect there for a month and then join me at Mendocino City at the close of June in order to go to Shelter Cove and collect the seeds of Cenothus Whitneyi & Coreothrogyne spathulata, bulbs of "red Dichelostemma" &c &c.

We hope to have in fall a large collection of seeds on hand and also dried specimens.

By fall we expect to be able to send you things and seeds of interest.

I have no doubt you will make us known to your friends everywhere. If we succeed in making it pay we intend to explore yet the higher regions of the Sierras without any assistance from the State.

Thank you repeatedly for your kindness and kind assistance.

Yours
most sincerely
Henry N. Bolander

San Francisco Dec. 23. 69.

Prof. Dr. Asa Gray Cambridge Mass.

My dear Sir,

Your kind letter of Nov. 25 has been received. I rejoice hearing once more from you and I fondly hope that I may have the pleasure now of hearing quite often from you. I hope your journey has been a success in clearing up doubts and intricate questions concerning the Botany of our state.

You will have the kindness of paying from the money in your hands Mr. Westermann & Mr. Steiger New York as soon as they send in their claims.

There are quite a number of grapes along that R. Road, of which I procured but few, but I have seen enough to convince me, that our grapes need a most careful attention and prolonged study. It is a pity that Prof. Thurber will not, forsooth, will not co-operate! Well Col. Munro is helping me some and so I expect to do something at least.

(No. 6124 of my plants given as Vitis riparia doubtfully at the suggestion of Prof. Thurber, Prof. Munro makes it Cissus Mexicana Kunth. (See Steudel's)

I hope to hear soon from you wishing you merry-christmas and the very best of health

I remain
Yours
most respectfully
Henry N. Bolander

Had you any thing like a large Herbarium in this coast if so I'd be a great helper, but alas!

Could you send me a description of Sisyrinchium odorum Nat. ? Bot. Lind.

All you say about our late friend Mr. H. Mann is correct; all the money in his hands was paid up. The last few Dollars were paid by his brother & Brigham to Westermann.

We, D. Kellogg, Harford & myself have on hand quite a large collection of plants; we will send them soon by Smithsonian.

My Summer-vacation was spent in collecting at Lake Tahoe and Donner Lake, also at Bear Valley opposite the P. R. R. Station Emigrant Gap. (5000 ft. alt.) I collected some very interesting plants on a trip from Bear-Valley north to Eureka-South high up in the Mts. I wish they were already in your hands. Harford went to Oregon and Dr. Kellogg spent his entire summer till late in fall at Long Valley, Little Bear Harbor on the Coast Range. In fact he went over my old ground that gave so many a new species. Besides collecting ~~new~~ specimens his object was to procure seeds of the various annuals for Thompson. We have a fine lot of Dr. Whitney's Ivy and other valuable plants. Will send you some for your own use; mine are already nicely growing.

Sent you a few days ago a little shrub collected at Bear Valley about 5000 ft. alt. (on rocks) this fall (September). Having been there during June and the first weeks of July I could not resist the temptation of going again in Sept.

reputation in Europe would like to have specimens, but I have no one now who could undertake it to label and divide them. Do you perhaps know a person fit for this work? It is desirable that he should reside in the U.S.

My twins: Bolandra Malvina & Clara(?) are like blooming roses. They walk now and develope themselves so finely that they are an everlasting source of joy and pleasure for us.

I hope sincerely that Mrs. Gray has entirely recovered

Yours
most sincerely
Henry N. Bolander

6128 Trisetum —— of the catalogue is T. barbatum Steud = Bromus Trinii of Desvaux' Graminea Chilensis p. 441.

San Francisco Jan 1st 70.

Prof. D. Ba Gray Cambridge

My dear Sir,

Your kind letters were received this day; thank you very much for the information.

Did I tell you that that little shrub was also collected by me in Yosemite Valley near Mirror Lake on rocks but not in flower. At that time I took it to be a Baccharis having exactly the leaves of our B. consanguinea. So far I observed it on rocks only, scarcely 8 inches high in this form. I have quite a number of specimens

to go into the Lots.

Our Christmas was wet and sleety but our New Year clear, bright & warm and the hills all green.

Please inform Prof. Flies that I shall be most happy to exchange. His Herb. Succ. Normale would be quite an acquisition for us.

We will send you all we have on hand.

Prof. Whitney is still here; we can't tell now what our enlightened legislature will do. It is quite possible however that they will appropriate money enough to publish what is ready for publication.

My school has now 28 42 pupils and still increasing. On Monday next we will open. I am quite puzzled to find room for the new already arrived ~~[illegible]~~ pupils.

Poor Lesquereux is hors de combat and Mr. Lesquereux although at work, does not write me; yet I sent some fine new mosses from Bear Valley. Such a silence on discoveries is, to say the least, very discouraging. I hope he will give me a very little attention. Without aid I don't know what I am doing in the moss-line. I have a fearful quantity on hand and persons of high

San Francisco Febr. 18th 1870

Prof. Dr. Asa Gray Cambridge Mass.

