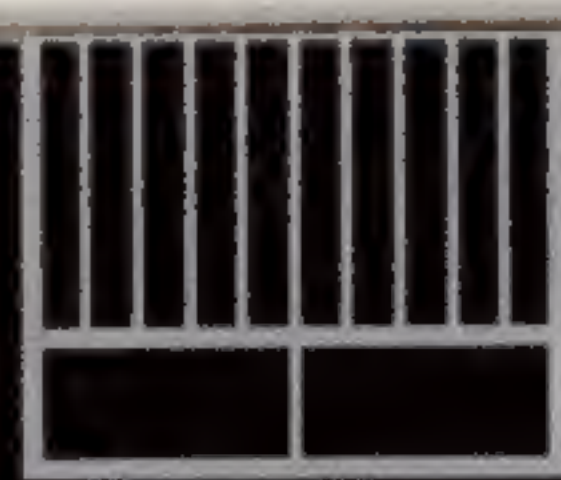


Rec Jan 9 Assam

Athens Ill. Jan. 6 1873

Dear Engelmann - Happy new year
Since my return in July I have
been very busy getting things
straightened up after my 2 seasons
absence & since the winter weather
has driven me partly indoors. have
been at work on the Desan Plants
I have them distributed now up to
530 numbers (there will be over
600 of them). Dr. Gray has undertaken
to name them & print a list at
my expense. I expect to have
them ready in about a fortnight
and I write to ask you if you will
want a set of them: if not I
will send you the Euphorbias
in grapes *Juncus*. *Cuscuta* &c as I
suppose you will be called on to
name these by Dr. Gray & the lot of
Juncus *diffusus*. The *Isaetes*
is not exactly *melanopoda*
the maturest specimens showing no



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black bases.

I have studied your article
on grapes and think I understand
them now as you do. Our Remanor
grape having turned out to
be the winter one the difficulty
is with me mostly cleared up,
yet in studying the Lesan Specimen
ers I have I am of impression
there are hybrids in the family
and that the hybrid blood is
best traced in the character of
the pubescences taking the
Cobweb as one extreme and
the simple erect hair as the other.
Probably no 2 individuals exhibit
exactly the same characters in these
respects yet there is a limit in
these characters over which no
species can pass. There is no
doubt but that the Lesan
post oak grape possesses
some constitutional charac



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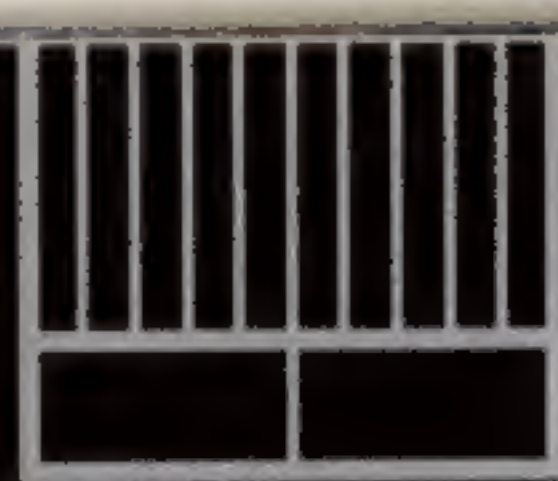


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ters quite peculiar and that
would seem should exclude
it from all forms of *cestivalis*
but the herbarium of course will
show nothing of this. I have
from a South west Mission
root a form of *cestivalis*? with
perfectly smooth & glaucus
branches (or vines) as smooth
as the vine of *Riparia*. but
covered with a glaucous bloom
I will send you specimens of it
also

Respectfully yours

E. Hall



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Rice Jan 21

Am. Lib. 5

Athens Ill. Jan 27 1873

Der Engelmann — your duty
recd. The plants are now ready
& I send you a little package
by Express to day — You will please
name them & send if you will
the names to Dr Gray as I suppose
he will want you to name
them. General or usually does
I will tell him the genera I
have sent you — I mean the
names of those that have numbered
tickets that are in the sets

You ask what are plans for
next year — to stay at home
(I raise taters) I can make more
with less labor & no deprivations.
Plant Collecting don't pay — not in
greenbacks — and I have to drop it
awhile and probably altogether
There are some numbered specimens of
Paper you will please determine



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them & send name to me
& if any thing new turns
up in any of the Genera I should
be glad to hear

In the matter of the Oregon Collection
that it seems Dr Gray sent you
& you returned to him that he
has now sent me, were two
forms of *Quercus* that you
did not name, or at least
I can find none. Can you
tell me now about these?

I did not know till I saw there
that you were the authority for
oaks or I should have sent you
my whole Texas Collection - though
all were in leaf only or in leaf
and young fruit yet were
very interesting, showing several
hybrids. Several of the species
very new to me 2, *Durandi* 2,
Emerea. 2 *peris* var *peris*
This small Collection to you
gratis. Ever your 2 Hall

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Rec'd Feb 27
an — 28

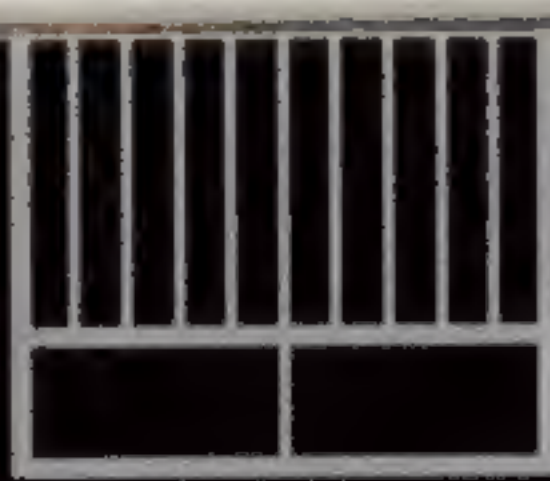
Celtis reticulata

Athens Ill. Feb 20th 1873

Dear Engelmann

Your two letters on Red — I
done my level best, on Pines

I was told by an old German
long living there that there were
2 species but when he went to point
them out to me he failed to
satisfy him self that he had done it
I judged that he formed his opinion
from the nature of the wood. being
an old Sawyer — but he said the
book was different — very few cones
appeared last year — it seemed to be
the wrong year for them — bearing as
probably most Conifers do in alternate
years — the cones I got were not
grown — but the old cones were
abundant & were round oblong or
long linear raying even on the same
tree & the leaves were also of variable
lengths. if there is a real specific
difference in the Houston Pines I have



