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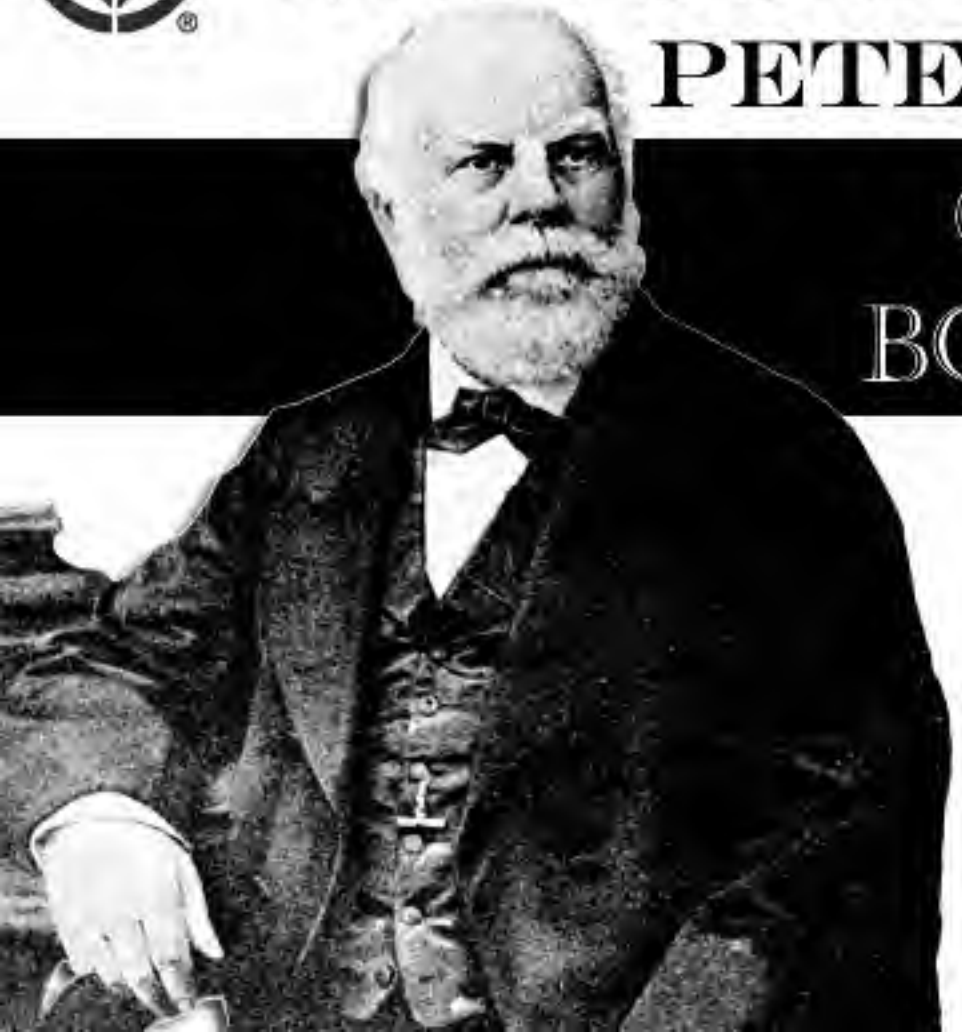
George Engelmann Botanical Notebooks



Pagination Note:
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Measurements of Trees, A-
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to Pacific Coast.
Summer of 1880.

Distances Travelled
by
Dr. Engelmann

14502

June 22. Pikes Peak Col.

observed

Pinus ponderosa

Pinus flexilis

Abies Engelmanni Abies concolor

Quercus undulata.

Ther. at summit 74° F.

June 24 Piñon Pine on road

to Grand Cañon of Arkansas Col

8 ft 2 in diameter 3 ft from

ground.

July 6 Monterey Cal.

circum ft in

Cupressus macrocarpa 15.6

" " 15.7.

wood specimen of same. 9.0.

Pinus insignis 14.5.

July 7th Monterey. Cal.

Pinus insignis

Engelmann. ~~dia~~. 5½ in heart wood.

9 in sap wood.

52 years. ¼ in Bark. 40 years sap wood.

July 18. Seattle W.T.

Drive to Lake Washington.

A. Douglasii. Trees 8-10 ft through at butt, 150-250 ft high.

July 24-25. Silver Mountain Hope B.C.

Pinus albicaulis.

Wood specimen from hut on mountain.

40 ft high

16 in dia.

163 years age.

51. " Rafo.

Near hut. Tsuga Mertensiana reduced to a shrub and in blossom.

Scattered plants of Chamaecyparis reach 5500 ft reduced to a shrub.

Tsuga Pattoniana

4750 wood specimen cut

Height 68 ft.