My dear Sir,

Your kind favor of Jan. 29th has been duly received I thank you for the information.

I can well perceive that a monograph of the Genus Eriogonum keeps you busy. they are in their native haunts beautiful plants, but hard nuts to crack. I sincerely hope you will delay printing until you have seen those of my collection.

The collection is ready to go. Would it not be well to write to the Smithsonian to instruct their agent here to forward those boxes at once? they are very slow now. A box of cones for the Smithsonian was four months on the way.

Westermann & Co sent me the receipted bill long ago. Steiger's bill is small and will be presented soon.

I am glad to hear that Gen. Mears has begun in good faith to work up Grapes. I shall write to him and send him duplicates of all in my possession. The enclosed spikelets came very handy, the identical form I discovered this summer at Bear Valley at about 5000 feet alt. this was for the first time that I met with it on the higher Sierras.

Next week I will spend at Sonoma and my summer vacation ~~along~~ on the western slope of the Sierras along the R Road. These localities are quite interesting.

A few days ago I received a letter from our friend Lesquereux; he is improving and thinking already of the study of Calif. mosses. I sincerely hope it will be so; for he is remarkable for his promptness. Mr. Sullivant did not write; he is honored at some of my mosses. The drawings of the 2d Vol. of his Icones are nearly completed.

My school keeps me unfortunately so busy, that I can do but little field work, except during vacations.

Hoping to hear soon again from you

I remain
Yours
most sincerely
Henry N. Bolander.

San Francisco June 5th 1870

Prof. Dr. A. Gray Cambridge Mass.

My dear Sir,

I have two of your kind letters before me. I will answer them before I leave for the Sierras. We organized a camping party and will remain for about five weeks at Cisco and at the Summit. Just think of our pleasure to roam for five weeks on those beautiful Mts in pursuit of objects of nat. history! We are well supplied and hope to make a large collection.

The arrival of the boxes is gratifying news; we gave them up for lost.

Please give Dr. Fries, Dr. Hooker work them up satisfactorily, let me know it by directing your letter to Cisco on the C. P. R.R. up to July the 10th.

Please push Prof Brewer, let him work; for I understood he has become quite fleshy.

Should any of my correspondents complain of my slowness in answering letters, please excuse me; for I have my hands quite full at present.

Dr. Bigelow and Mr. Emmerson were here. I was most happy to make their acquaintance. With Dr. Big. I made a trip into our Redwoods.

I start to morrow

Yours
most sincere
Henry N. Bolander

Also a Gentleman in New York offers a premium of $25. for a specimen of Pennsylvania Flowers.

Prof. De Candolle Dr. Engelmann full sets. Dr. Hooker and Prof. De Candolle will receive them as a gift and contribution from us. You use for your own herbarium whatever you desire. Could you not find a young botanist who would distribute them by obtaining a full set for himself?

Will it not be asking too much to procure for a banker here and an amateur botanist a copy of Hooker's Flora bor. Am.? He will pay at once whatever the cost may be. A desire to study botany is rapidly increasing here and it is very much to be regretted that we have no Flora of our own to assist people in their desire.

Your contributions to Botany have arrived, much obliged. I have been out a few days in the Redwoods. Think my astonishment in finding a Gymnostichum very likely our Histrix, growing in Marin Co also down in San Mateo Co. The grass in question is very much larger in all its parts than the eastern, is hirsute and has a drooping spike. As far as I am able to learn, it has not been collected by any one, though it is apparently quite common. At my return I will study it. Lycopus Wisligeni Engl. was also found growing in San Mateo Co in the Redwoods; thus far I found it only north of Sonoma Co.

Should there be any plants among those collected at Bear Valley that require additional, in order to

of Stipa all referred to St. viridula. There are two species at least and beyond all doubt.

Found also three small lakes, containing Isoetes. I had the pleasure of meeting Prof. Whitney and Prof. Gibbs on the cars coming home

Yours
Most sincerely
Henry N. Bolander

San Francisco 13/7 70

Dr. A. Gray Cambridge

My dear Sir,

The beautiful days are gone and I am at School again. I found quite a number of plants new to me. Dr. Kellogg remained at the Summit; he will perhaps stay there until fall.

The labels for the plants in your hands should read thus: Plants collected by Dr. A. Kellogg & W. G. W. Harford in California & Oregon

It would be hardly fair to add mine. My contribution is rather small (some from Bear Valley, Donner Lake and Humboldt City Nevada)

When named, we would like to have the list, for we kept duplicates for our Academy.

Tell Mr. Watson to save for me a set of his plants — if they can not be had any more I would like to have him send me as soon as possible at least a few odds and ends of all his grasses.

King promised me to let me work them up but I suppose now that he has changed his mind. That matters very little but I would like to have at least a small slip of each kind. They might be sent by mail, placed between paste-board.

Will you have the kindness to urge this? I will not commend upon.

Allow me to send you soon some of my discoveries by letter. They are yet in the mountains.