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totally overlooked it. - no
I right here went for my Specimens
& so behold I am mistaken
the preceding Specimens are a form
of *Taeda* Sure enough & the
other probably mitis - if not inops
well So much for oversight - P
Taeda is well marked by a ridge or
keel on the inner face of the leaves
which the other has not. I think
both Species must run together
with their cones as I saw no marked
difference here. - the Soil of the Pine
forests of Houston is a close waxy
peculiarly constituted Clay or Clay
loam almost entirely unfitted for
agricultural purposes on account
of its tendency to run together & to bake
hard when by very little effort
is made at Houston to cultivate
the soil. a few gardens only by the
aid of manure -
I have a copy that I could spare



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of the Oregon plants but I wish
you would ask Dr. for one
if he has them yet if not I
will send you mine - Some
time I must send you oaks
but too busy now

Now for grapes -

On *V. cordifolia* I think you are mistaken
it is allied by the vine & some other characters
to *V. vulpina* for which I at first took it
as to others you are or may be correct

Buckley to the contrary notwithstanding
I can't send you Concord slips

This year - vine killed to the ground
& so of all grapes here that I cultivate
except possibly the Concord may
in part have escaped - Did
you find anything new? what
did you make of the Grapes?
Truf yours

E. Hall



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[Faint handwritten signature or name]



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No. March 14
An 15

Athens Ill. March 11th 1873

Dear Engelmann

Your 28 July Recd

I enclose specimen (divide mine
with you) of *Ceteris reticulata*
I could get but little for. And
only found one stem 5 or 6 feet

high - There are 2 *Ceteris* or forms
in the Desor Collection. growing
together often but quite unlike

but when all the characters for
species are to be found I am unable
to say. I have a specimen of

Mississippiensis. Still unlike any that

I have seen growing - but the
distinguishing characteristics are

not manifest - I am glad to

be set right on pine leaves - I can't

verify for my self in P mites mine
having only 2 leaves - Jrg has

sent me your report - you did

not report on all - why not

I thought the entire *Euphorbia* was



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Your Speciality There are! three

Species of Phyllanthus that I fear
Gray will overlook & confound
The *Tragias* are most perplexing
you now make *Juncus* 47 48-48

Zygoides & not *acuminatus* well
I must alter before I forget
I suppose none of the Oregon
Oaks were distributed though
I have not had returned all
the Specimens collected - Some
time will divide Specimens
with you - most of the
Orchidaceae were hard to get
in Oregon being too scarce
The *Cypripedium* 4 or 5 of *Corallaria*
striata &c the same about
I cannot help you out in
there.

Ever yours

E. Hall



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11/1/73

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Rec^d July 29th
Am 30

Hall, E

Atchison Mo. July 27th 1873.

Dear Engelmann

Thanks for your paper on
Juncos I have just found
time to examine it carefully
& find that my material and
knowledge of the genus is so
small that — I have nothing to say
the two species I brought from Texas
& distributed of *serripicula* & *z*
beccata according to Gray which
latter in part at least must be
z. argentifolia (you had living
specimens of both). The north four
or plain form of *z. argentifolia*
leaves of *z. albaefolia* & *z. filamentosa*
are the total of my stock. But your
paper will be exceedingly useful to
me in the future if I have the good
fortune to know more of the genus
am I to keep it?



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Dr Gray wrote me that he had
sent you a list of the Desos. collection
you will notice there are several
omissions in the genus Paspalum
1) Panicum. Do you study there?
I have you the material at hand to
determine them for me? - it seems
to me they are easily enough
made out from authentic specimens
I believe I would send you all of
them if you can do anything with
them. These genera are large & interesting
in Desos & I have become specially interested
in them and should like to have other
Southern species to compare as Paspalum
vaginatum P. praecox P. floridanum
P. racemulosum, P. Bloodgetii &
Panicum gymnocarpum, P. fasciculatum
P. angustifolium, P. divaricatum
P. scaberrimum, P. melicarium
P. repens, P. Walteri - P. molle
The interest list of any of these you
have to spare would be gladly received
& will give in exchange anything I have



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My little bushy *Celtis reticulata*?
flowered freely this Spring but set no fruit
shall have to wait another year

I planted seeds of many *Gesneriads*
& most of them do well the perennials
coming to fruit the first year, the 2
specimens of *Nicotiana* or one at least
a showy plant in flower -- I have
now growing 6 species of *Nicotiana*
2 of which I have lost names & habitat
of -- have you a collection of them &
could you name & locate nativity
of this genus?