Age 180.
Sapwood 54 years 3 in wide.
Bark. 1 in.
At 4800 ft. forest principally
of *Abies amabilis* and
of a few scattering but
large trees of *Tsuga Pattoniana*
Silver fir. 4000 ft. in forest of Rana
11 ft circum
100-120 high.
Largest growth of *Chamaecyparis*
4500 ft.
At 4500 ft. *Tsuga Pattoniana*
is replaced by *A. Mertensiana*
Abies amabilis 4300 ft.
cut for specimen.
120 ft high.
1st branch 56 ft.
170 years age.
2 ft diam
Sap 50 years. 2½ metres of

~~this~~ growth of last 10 years as rapid as first 60 years.

1st Thuya Reen at 3500 ft.

at. 3500-4000 ft 9/10 trees are A. amabilis 1/10 Hemlock

Below 3500 A. amabilis commences to disappear and Hemlock becomes the principal forest tree

Thuya appears at 3500

A. Douglassii " "

Pinus Monticola " "

2000 lower feet composed of Thuya, Douglasii, and Hemlock principally two former.

Silver Peak (Mountain) estimated at 6900 ft.

~~Highest~~ Timber line about 6000 ft.

Highest trees in the

ratio of three to one are as follows.

3. Tsuga Pattoniana
1. Pinus albicaulis

error I would omit this

At. 5600 ft. sheltered position two specimens Abies rub alpina 50 ft high.

About the cabin 5000 ft Tsuga Pattoniana, Pinus albicaulis and Abies rubalpina, all about 40 ft high

Forest growth extends about 5.500 ft. Between that and the timber line scattered trees on the cliffs.

Wood specimen of P. albicaulis got out at the hut.

40 ft high. 16 in diam.
163 years old. Sap 51. years.

Also near the hut Tsuga Mertensiana reduced to a shrub, and in blossom.
Scattered plants of Chamaecyparis reduced to a shrub
Reach. 5500 ft.
Wood ~~specimen~~ sections of Tsuga Pattoniana cut at 4750 ft.
Height. 68 ft. Age 180 years.
Sapwood. 59 years = 3 in. wide
Bark 1. in.
At 4800 ft. forest principally of A. amabilis? ~~at~~ and a few scattering but large trees of Tsuga Pattoniana.
At 4000 ft. Silver Fir.
11 ft circum. 100-120 ft high in forest of Silver Fir,
Largest growth of Chamaecyparis at 4500 ft.

At 4500. Tsuga Pattoniana
is replaced by T. Mertensiana
Abies amabilis cut at
4300 ft for specimens
Height. 120 ft 1st branch-
~~150 ft.~~ 56 ft. Age. 174 years
2 ft diam. Sapo. 50 years = 2½ in.
Last 10 years growth as
rapid as first 10 years of
trees life. from 100-150 years of age
= 1¼ in wide.
1st Thuya appeared at
3500 ft
At 3500-4000 ft. 9/10 trees
are A. amabilis, 1/10 Hemlock
Below 3500 ft amabilis
commences to disappear,
but extending down 700 ft
in scattered growth, and
Hemlock becomes the prin
cipal forest tree.

Thuya appears also at 3500 ft; also A. Douglasii, and a few Pinus monticola The last 2000 ft of descent composed of Thuya, Douglassii, and Hemlock, principally two former.

August 1st. In and near Portland Oregon.

Abies grandis cut for wood specimen & bark.

Height 180 ft.

Age. 99-100 years.

Diam 27 in.

Sap. 43 years.

Acer macrophyllum, wood section

Diam 9 in.

Age. 70 years.

Sap 30 years = 1½ in.

Bark 4 lines

An Abies grandis measured
was 14 ft. 4 in. in circum.
Quercus Garryana (7 miles
~~wood~~ specimen. from Portland)
Height 76 ft. 8 in.
Diam 15 1/2 in.
Sap wood. 31. years = 2 1/2 in diam
Age 112 years.
Taxus brevifolia
Circum 72 in. diam 23 inches
Height 46 ft.
Taxus brevifolia wood specimen
Height. 30 ft.
Diam 11 in.
Sap 3/4 in = 8 years only.
Age. 53. years.
Fraxinus Oregana wood specimen
Height about 60 ft.
Diam 14 in
Sap 46 years.
Age 93 years very eccentric in growth

Aug 14.-15. From Coos City
to Roseburg.
Coast Range Divide between
Coos City & Roseburg = 2200 ft.
Divide between Valleys of
Umqua & Rogue River.
is 1800 ft.
On this A. grandis
at 1600 ft., with
P. Lambertiana,
and also at Wolf
Creek = 1300 ft.
A. grandis not
seen after leaving
South end of Grand
Canon near Roseburg.
Aug 16-21. From Roseburg
to Sisson's.
Strawberry Valley.
Elevations
Siskiyou Pass 4100.