Enclose a slip of a remarkable Stipa, new to me

Considering all, I am able now to clear up some doubts concerning those various forms

fund.

As soon as the Doctor comes home I will have to communicate quite a number of plants.

Yours
most sincerely
Henry N. Bolander

San Francisco Sept. 26. 70.

Prof. Dr. Gray, Cambridge.

My dear Sir,

I should have answered yours of Aug 31st long ago had I not expected daily my plants from the mountains. They are in charge of Dr. Kellogg and he is still on the summit collecting.

I am glad that Prof. Brewer has pity upon those plants; those collected this summer I will try to put in a more agreeable shape. The old Doctor is rather inclined to bungle matters, though an incessant worker, a manuko

is never tired, to whom no mountain seems too high or too rugged.

I thank you very much for those plants (European) I shall write to Dr. Hooker about them.

You have taken more trouble about the grass question, than I could have supposed. It is true I felt a little hurt that I heard nothing more of Mr. King whom I had learned to respect so much. I thank you for the kind explanations.

At last I heard once more from Dr. Engelmann, Lesquereux and Dr. Torrey. I thought all my old friends had forgotten me.

Dr. Torrey sent me a Doctor Diploma. Dr. Engelmann wrote four long long pages on the pines full of puzzles. I must set aside a whole week to answer. Mons. Lesquereux thinks he is now able again to take up my mosses of which I made large collections. Dr. Kellogg will bring the Bryo not ripe, when I was obliged to leave. He will find this summer's work a fine contribution to our Bryology. I have also a large number of Lichens and Hepaticae. Prof. Tuckerman has given me up as a lost case, because my school duties did not allow me to make as many excursions as before.

A few days ago, I received a box from Dr. F. von Müller. It contained also a package of plants for you. Hope to find some one to take it each.

In a few days you will receive the last bill from Steiger. Don't know whether all coming to me is used up or not. Should it be the case, I will try to re-

San Francisco Oct. 19. 70.

Prof. Dr. A. Gray Cambridge

My dear Sir,

Yours of Sept 21. is before me. Fowler's parcel is for me. Please send it with Dr. Hooker's plants by the Smithsonian to our Academy of Sciences

All the plants collected this summer are now in town and we are busily at work to arrange them.

Please give the enclosed lines to Mr. Watson I could not make out his initials.

I am quite anxious to see your Polemoniaceae, they are really those plants with which I could do nothing for the want of works.

I hope you and Dr. Hooker will carry out the plan of coming to this coast.

Give my best regards to Prof. Whitney.

Yours
most sincerely
Henry N. Bolander

Vilfa rigens? doubtfully so named by Prof. Thurber is Cinna macrura (fide Munro) it agrees well with the description of Trinius.

Enclosed I send you a panicle of a grass from Virginia city collected by Bloomer. It puzzles me. the ovary is bearded - the squamulae triangular, moved apart and ciliate. Palea (lower) mucronate on the back; upper bifid. Yet it looks all like a Poa.

A few seeds of a Yucca from San Luis Obispo.

Yours
most respectfully
Henry N. Bolander

San Francisco March 21. 71

Prof. Dr. Asa Gray, Cambridge

Dear Sir,

Both your letters have come to hand. Scutellaria B. was sent to day. It is the oldest specimen in the remaining lot.

The plants of Dr. Gay's Herbarium, sent through the Smithsonian, have safely arrived. Did you receive a parcel of seeds, I believe three or four kinds, sent in a letter? Seeds almost of any kind were scarce last year. As soon as my bulbs have flowered I wish to send you an entire set, so that you may study them growing.

Some are already in full bloom. A serious question are our lilies. the large white one will not grow here. Many attempts have been made.

Bloomer sends his best regards and thanks for the Polemoniaceae Dr. Kellogg calls his little pet Dicentra D. uniflora

I am pleased that you give me an opportunity to do something for the Cabinet of wood,

Can't you give me the size of the blocks you prefer? the Redwood I will tend to at once. I am sorry that I allowed myself to be run in debt so large an amount.

Could you send me a few specimens of Nuttall's Poa andina? I am revising my large collections of Calⁿ grasses Have made quite a number of interesting discoveries and verifications. In the latter I was much aided by specimens sent from St. Petersburg and Chili.

As soon as I have finished my work I will send you specimens for distribution. Many specimens are well prepared and will please you, although grasses.

Cinna arundinacea var pendula from the Big tree Grove has two stamens that from Bear Valley one

Triseteum barbatum Steud is Bromus Trinii in Desvaux' work on Chilian grasses.

Stipa eminens Cav. has but one stamen. Therefore correct.

the new Stipa sent sometime ago is a true Lasiagrostis.

the Poa named P. sylvestris is the mountain form of P. trivialis

San Francisco May 13th 71.

Prof. Dr. Asa Gray

Dear Sir

Enclosed I send you two Brodiaeae, the one is our common (growing in the valleys and Coast Ranges; the other I observed for years in the mountains at Bear Valley (4000) and other places.