Respectfully yours

E. Hall



[Faint, illegible handwriting throughout the page]

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Athens Nov 17 1873

Rec^d Nov 19th
26
Garryana Hook
Douglas

No 1. Quercus ^{Garryana Hook} ^{Douglas} Dallas of the
Columbia Oregon of hills

No 2 - ^{Q. Garryana} ^{Douglas} ^{Stalera} Oregon this is the
only Oregon oak in the Willamette
valley - attains to 2 to 3 feet in diameter but
is always scrubby rarely a 12 foot
log can be had for sawing. It seems
to be different from No 1 - but ^{perhaps} ^{is} ^{the} ^{same}
are the same as 515. of the Rocky Collection
of Hall & Harbour. *Q. Douglasii* var. *Nov. Mexicana*
rechristened in Watson report as *Q. alba*
var *Jenningsii* Torr. though much
resembling in leaf. the bark & form of tree
ally these Oregon specimens to *Q. obtusiloba*
Does *Q. alba* really acquire pubescence on
its leaves as it advances westward If so I
fear *Q. Durandii* will be absorbed also
the bark of which allies it that species
the pubescence however is of a hoary glandular
Car character in the latter sp

No 3 *Q. Durandii* Buckley ^{Q. undulata Torr} ^{branch of Durand} through the
kindness of Prof Buckley I am able to
send you the mature fruit this sp. I found it
at Austin & Dallas Texas. Mr Buckley
I think has found it in Louisiana where I
saw it it is a shrubby bush low tree or



bush & bears fruit all sizes the leaves are often entire
 no 4. Q. from Dallas Texas - a sort of Q
 ? Castanea with a rather straggling long pubescence unusual in the Spec Es for as known

no 5 Q. ^{Prinos or acuminata} ^{var monticola} Castanea forms found here

no 6 Q. ^{Q. pinnatifida} In Kansas varying in size from a foot to 30 feet & fruiting at all times. ^{Large ones = Castanea} large & small acorns variable leaves with a dense tomentum beneath I Prinos var humilis? Mark

See the autumnal flowering specimen

Do not find this in Ill

no 7 Q. ^{Bicolor} bicolor a small tree. rare here

no 8 Q. obtusiloba! to ^{stellata} compare with the Oregon Solem specimen, not the same. See buds

no 9 is that hybrid Q. alba - macrocarpa - ha. I sent you before. Q. divariformis

no 10 Quercus cinerea ^{yes} a distinct sp but variable in foliage in Texas. leaves often entire. I have no mature fr

no 11 hybrid of Q. phellos & cinerea? ^{By St. Hubert? but pubescent!}

no 12 hybrid agrostica & cinerea ^{annual!!!} ^{Large? small = 2}

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? No 13 hybrid aquatica & Privaly palustris
when? or some large leafed. It may be rubra

When No 14 2 heterophylla = 2 falcato-phello

No 15 2 hybrid 2 aquatica Phellos

When you have studied these oaks you
2 for Phellos 1 with bark
7 will please give me your best deter-

minations - I have indicated my ideas
of them in part. There are a few other
interesting crosses in the collection - but
I have no duplicates of them. Some
of the hybrids here indicated may be
extreme forms of species. My attention
when in Texas was not sufficiently
called to the oaks being too early for
fruit but the family is an interesting
one there even in leaf - but it is
difficult if not impossible to determine
species from leaf or even fr. of the species
The tree itself shows the strongest
characters

With these oaks I send you a
numbered set of Texas plants not
in the sets being imperfect or insuffi-
cient for that purpose - If you
can help me out with the names

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her
th

an

allos?
at!
!!!
...
1000 = Durand



of them or all of them you can I shall be much obliged. no doubt you have them all in Lindheimer's Collections & others from Texas & will know them at sight even if only in leaf or most of them are. Your determinations of the Grasses are satisfactory & no doubt correct except as to *P. laeve* & *P. Setaceum* which I still think must be somewhat different, having both the Sp. from Texas & elsewhere to compare *Paspalum* (11) digitate is plenty at Houston & Lindheimer must have got it so is so 4 in fields - I have a single plant living of *Juncus* (*tortifolia*) *ruficola* only took one in last winter lost all the balance it has made fair growth this year when it produces an offspring you shall have it. my Texas *J. angustifolia* are all dead. I only have 4 Sp now living. *ruficola*, *angustifolia* (Colorado form) *alocifolia* & *filamentosa*. When ever you can conveniently get seeds or roots of any other Sp I shall be glad to get. I have also lost by freezing last winter that largest form of *Oenothera*. Is yours yet living? The little one is I believe over *O. Hopkinsonii*. You E. Hall



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Rec Dec 3^d
Am - 4

Athen Ill. Dec 1st 1873

Dear Engelmann - your kind reply

Thanks for names. I was surprised
to get so many from such incomplete
material. I believe nearly all are correctly

referred except perhaps the following

34 Baccharis ^{filicifolia} argenteifolia described in
Chapman's flora with leaves entire

35 Condalia obovata Hook is rather

I think C. spatulata - at any rate it

is not the same as Gray called that in the

sets obovata has the leaves hirsute & toothed

if Gray is right. The Gerardia tenuifolia?

or filifolia? is certainly not the former

can not be the latter if Chapman's description

is right

As to the oaks 15 is all from Houston &

may have put in through mistake bit of

Q. agratica but I intended to show you

a form of Phellos with the leaves of imbericaria

which does not grow in Texas I believe

no 14 one tree only at Houston in soil

very ~~rich~~ 30 ft high in company with



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Miss Douglas with the Ganges

Phellos - foliata - aquatica - nigra rubra
& -

No 13 is I think from Austin I don't
recollect further of it

No 12 is from Austin or Hempstead

I have no further recollection of it
it is doubtless related to *L. Durandii* maybe from it
No 11 Phellos: how can that be &

with so dense tomentum. always
glabrous has certainly got the
tomentum from *Cinerea* & form from
Phellos can it be possible

No 3 *L. Durandii* you take to be *L. undulata*

Can you send me a leaf that I see. the

pubescence is so peculiar that it will
almost tell

No 9 *L. olivaeformis* is an exactly inter-
-mediate between *L. alba* & *macrocarpa*

as need be it has the bark of *alba* &
much of the form of leaf & acorns growing
right with young trees of *macrocarpa*
& the same age that are to each other different
it must be a hybrid