I took up roots of both and planted them side by side and they show still a significant difference.

Please examine. Will send you bulbs in fall. this is not to be considered an answer to

your letters. To morrow if possible I will answer them.

The Gentlemen recommended by you, and Lord Waking ham have arrived. they enjoy it.

Yours
most respectfully
Henry N. Bolander

P.S. Shall go to Yosemite
Have you any thing particular to look up

be accompanied by a cone.
(old & young if possible)

Your third letter I will read to our Academy and then report.

Could you procure for me a report on your polytechnic school. Being one of the regents of the Odd-fellows college, I would like to see, if our men could not be persuaded to create a polytechnic school, instead of a common college.

How can I procure a catalogue of your most enterprising and skilful gardener?

San Francisco May 20. 71.

Prof. Dr. Asa Gray Cambridge

My dear Sir,

I have received three letters of yours. Messrs Horner and Maitland have been with me; they are now in Mendocino Co. I shall assist them in what ever I can. Allow me to express my gratitude for that large package of plants.

I had a letter and package from Watson to day. I think we now understand each other.

How much I should like to spend a month or two in your herbarium, nothing would delight me more. Alas! that school

keeps me closely down. All I can hope is to spend yearly a few weeks on the mountains. This summer's vacation I intend to spend in Yosemite Valley.

Let me know if there is anything special to look for.

I shall likely distribute some of my plants yet before I leave; in that case I will send a package directly to Prof. Fries. I will also write.

I think the collection of woods should rather be one of ours only; or ours should be at least kept by themselves. These museums, containing only what belongs to the immediate surrounding are most instructive and beneficial. Put up with foreign specimens they lose and are underrated. I think every place should have a museum for home productions first before anything else is attempted.

If we can induce people to become acquainted with what surrounds them; and can cultivate their taste for an understanding of their home, we have gained all.

The blocks of wood should have at least the length of a foot, else the bark will not show its character well; also should one side and top-end be kept in a rough state, and the the other side and top-end should be polished, so as to show it in both stages. Near the block should be placed a branch or two with the blossom or fruit. Pine-blocks should

I wish to open correspondence with one, who mostly raises ornamental plants.

I hope Prof. Brewer will persevere; for here is a great longing for his work. It seems as if Bot. should receive a great deal of attention by our people generally.

I enclose the ripe capsules of Brodiaea coccinea. They may perhaps interest you.

Remember me kindly to Prof. Brewer.

With due regards.

Yours

most sincerely

Henry N. Bolander

San Francisco Nov. 4. 71.

Prof. Dr. A. Gray. Cambridge.

My dear Sir,

I am almost ashamed on account of my long continued silence. But you have undoubtedly learned that it is not my fault.

Having been placed before the people of this state as a candidate of Superintendent of Public Instruction contrary to my desire, I had to turn my attentions into a different direction entirely. On the 18th of Oct. I was elected by near 15000 majority — and now I feel like returning again to my

favorite science.

My new position enables me to do considerable work for it. I will have more leisure time. The office itself compels me to be out, travelling about in the state four months at least during the year. The state pays yearly 1000 Dll. travelling expenses.

It is my desire to turn now my attention to the distribution of our vegetation. Suggestions, pertaining to this subject, on your part, would be very welcome indeed.

I have collected in Bear Valley a few plants, that require your attention. Will send them soon.

Accept this as a sign of life.

Yours
most respectfully
Henry N. Bolander

San Francisco Jan. 27. 72

Prof. Dr. Asa Gray Cambridge

My dear Sir,

At last a sign of life from you! I really began to think the whole world had forgotten me. Little, very little have I done since I was nominated and I really felt that something was wanting: it was the intercourse with my friends.

I made a new start. Commenced to answer letters again and feel the better for it.

I collected in Bear Valley a singular composite, which I wish to refer to you. I found but three specimens fit to take.

Spring has come; our hills are

I have published a few more new species of Calif. grasses. Will send you the paper and some specimens thereof. In fact, they were laid out some time ago.

The wanted parts of our Proceedings will be sent to you by Mr. Bloomer

Please push Brewer to the utmost; for there is such a great demand for a text-book of our flora. It will be still greater in a short time, for I intend to make the study of natural history obligatory in our common schools.

With due regards

Yours
most respectfully
Henry N. Bolander

Have tended to the wood question. Will be able to furnish ours soon.

green again and the violets begin to bloom.

My new position will not exactly permit me to make large collections, but it will enable me to make small choice ones. It will afford me an opportunity of visiting far-off districts.

During my term of office I wish to study particularly the distribution of our forest-trees and plants generally. I hope you will make some suggestions as to mode, manner and method; for I have it now in my own hands to see the whole state.

I have no doubt that Prof. Whitney will be enabled to proceed; for all the members of the legislature with whom I spoke of the matter, seem to be very favorably disposed.

Being called before the Committee on Education, I endeavored to show to them that, without the complement of the Survey, our schools would be deprived of some of the most useful and profitable studies.