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Shall be very glad to get a
joint of that big Opuntia
at any time & the plant or
Juncus angustifolius - var mollis - you
promise. I am trying to get a

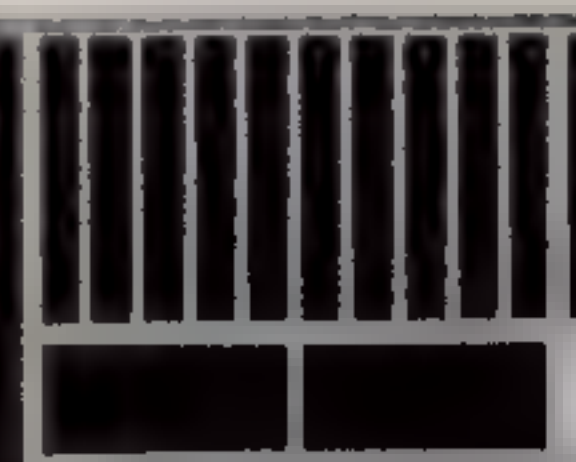
Collection of American Cacti
now & am hungry for living
Species I have a home for
them now

Respectfully yours

E Hall

Do you know the enclosed
Juniper from the alpine
regions of Mt Hood & Mt Rainier
no fr covered be bed a low
bush. not trailing

Cupressus Nutkaensis



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Recd - Febr 23
Am May 20

Athens 20. Feb 20 1874

Dear Engelmann - you off 15 in Dec
I have but one well used Catalogue of
the Oregon plants. If you need it for
naming specimens or other purpose
I will loan it. but I cannot spare
it altogether. Probably you can get
one of some one in St Louis who
take Silliman's Journal of arts & sciences
for Feb. 1872 - May be Dr Gray could
find one for you. The Juniper from
Mt Hood in the Cat. is called J. Communis
J. var alpina Parl. in DC. Prod 16 P480
I saw nothing in Oregon like J. virginiana
unless it was what I sent you before
that you said was no Juniper at all
I send you by mail today the Texas
Isotria melanopoda var pallida and
also the Ill melanopoda to compare
anew with it - but notwithstanding the
apparent difference I suppose they are
the same one of the Texas ones begins to
show black foot



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I also put in the package for
name the leaves of a low shrub at
Houston Texas. An acacia from
Austin a Neutrelia (may be Wrightii
from Austin & a curious form of
Euphorbia Gattaphora? - varied from
Austin seed. no blade was developed
on the dry hills there as I supposed from
sterility but none appearing here in
cultivation leads me to think the form
may be a permanent one

Dr Gray finally refused to correct the
list after I had pointed out all
the errors I could discover & furnished
the names of those Paspalum & Panicum
you made out for me. with some
others omitted - said he had no time
and this I much regretted because I
had promised several of the patrons a
corrected list. the acacia & Neutrelia
I now send you one 2 that he left uncorrected
I want the names so that I can send
them to a few of the patrons I have



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promised - I have heard nothing
before of Dr Parry for a long time
whose exploration is he reporting for
Is the Isaetes he discovered a new one
Is there to be government exploration to
Utah again next year? How does
Parry make ends meet on private
explorations? of such I believe he has
made several lately

as for my self I have nothing
ahead for this season in the
collecting way. Shall probably be
at home all summer

know of no place now where expenses
could be made & moderate wages

Yours Respectfully

W. S. Ball



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Asplenium multiflorum Willd
Callisandra conferta Benth
Cepha. heterophylla
Styrax



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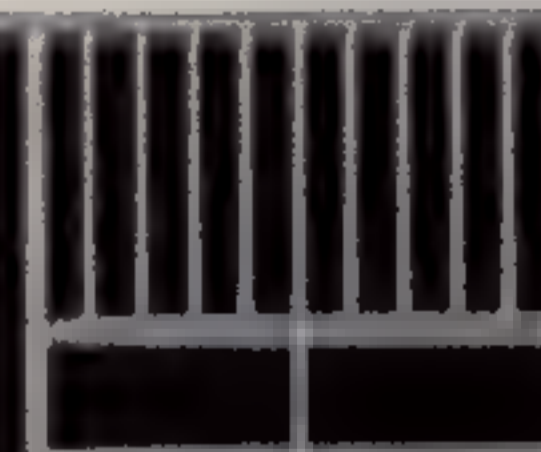


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GARDEN

STODDARD PHARMACY,

N. W. Corner Easton and Garrison Ave's.

POOLE & CO.



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Rec Nov 17
Am - 19

Athens Ill. Nov 14 1874

Dear Engelmann your Recd
has it has been a long time since
I wrote you - but I had nothing
The Quercus alba var. ^{???} f. d. d. d.
young fr. but all blasted & not a
specimen was left for autumn
collected & got dead stamens at fl &
very young fr. some where - but cant
lay hands on it now I can send you
next spring a couple of yearling plts
if they can be made live - I had before
heard from Brandegee that you was
in Colorado & from Meacham that you
had found Abies concolor. & Brandegee
sends me what I take to be a specimen of
it but I scale of the cone but the name
has not yet come - Specimen only
numbered to me. 37 specimens for B370
all but 2 or 3 new to me - he collects



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S. Canby and does not seem to know
all of what is most wanted in a
specimen — I have looked at the Gentiana
for the first time in 10 years & find even
enough that the Oregon 426 is quite
distinct from affinis as I expected
it was when collecting — the 2 bracted
leaves however are not peculiar to it
affinis having them also & other of
the spathaceous Calyx & I can not make
out. but the Calyx with its lobes are
abundantly distinguishing characters
I send you to day by mail more of it
for directing & critical study — I have
but one plant taller than I send you
a foot high & it has an axillary
fl besides the terminal one — the
has a little Pigeon & bud — I also find
Oregon 401 the only flt I have found
but I in wet prairie at Salem Oregon
& must be very rare without Gray named
I September? which is quite different