The same question is before me again. Dr Engelmann is still dissatisfied with some of the conclusions he arrived at. By his long explanatory letters, I became convinced that the material, collected here and now in European herbaria is in a most sad confusion.

It can hardly be expected that Prof. Brewer will touch those plants, before having finished his botanical report.

I sincerely hope that your society will meet here and you will come out and see our grand sights, the Yosemite, the Redwoods, the Big Trees &c. I shall take great delight in accompanying you to some of these places.

kind wishes for your safe arrival, I am

Yours
most respectfully
Henry N. Bolander

San Francisco Apr. 18. 72.

Prof. Dr. Asa Gray.

Dear Sir,

I have two letters of yours before me. Certainly will I collect a small number of all things unknown to me.

Melica aristata Thurb. is as true a Melica as any existing. Its inner structure is decidedly that of a Melica, also its habit and habitat. I have quite a number on hand which you shall all have besides other good things.

I am happy to learn that you have decided to come. Yes let us have a fine time; fortunately I am now so placed that I

can accompany you. Please make it a long stay, for we have many places worth seeing.

Can not Dr. Torrey be persuaded to come?

Will Prof. Brewer give us also a school edition of his work? If he should neglect to do so, others will take advantage of it and realize a handsome profit from it. The greatest desideratum now is undoubtedly a good cheap botanical text book.

I shall make a short trip before your arrival into the eastern portion of the Sierras. I will be back by the time you come.

With due regard and

STATE OF CALIFORNIA.

DEPARTMENT OF PUBLIC INSTRUCTION.

San Francisco, Dec. 10th 1872

Prof. Dr. A. Gray Cambridge

My dear Sir,

Yours was received last night. Concerning the Linum, I wish to ask you a favor, a great one in my own estimation. Would you have the kindness to change your name into that of Davidsoniana in honor of Mrs. Davidson, the worthy Lady of Prof. Davidson of our Coast Survey. She ascended with me Mount Stanford. We found there a Primula of great beauty, and it being new to me, I thought it might also prove new to our science. In this we erred. It seems to be your P. suffrutescens. To compensate our Lady friend, I thought it just that her great exertions should be recognized. I leave the matter to you to decide.

the flowers of the Lemon are beautifully yellow.

The remainder of your letter I shall answer some other time. I am hard pressed just now.

Yours
most respectfully
Henry R. Bolander

Strawberries Mr Antoine's

STATE OF CALIFORNIA.

DEPARTMENT OF PUBLIC INSTRUCTION,

San Francisco, Jan. 5th 1873

Prof. D. Asa Gray Cambridge.

My dear Sir,

Concerning our accounts or rather my account, I am prepared to settle either way. If you can make use of plants, please take whatever you consider an equivalent, but if you prefer cash, please send me the bill. I am quite sorry that this matter was delayed.

I am very glad to hear that you are pushing ahead the Bot. Report of this coast. There is such a demand for it. Almost daily I am asked: "When will the botany be out"?

I think myself there is but one honeysuckle in this State. All I observed seemed to me but variations of the same species.

Linnaea is here. A gardener (Miller) collected

it near Nevada City last fall. Personally, I have never met with it in my rambles.

I always found Arctostaphylos pungens a procumbent shrub; leaves bright shining and acuminate, while those of A. glauca are dull green and rather blunt. They differ also in point of distribution. A. pungens occurs on barren soil near the coast and then again quite abundant on the mountains from 4-900 feet upwards. A. glauca belongs strictly to the most barren and driest portions of the interior valleys and foot-hills; it is always erect with a broad top.

I shall try to send east the plants collected by me last year; they may be of some service to you.

Happy New Year!

Wishing you good health, I am, dear Sir
Yours
most obedient
Henry N. Bolander

Answered Jan. 13

San Francisco 2/2/73

Prof. Dr. A. Gray Cambridge

Dear Sir,

this day I finished the distribution of my plants, collected during the last two years. the box will contain four parcels for you, No. I. II. III IV Also one for De Candolle, one for Maximowicz. the one for Dr. Hooker I shall send directly. As parcels 3. 4. 5. contain plants I did not know, I thought it better not to distribute them among these three Gentlemen named, but leave it to you to send them a part might be referred to Col. Olney, whom I have quite neglected as many others. For this I am quite sorry, but it cannot be avoided now.

I started my boy in the gardening business, especially the raising of flowers and subtropical trees likely to stand our climate. Any seeds that you may have to spare will be thankfully received. Desiderata are seeds especially of such plants producing white flowers, or such of fine foliage &c

Your most respectfully
Henry N. Bolander

John F. Rodgers, Congressman
Lake & Manning & Co. Lumbermen
Mining supply dealers, wholesale
Stockton & Sacramento Sts.

or such you think will interest them. Mons. Maximowicz desires to pay for them, but I wish them considered a present.