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from 426 - 426 grows in boggy ground
(Sphagnum swamp) on the Coast at
the Cape Howl weather - affines in
Colorado I only found on dry rocky ground
I also hit in 2 forms of the Colorado
Species called them by Gg or Jm, a crusta
will you give me the name of
them now - type & variety
Mr. J. Repton? should like to have
returned sometime

That Oregon Abies Grandis? is separated
by a wide stretch from valley to high
mountain. in the valley it is one of the 2
giants of the County A Douglasii being
the other and most common. The cones
specimens were all collected on Mt Hood
I only saw for one a single valley specimen
and found that by inquiring of woodsmen
who were felling the trees a small quantity
on the top of a tree 200 feet high
but the tree had been felled several
weeks & the cones were falling to pieces



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I saw several more of them, I obtained
by falling a tree 6 inches in diameter
at the base of Mt Hood, all from the top
of the tree & just in color & form as I
saw them in the valley - but all the trees were
much smaller on the Mt. and of a rigid
denser growth. but I could see no
specific difference. and by the way is it
not the same as *A. balsamea* of the
east? Look much the same to me
The wide gap between the valley & Mt trees
is probably to be explained as to the
situation in regard to moisture, a
high elevated region is consueted to it
but the vicinity of the alpine prairie
with constant moisture is favorable
to its existence whilst the short season
causes it to keep small & grow denser.
My observations were not however
sufficiently critical to worth much &
there may be 2 sp. I have ~~some~~ *Prunus* =
C. sp. of the *Prunus* (under it) - Still different
from *P. Invernessii* of Deser - I have faith in the
latter being a good species Joubert & Hall



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Rec Oct 12

Athens Ill Oct 10 1875

Dear Engelmann - Your Acid - I refer
to my Abies & find the Specimens as you
do exactly. And on comparing the fruiting Mt
Hood Specimen with the Colorado Abies grandis
find both the same - the sterile or leaf branches
with short stiff leaves are also from Mt. Hood &
I had no thought of their being difference. it
came in this way - I only found one small tree
at the edge of a little alpine opening or prairie with
fruit on the top. this I cut down & obtained
all the fruiting specimens from it. - we had
cut other small trees that I took to be the same
to get branches for our tent and of these
I made the sterile or leaf specimens. when it
was raining so hard out side that I had to stay
in - but the longer - larger thinner flatter
laser leaved branches are from young trees
or the lower branches of the big trees of Salem
200 feet & over high. Have you got cones
of this willamette big tree? I regret now that



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I omitted to get those that were falling to
pieces from one of the trees cut near Salem
the only cones of these large trees I saw &
they were pointed out to me by the men
who cut them I think the fruiting of this
species must be quite rare. At least for the
year I was there. On inquiry of the men
(who were cutting down the timber largely) for
cones they took me some distance to this tree
that they had fallen several weeks before
the cones appeared to me just the same
as *A. grandis* of Colorado & Mt Hood
colored just the same. but they are no doubt
different. Now since this big tree is
A. grandis - what do you call the
Mt Hood & Colorado's tree?

If you have not got the cones of the
Salem tree I think I can get them for
you through a man there who takes some
interest in such things if they are to
be had conveniently. but he is very
slow.



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Nothing new has transpired in botany
with me this year been at home all
the season had at work have
grown a few things from western seed
If you succeed in raising specimens from
the Georgia Groves I should be glad to see one
& the other when you have them to spare
Quercus tortifolia grows well but has made
no effort yet. I sent you last week
a cone of *Quercus alba-macrocarpa* for
planting.

Yours truly

E. Hall



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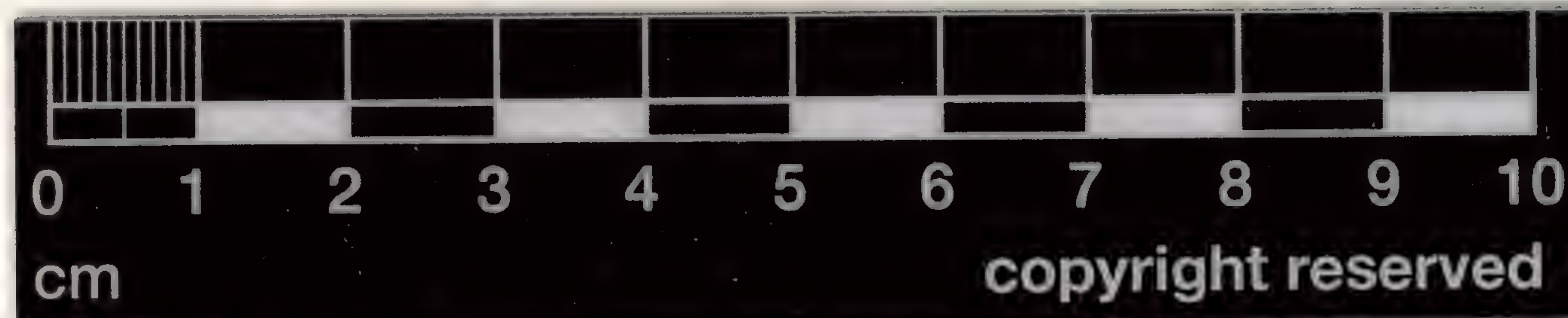
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Rec July 13th
Am 7am ch

Athens Ill. July 7th 1879

Dear Engelmann your letter recd
I did not know that Mr Crippin of Belgium
had made a new species of *Gray* *Kantsch-*
atica... I have corrected in herb accordingly
I find my specimen of a single fruit & leaves
and some bits of the densely spiny prickly young
shoots. the material was poor the species only
found when far advanced in fruit & the foliage
disfigured by insects I am unable to say
if there was sufficient to reach through
all the 15 sets made it is quite possible
it fell short & your set may have been one
of the omitted and my own is too
poor & insufficient to divide with any
profit to you. My herb shows
various forms of what are variously referred
to *R. blanda* & *lucida* & I am unable to say
how correctly. They seem deficient to manage
if there be 2 or more species of them the



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in the books need to be altered to
limit them. Roses are best studied
in the field

I found *R. foliolosa* at Dallas in the
rich black Prairies there not rare
I also saw it plentifully at McAlister
Indian Territory. Some slips brought
home & planted have spread rather
widely & bloom freely every year with
pale flesh colored flowers.