By mail I send you with this letter a small parcel, containing plants collected by J. G. Lemmon, a teacher, in Sierra Valley. His specimens are poor; but still they may interest you. In future he may do better; he is quite an enthusiast, and a good mountaineer; he may be able to find many new plants yet in those mountain recesses.

He stays a good part of his time with Dr. Webber the owner of Webber Lake. The old Gentleman has no children; he adopted five, and had them educated, some in Europe, and now he is forsaken by all of them, and leads a retired life.

In connection with this noble character, I would most humbly ask you to dedicate a species to each of these Gentlemen, if there are any new ones.

The specimens in the small parcel, sent by mail, are numbered which please to attach to the names.

Knowing that you are at work on our flora, I thought a new supply of specimens might be desirable. On a few grapes I shall report myself.

The two parcels of Carices

STATE OF CALIFORNIA.

DEPARTMENT OF PUBLIC INSTRUCTION.

San Francisco, Apr. 1st 1873

Prof. A. Gray Cambridge

Dear Sir,

I am just preparing to leave for San Diego and shall stay from four to six weeks. I hope to see and collect good things. Shall report at my return.

In the box coming you will find plants for Mr. of St. Petersburgh, Algae for Eaton, Carices for Col. Olney &c

Please send Prof. Macoun whatever you think will please him of my plants. All such matters you settle to your liking for you know best. Could the Professor be persuaded to send us some sporules of ferns, or some seeds of some good foliage plants?

Webber Lake is about 20 miles north of the Summit, where you crossed the Sierras and I

think equally as high up as the summit. Sierra Valley is 25 miles north of Truckee on the eastern side of the Sierras. Imagine Lake Tahoe dry land and you have the most perfect picture of that valley. I think it covers also the same number of square miles. Its altitude is 6000 above the ocean.

The sad news of Dr. Torrey's death has reached us. Permit me to remain silent. I have not words at command to express my sorrow

Wishing you good health, I am
Dear Sir
Yours
most respectfully
Henry N. Bolander

P.S. Could you suggest a name of some person in the South of whom I could procure Magnolia seeds?

STATE OF CALIFORNIA.

DEPARTMENT OF PUBLIC INSTRUCTION.

San Francisco, May 31 1873

Prof. Dr. A. Gray

Dear Sir,

I hope the two boxes, one for you and one for Dr. Hooker at Kew Gardens, have reached their destination. The plants for St. Petersbourgh be better placed into the hands of Prof Maximowicz. He may dispose of them as he sees fit. I am quite anxious to do all in my power for him, also for Dr. Hooker and De Candolle.

I have safely returned from my Southern trip. The plants collected, during that trip and such as I may yet collect this fall will be forwarded for distribution among your friends. I intend to visit the so called Yolo Bolo, a snow-covered

mountain of the Coast Ranges near Red Bluff – a mountain not yet visited by any naturalist. The Red Mountain on the boundary line of Mendocino and Humboldt Co. yielded many a new species and there I expect to find many more, being farther north and snow covered till late in August.

When you dispatch the plants to St. Petersbough you might add a set of those still in the hands of Prof. Brewer, and charge it to me.

Hoping to hear soon from you, I am, dear Sir

Yours
most respectfully
Henry N. Bolander.

STATE OF CALIFORNIA.
Department of Public Instruction,

Sacramento, June 11th 1873

Prof. D. A. Gray Cambridge

Dear Sir,

Your favor has been duly received. I took the boxes myself to the Steamer, and our mutual friend Sam. Hubbard took charge of them. They are undoubtedly safe, though slow.

By fall I shall send you some more. You may distribute them to your liking. At San Diego I found in large number the genus Bloomeria extending as far north as Santa Barbara.

I took up some of the bulbs.

Could you mention any time, when our Manual could be ready? There is really quite a demand for it. Its appearance would stimulate very much the friends of botany and the geological survey, and do a great deal towards arriving at a better knowledge of our flora.

Anemopsis Californica is very common along the coast of the Southern counties of California. I think it would do well under proper cultivation, for its heads are large and quite showy.

The Pinus Lambertiana, ponderosa, Coulteri, Libocedrus decurrens and Abies Douglasii occur largely on the Cuyamaca mountains in San Diego Co. There were yet a number of snow patches on it, when I ascended it in April.

P. Coulteri is largely used there for building purposes; its lumber, however, is of the poorest quality.

The mountains is the most southern limit of the sugar pine on this coast.

Yours
most respectfully
Henry N. Bolander

Cuyamaca is 60 miles east of San Diego

STATE OF CALIFORNIA.

DEPARTMENT OF PUBLIC INSTRUCTION.

San Francisco, Aug 1st 1873

Prof. Dr. A. Gray Cambridge

Dear Sir,

Your kind letter has been duly received. To Hooker I sent only (in the box spoken of) coniferous specimens, fearing there might be something new among the others.

Please send those African plants through the Smithsonian. In return send a set of Kellogg's plants as agreed upon before.