Shall be glad to see that giant form of
Eroetes melanopoda from the Indian Ter
And if possible also the new species I Arkansean
I will see as soon as time allows how it is
with our *melanopoda* as to diversities
at present my impression is that it is polygamous
but have not made special investigations
in that direction.

As to *Quercus albamacrocarpa* in the leaf
I think I have satisfied my self that the
pubescence of *macrocarpa* is unevenly
distributed which agrees with the law
of by bricks as I understand it (i.e) that



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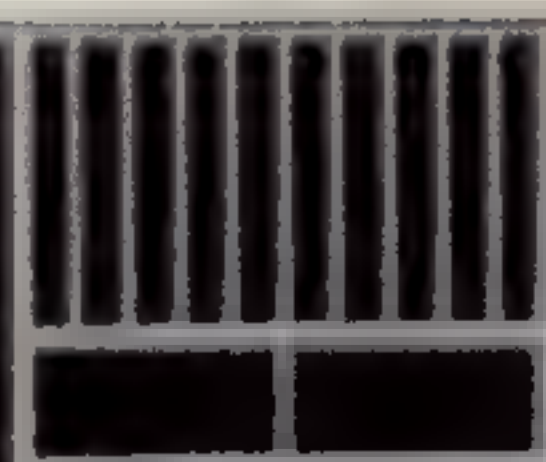


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the Character of the parents may be and often are disproportionately developed in different parts of the offspring. the bark for example may be not what would be considered intermediate but largely resembling one of the parents whilst the fruit or leaf may quite as much resemble the other and the Pubescence may be on the leaf in patches thick or thin or nearly absent on the same leaf - whilst in true species we would find it uniformly distributed.

The Kansas *Q. prinoides*? are evidently the above ground growths from old roots as I stated in my former letter. So are my impression, but an actual examination was not made.

I can not send you *Q. albiflora* here this year not a fruiting specimen to be had as the crop is total failure. Our white oak woods have suffered severe damage this year from boring



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these leaves by a green worm 4 weeks
ago a small yellow moth developed
from the defecator that swarmed the
woods in millions for a few days
though latent buds subsequently
developed. leaves the forests are yet
presenting a shabby appearance
and if a second brood appears from
the eggs that must have been laid
by the moths the noblest of our
forests will be utterly destroyed

Yours truly

E. Hall

I send you by to days mail
notes on arborescent & cryptoterenat
flora of Arizona in about Poa
Durandi figures from botanical
magazine if you do not take it
can



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Rec^d July 31st
Am Aug 2

Athens Ill July 29th 1872

Dear Engelman - your last was duly
received I have delayed reply to some oppor-
tunity examine those Proetes but so far
all the localities of the plant I have so far
visited are none - not a plant to be
found. This begins to show that the
plants are developed only in peculiarly
favorable seasons. This one being
very wet would have seemed favorable
but not a plant is to be found when
they were often seen by me before in
plenty - I have not yet examined the
soil for the bulbs but this I shall
have opportunity to do so before winter
I sacrificed a bout a dozen dried
specimens and found them all
completely dioecious no admixture
of male & female organs in the same plants
but if I am not at fault in recollection



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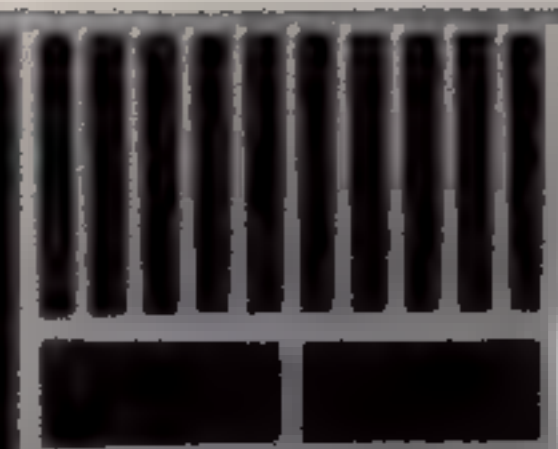
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I have in times past seen the
plant's mucron with the male
organ interior, but my recollections
may be from the examination of some
other species

Rosa foliosa behaves very much here
as does the *R. blanda*. It blooms all
summer and the later bloom are from
the suckers. but it is hard here &
survives the winter to the tips of its branches
but not growing above 8 to 12' high

I will send you roots in fall or Spring
My first impression of *Quercus lyrata*
seen at Dallas in Texas was that it was
a geographical variety of *Q. macrocarpa* & did
not suspect it being more till Gray
called it ^{in his} ~~his~~ determinations of the collection
Q. lyrata the matured fruit is
unknown to me

I have just seen interested in
watching the blooming of the last specimen
of *Agave virginica* brought from the
Indian Territory in 1872 other specimens



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having flowered in previous years
and died as is the habit of the genus
its method of preventing self
fertilization is interesting developing
the stamens in advance of the stigmas
& shedding the pollen on the stigmas
of flowers that have cast the stamens
below. the interesting point comes in
however strongest from the fact
that the lower flowers produce
abortive stamens only. having no
matured stigmas to fertilize. it would
seem to save a waste of material
this plan was laid I am now
anxiously waiting to see in what
shape the last stigmas will appear
as there will be no pollen but their
own to fertilize them.

all of which however I suppose
has been long known to you

Respectfully

Yours

Edwin Dall



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Rec Aug 28
Ans 31

Athens 22 Aug 20 1862

Dear Engelmann — your of Aug 2nd
was duly recd & have watched my
Agave Virginica through & found
there were others (high up in the spike)
infertile anthers. These anthers seem so
perfect in every way except in the production
of pollen that I am disposed to regard
them of some special use in the economy
of the plant — as yet unknown.

My plant has however failed to
afford a completely fertile ovule & no
Capsule have formed.

All the plants I have had in flower
here have invariably perished. root
& all — whether this is the habit of
the plant at home or not — will see
how this remaining one behaves in that
way — it will probably be found that
most plants many years in coming



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to maturity lie at the date of
sowing - *Rosa Carolinaensis* of
the 2 roots brought from Madras
Co in 1869 one blossomed & perished
in 1875 & the other is yet living
having made no effort to flower
this makes the species somewhat different
from the character given it by Gray
as a biennial & triennial the plant
now here cannot be less than 10 or 12
years from the seed & probably much
more

Rosa filiosa produces flowers at the ends
of shoots either from the old wood
or from the collar shoots I notice fls
to do from shoots from the old wood
it fruits plentifully - I suppose only
the strongest buds produce fls & the
leaves over leaves only as would be
expected the flowers are produced
chiefly at the ends of the present year
branches and at intervals all the season
being quite a perpetual in its moderate way



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I find no secret liquid in the tubes
of my Spores. I do not know the
plant as native of this State - should
be glad to try grow an annual flowering
specimen to see how they behave here -
did you ever examine the Staminal
tubes of *Asclepias Sullivanti* - I believe
it is common with you - too late
now - but another year see if you
can find out why it is necessary for
so many honey bees to sacrifice
their feet and to even perish themselves
in its traps - I do not as yet
recognize a useless waste in nature
I regard the great author as strictly
economical - that there is sacrifice for
the good of the whole I admit & this
is all - Seeds of the millions that may
be in the earth often seem to germinate
in the proportion that opportunity to
live & food supplies are available -
the numerous apparent exceptions to
this general law does not invalidate it



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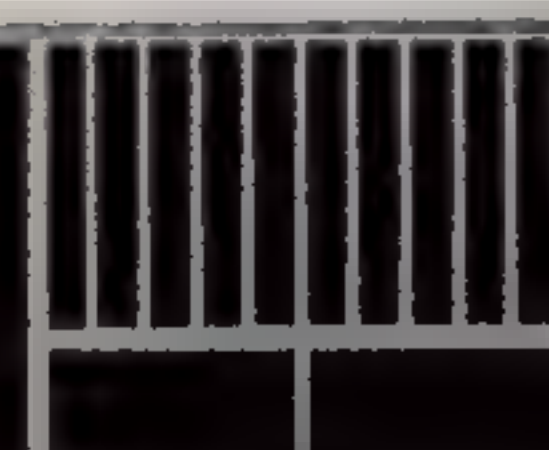
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as there will be found to depend chiefly
not altogether up on abnormal
conditions. And as to the pollen
wattle in Indian Corn. This may be
long to these conditions as it is
cultivated plant - but in nature
where self fertilisation is not provided
against the matured stigmas appear
first - and we know this to be
true in the animal world
we should expect it in the lower
order of life.

Yours truly
G. S. Hall

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Rec Sept 12^h
Am ~~Feb 8~~ 13 Sept

Athens Ill Sept 1 1877

Dear Engelmann — your kind note
last week — I will in a day or two
send the Specimens of *Q. alba-macrosea*
to send you — There is just a little
misunderstanding about the economy
of nature — She does not create for
waste — but intends for every grain of
Corn to grow & reproduce its self — but
of course is not cognizant of conditions
— and is often defeated by them — as
to seminal cells or germs — This may be
a phenomena as yet unknown to us
but if as we know it now — may not the
thousands that fail to the one that fertilizes
be understood as being necessary on
account of the difficulty attending
impregnation — a process certainly very
little understood. That organized
beings are developed to the utmost that



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existing conditions will admit of
is evident - This is nature - to
keep full - if but for an hour
it be possible for life that
hour is not left to waste but
is filled with life as the conditions
permit - but this is not our
the subject - but anything
but wasteful nature the
must be economical & creates
for use only

I shall be always glad to get
your published paper & the
roots of Agaves or other
rare American plants

I return herewith your drawing
of the Texas species - when
I makes offsets shall be
glad of a specimen

Yours truly

Chas. C.

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Rec'd Dec 22
in ~~Feb~~ 28 Dec

Athens Ill Dec 20 1877

Dear Engelmann I thank
you papers just rec'd on Oaks
Juniperus & Argemone Thamm
I have hastily run through the oaks
in part and am glad to see that your
views on hybrids are much nearer the
facts as I understand them than hereto-
fore - you have doubtless however
mistook one of the parents of heterophylla
Phellos & falcata (609) Texas Collection
did not the leaves in form so plainly
point to falcata. The pubescence would
exclude it from rubra. and as neither
tinctoria nor coccinea are found in
the Texas (Houston) locality ^{where} a single
tree only seen 6 inches in diameter &
abundantly fruitful I believe I sent you
specimen with young fruit if not I
can do so yet - a little taken in
connection with these facts there is no



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Doubt as to *palustris* being one
of the parents of *Phelos* doubtless the
other