Dr. Kellogg is in the Sierras collecting. Neither I, nor Mr. Bloomer could find anything of his described plants. I can assure you that we both protested against publishing anything botanical. I knew that synonyms were added, but our talk was of no avail. The late Sir W. Hooker wrote to me once: "What are you doing in California, you

are describing plants which I described 40 years ago."
A letter from you to Prof. Whitney and Prof. Davidson will stop it.

The rays of Pentachaeta aurea are sulphur color.

Shall soon send the plants collected in the southern part of this state.

Yours
most respectfully
Henry N. Bolander

STATE OF CALIFORNIA.

DEPARTMENT OF PUBLIC INSTRUCTION,

San Francisco, Oct 22 1873

Prof. Dr. Asa Gray, Cambridge.

Dear Sir,

Your favor was received last night. My sincere thanks for the communication.

Brewerina suffrutescens this new plant occurs in great abundance near Cisco, on small barren plains, closely joining the South fork of Yuba river. It also occurs most abundantly between Truckee and Donner Lake on similar barren plains. these small level plains are made up of disintegrated granite which forms a loose gravelly soil. the plant's growth is singular: it forms many semicircular or sometimes circular tufts, having one or two feet in diameter. the center is usually free of all vegetation. the cauline leaves form dense tufts and the stalks

rise in great numbers among them.
The flowers are greenish white and in great profusion. It has in every respect the habit of a fine border plant.
The lower part of the stem is woody, bearing tufts of leaves a little above ground.
The difference of altitude between the two places cannot be very great.

Sent yesterday by mail Vol III of the Proceedings of Cal. Academy, for Mr. Watson.

Yours
most respectfully
Henry N. Bolander.

What's the name of the oak, collected near Los Angeles?

San Francisco. Apr. 11. 74.

My dear Sir,

I sincerely hope you will excuse this long delay caused by official business before our legislature. Since I wrote last I have received Part I of Vol 2 from a bookseller in London. Thanks for good kind offer.

The plants from Prof. Mac Owan arrived safely. They are very beautiful and acceptable. Thanks.

Don't know what to say about Dr. Kellogg. A letter to the President would have the desired effect.

I found the flowers of Rafinesquia open during the whole day

I am now preparing to go north. I need it very much after having been four months fighting before our legislature I feel exhausted and almost tired of my very existence.

Politics, if forced into it, as I was, are sufficient to tire out and crush out all noble impulses in man. I understand life now much better, than ever — I see why so many of our younger men become utterly unfit for any earnest work.

Hoping to hear very soon from you, I am, dear Sir

Your
Most respectfully
[illegible]

San Francisco 12/10/74

Prof. Dr. Asa Gray

My dear Sir,

Your favor of Oct 2d came to hand to day. Many thanks for so long a letter which is rather unusual on account of its length. It is highly appreciated.

It is true Bolanderi should not be run into the ground, for he is quite satisfied yet to be above it. But since this is a tall and conspicuous shrub, overlooked by many a traveller, I beg for the first time in my life to have it named Bolanderi. Strange! I hope dear Doctor it may not strike you so. Going to a new country on the top of a

stage for two days and two nights without venturing of closing even one eye, for fear I might miss one plant, deserves a little allowance. And just in commemoration of this youthful endurance I ask the grace on your part, to permit me, for once, to give this shrub my name.

If you do so I shall send you next year either seeds or roots.

Yours
most respectfully
V Bolander

San Francisco Dec. 23. 76.

Prof. Dr. Asa Gray, Cambridge

My dear Sir,

First of all: Merry Christmas and Happy New Year! May it be my good fortune to congratulate you for many many years to come.

I am in possession of Volume first of the Bot. of Calif. I could not wait any longer, so I bought it.

Part first of Vol. first of Hooker & Bentham's Genera & species. Part second might be divided and send by mail.

If you want to get
California Fungi
— here is a fine chance
A. G.

We have no rains; but instead of it weather not to be surpassed any where. Too good entirely!

Should like to have some duplicates of fungi from Prof. Farlow, but I hardly dare to ask him for it directly. I am of the opinion there is much to be done yet here in this line. But in order to be able to make good specimens, it is necessary to see some.

My room, especially built for my herbarium, is now completed; and my plants nicely arranged. I am now ready to enter again the arena and do something in botany by way of collecting.

Hoping to hear soon from you, I am

Yours
most sincerely
V. Bolander

San Francisco Feb 27. 77

Prof. Dr. A. Gray, Cambridge.

Dear Sir,

I hope you will excuse this delay. Saturday before Christmas I was taken sick. For three weeks I did not leave bed; and after I did leave it, I always felt too weak to attend to my affairs. I feel much better now, but there is still an apathy and a general depression which I have been unable, so far, to shake off.

The book has been duly received and in two or three days I shall send you a money order. Many thanks.

We have had but little rain thus far. Yet a good harvest is expected in the Coast counties.

With due regards

Yours
most respectfully
Henry N. Bolander

San Antonio 25/1, 82.

Prof. Dr. Asa Gray, Cambridge.

Dear Sir,

I wrote to you from New York in Sept. At the time, I could not tell where I would stop.