I also got in Texas at Houston
2 other hybrids that you do not
notice 605 of the collection *Quercus*
phello-palustris & *Quercus* *fulcata-*
rubra (607). I believe I have
sent you all there but all
collected too early to show the fruit
When I have time to study your
papers may have some further
to say. I sent you
Rosa foliolosa in Nov hope
you received it all right

Yours truly

W. Ball

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Recd Jan 22
Am Febr 8

Athens Ill Dec 20 1877

Dear Brother Happy New Year
Your letter recd - I enclose
you all I know - written from notes
taken on the ground on the 5th of Dec
(which I suppose you already have
however). I suppose the fir you saw
at the Centennial the big section was
S. Douglasii Lindl I saw nothing so
large - (see printed notes) It is called
yellow fir just because we call
yellow & white Pine that way the
people do that to distinguish it from *S.*
francisci which has whiter wood &
is valuable for fuel and indeed for
all mechanical purposes. - (see printed
notes for all I know of them). Did you
get a stock of that mountain Butcher
from your description I thought I had
it here in a seedling state of melancholy
and on looking I could not find it



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You seem to be out of luck in
stating again that 9 melanopoda was
found by me in ^{Hem} Dallas Co Tex.

It was in the Peric worvels at Houston
and Hempstead only seen by me
when it grows large with stiff erect
leaves & the cross divisions more conspicuous
& transparent — I do not think
it is very puzzling to correctly
refer to oak when on the ground
where the parents are about — In
heterophylla how could the persistent
pubescence of the leaves come from
Coccinea when it has none & there
can be no mistake as to phellor
being the other — smoother also
Don't try

S. Heald

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Rec March 16

Athens Ill March 12th 1878
Dear Engelmann - your letter
of 7 Feb (set unanswered) & the
paper on *Spies* was duly recd &
now your card enquiring after
Arctostaphylos. I fear you have
made me esaglate the height
of *A. grandis*. If I said 300 ft
& evidently meant the other fir *A.*
Douglasii which is the tallest
as well as the largest tree on the
Williamette the fallen trunk of
one I paced 80 steps upon leaving
the decayed top & counted for to
make the 300 feet I never measured
a trunk of *A. grandis* to my recol-
-lection what you state about
my Oregon *Arctostaphylos* are
as I recollect them. Certainly as to the
fruiting specimens in September
about the middle as to the young



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plant though I do not now recollect
exactly as to time when I told you
in July that must have been the
time - I have no date to fix the time
exactly as I have of the fruiting
Specimens - 457 July - 458 Sept
In clearing up wood land this winter
a remarkable instance of accidental
grafting of *Quercus Prinus* var *acuminata*
was developed. It appears that about 35 or
40 years ago some aseman had boxed
the tree probably for the purpose of testing
its splitting qualities as is the habit of
rail makers &c. a block was cut
from the tree by cutting 2 notches each
with a horizontal & sloping cut
& the block then split out & set
back in the place with the bark in-
side which brings the two horizontal
cuts together and also the sloping cuts
the block had united with the living
tree had clothed itself with bark
on the out side & was nearly entirely



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restored to vitality throughout
I suppose you are incredulous
~~to~~ would any of us be - but
nevertheless. the fact remains
I observed your weather predictions
made in January based on 43 year
observations that this phenomenal
winter has entirely ignored so far
the "Cold March & late Spring"
does not yet come on the con-
-try we have Spring here already
The Hepatica & Claytonia is in
bloom in the woods & Peach trees
are ready to open out in a day
of Sunshine more - will they
escape 6 weeks of probable frosts yet
to come? Can you help out
in this extremity & suggest
any means whereby we
could save some of them
Yours truly
Olin Hall



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Rec May 31

Athens Ill May 29th 1858.

Dear Engelmann

Your letter was duly read
Sorry to hear you were temporarily
afflicted - My ailment is Chronic
and is of some Lung nature either
Bronchitis, bronchial Catarrh, or
possibly tubercular Consumption
my left lung seems to be entirely
affected have daily Cough & expecto-
ration of mucus & purulent
matter Since winter is over
& I take regular out door
exercise I feel I am gaining
flesh & strength but the disease
still holds

I send you for our German
Correspondent no 547 & 548 of the
Oregon Journal - Give him the best
I have - The tickets with them



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plantae oregonensis
are ⁵⁴⁷ *Juncus* *acuminatus* Michx
" *dubius* Engelm
And letter to me ^{from you} *J. xiphoides* var.
Mar

548 *Juncus acuminatus* Michx
" *dubius* Engelm
" A form of it " A. Gray
Juncus xiphoides Engelm in
lit vars

Marion Co

I don't remember if I sent you
my set but from the tickets I did
though I don't see your writing on any
of the labels. Probably you named them
for Dr Gray & I sent you specimens
of the doubtful species afterwards
which would explain your names on
the tickets seemingly put on afterwards
by my self - but I have no remem-
-brance of the transaction & cannot recall
it my memory fails me of late
and I now make record notes of



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every thing necessary to be remembered
in all business matters

My duplicates of Oregon Juncei are
to meager to satisfactorily divide with
our German friend except *J.*
triformis & *falcatus* I believe I could
not divide a species with him

Yours truly

William Hall



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3 April 11
Am - - "

Athens Ill April 10th 1882
Dear Engelman

Thanks for your *Proetes*
publication so much
research & history must have
been no little labor
As to *melanopoda* you remember
what I had forgotten as to its
discovery - dates & all this is
remarkable - And already
I am besieged for specimens
of it & so I fear you have
given me unenviable notoriety
with all if I had time this
would be a pleasure but now
right in the midst of Spring
planting I am too busy to
attend to such things I have
not studied it much yet



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I see the printer sets melanospora
and melanopoda mixed
but this an error easily
seen. This is a wet
Spring with us & I suppose
we are to have Groetes in
great plenty

Yours with thanks

Eliehu Hall



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