Since I wrote you last (in 1878), I have travelled considerably in Central and South America, Peru & Chile. From Chile I went to Europe by way of the Strait of Magellan, Montevideo, Cape Verde Islands and landed on the 28th April in Le Havre. In September I returned to the U.S. and after settling some business in Cincinnati, I started

for Monterey Mex.

During Winter and Spring I shall stay here in San Antonio to cure myself of a severe cold which I contracted during my travels.

As I have, for the present, no connexions with any Bookseller, I desire to ask you to order for me if it should have been published, that part of Hooker & Bentham's Genera Plantarum which treats of the Plumaceous plants.

I desire also a copy of Huxly's Physiography = Introduction to the study of Nature (I could not find it in any bookstore here.)

What is the price of the 3d volume of your North American Flora which appeared since I left for the Southern countries?

I hope you will, under these circumstances, pardon this request.

Any information on what has been done in Botany, would be most thankfully received.

Please remember me to all my friends.

Wishing you good health and cheerfulness, I am, dear Sir

Yours
most respectfully
Henry N. Bolander

San Antonio Tex.

BISHOP SCOTT GRAMMAR SCHOOL,
J. W. HILL, M. D.,
HEAD MASTER.

A BOARDING AND DAY SCHOOL FOR BOYS.

DRAWER 17.

Portland, Oregon, June 30 1886

Sereno Watson Esq. Cambridge

Dear Sir,

I desire to acknowledge the receipt of your Contributions to Botany XIII

I was especially interested in the Notes upon Plants collected at Yzabal. That section of Guatemala I never visited, but I know its flora is entirely different from that of western Guatemala, where rains fall for six months only, from May to October. During the other months of the year all is dry

as in California during summer.
In the eastern part of Guatemala resided several Botanists who made large collections: von Dürkheim (Baden) and the Sarg brothers, now however at the capital; also Dr. Bernoulli, a Swiss, made large collections, he employed for a time a young friend of Friedrich, Carus by name. Carus went home to Goettingen and Dr. Bernoulli left also with his herbarium, or rather collection. I should have said, but was overtaken by death in San Francisco. I do not know, what became of his collection.

Will you have the kindness to inform me, what the botanical name of the Shamrock is?

H. W. Belanski

A BOARDING & DAY SCHOOL FOR BOYS
FOUNDED, 1870.

BISHOP SCOTT ACADEMY

J.W. HILL, M.D. PRINCIPAL.

Portland, Oregon. Jan. 19 1893

To the successor of Serens Watson.

Dear Sir,

A young Gentleman who is engaged in collecting on this coast desires to have Serens Watson's Revision of the North American Liliaceae, issued Aug 2d 1879; also his revision of the American species of the genus Erythronium, issued July 31. 1891.

If it is possible to supply him with the above, send them to me if you please.

Yours
most respectfully
Henry N. Bolander

201. Cor. 22d & K. St.

A BOARDING & DAY SCHOOL FOR BOYS
FOUNDED, 1870

BISHOP SCOTT ACADEMY

J.W. HILL, M.D PRINCIPAL.

Portland, Oregon. March 18 1893

Benj. L. Robinson Esq. Curator

Dear Sir,

Yours of Jan. 27 has been duly received, but Watson's Monograph of the Liliaceae has not yet made its appearance. I include in this letter 46 c. the price asked.

I am sorry to say that I live now in the most disinteresting region I ever lived in, botanically speaking. The Mts, save Mt. Hood, I have not seen, or better visited as yet. Our local Botanists who have been through the State, hold different opinions — and I have no reason to dispute their word. In California all is interesting, every region is peculiar and rich in its way.

A BOARDING & DAY SCHOOL FOR BOYS
FOUNDED, 1870.

BISHOP SCOTT ACADEMY

J.W HILL, M.D PRINCIPAL.

2.

Portland, Oregon 189

Besides, when one has reached the age of 62 he is no more inclined to roam much about.

Mr. Howell is working hard on his manual of the plants of Oregon.

With due regards
Yours
most respectfully
Henry N. Bolander

201 Corner 22 & K. St.

BISHOP SCOTT ACADEMY.
J. W. HILL, M. D., PRINCIPAL.
A BOARDING AND DAY SCHOOL.
FOUNDED 1870.

PRIMARY,
PREPARATORY,
ACADEMIC DEPARTMENTS.

PORTLAND, OREGON, Oct. 29 1894

Benj. L. Robinson. Curator, Cambridge.

Dear Sir,

I sent you, a few days ago, four bulbs of Camassia. I do not know which: Leichtlinii or Hoveli. When in full bloom you will be delighted and find out easily which it is.

In my last, I forgot to mention that I possess the four Volumes of Boot's Carices which I desire to sell at 80 Doll. they are now quoted in England at 200 Doll. the Volumes are as well as new.

Should you hear of anybody, desiring to buy, please let me hear of it.

Yours
most truly
Henry N. Bolander

201. 22d & K.