Cole's Station S. side
Siskiyou Pass,
6 miles from summit,
= 2500 ft.
Yreka Cal = 2200 ft
Klamath River Ferry = 1700 ft.
Yreka Plain at Gazelle
Yreka = 2200 ft. (Edsons) = 2750 ft.
Yreka Plain S. end, at
commencement of
true vegetation = 2900 ft.
Growing together on N. Slope
of Siskiyou were.
Abies concolor first
seen just beyond
Toll House = 3200 ft
A. Douglasii
Libocedrus
P. Ponderosa
2. Kellogg'ii

at. 2000 ft. flat below Coles Station Juniperus occidentalis 8 ft 10 in circum. 30-35 ft high.

At 3800 ft. N. side of Siskiyou Mts. was found,

A. Concolor

A. Douglassii

Libocedrus

P. Ponderosa.

P Lambertiana

Castanopsis chrysophylla

Acer macrophyllum

Aug 23-25th. Excursion from Sissons, Strawberry Valley (3300-3400 ft). on flanks of Mt. Shasta. near Sissons are found.

A. Concolor

A. Douglassii

P. Ponderosa

P Lambertiana

Libocedrus

Z. Kellogggii

and for 1st 1500 ft above that
for undergrowth,
Ceanothus prostratus
Ceanothus velutinus
Ceanothus spinosus.
at. 1500 feet a few plants.
of Quercus dumosa.
P. Lambertiana below
4800 ft.
Red Fir stops at 4900 ft.
A. concolor up to 6000 ft.
P tuberculata 4800 ft.
this was Circum, 8 ft. 3 in.
largest am, Height, 60 ft.
but others Leaves persistent 6-7 years
taller fully, Cones at base of branch =
75 ft. 20 years old,
Spikes of flowers 1 1/2 - 2 in long.
A. nobilis. first seen at
4900 ft
Camp 5800 ft.

On the lower slopes in some places no under growth. In others Man-zanita & Ceanothus form dense thickets ("but not impenetrable" Dr E)

P. tuberculata was found in isolated specimens at from 4500 - 5500 ft. One was found and cut at 5600 ft.

P. ponderosa disappears above 5500 ft.

On Open meadow near Camp and on a slight declivity. was found.

Veratrum Californicum stile in flower

Aquilegia.?

Lilium pardalum.

Smilacina

Delphinium (blue)
and on a streamlet near
by Aconitum.
Camp tree A nobilis 16 ft circum 4 in
A Nobilis (near by) 19 ft. —
A. concolor goes to 6500 ft.
1st A. Pattoniana 6600 ft.
1st P. Albiculis 7000 ft. at
which elevation also I
Pattoniana = 8 ft 4 in circum
At 7500 ft. large growth
of Tsuga Pattoniana,
and a very few scattering
A. nobilis

I. Pattoniana	7550 ft.	16 ft. 3 in circum
" "	7500 ft.	13 ft. 6 in

A. nobilis and I. Pattoniana
reach about 8100 ft.

Timber Line.

Extreme limit of
timber 9.000 ft.
all of P. albicaulis.
at 8000 ft. P. albicaulis stilo
brace cones. 15-20 ft high.
15 in diam.
A. nobilis further west
at 8000 ft 3 ft dia.
Forests of A. nobilis 6000-
7500 varied at lower
Elevation with A. concolor
and at the upper J. Suttoniana
and an occasional P. albicaulis
Central portion of belt
exclusively of A. nobilis
large trees 3-5 ft diam.
Aug 24. P. tuberculata cut for
wood specimens. 54 years age
45 ft high 17 in diam.
heart wood 4 in diam. thickness
of sap wood. 5 in = 35 years

thickness of bark, 1 in
Elevation 5500 ft.
Libocedrus goes to 5500 ft.

Scott Mountain Notes

Aug 29.	1st tuberculata	5000 ft.
	1st P. monticola	6300 ft.
	1st pinus contorta	6300 ft.
	Happy Camp.	6300 ft
	P. monticola	
	near camp.	13 ft 1 in. cir.
	P. contorta	
	near camp	4 ft 3 in cir
	P. Jeffreyi	
	near camp	14 ft 9 in cir.
	Libocedrus	
	near camp.	20 ft. 9 in cir
	" " "	22 ft 1 in cir

Aug 30 5 am. Thermometer 32° F.

Pass between

Sacramento & Trinity River 7500 ft.

Here are found.

P. Albicaulis

A. ~~Pattoniana~~ nobilis

J. Pattoniana

A. concolor

P. Balforiana 7.400 ft.

Toad Lake luncheon place.

— 6800 ft.

Aug 31. Largest Cones

of P. Jeffreyii 5700 ft.

1st. ponderosa 5000.

Thermometer 48° F.

Excursion from Visalia
to Mill Flat. Sep 11-14.

1st Pinus ponderosa.	3.000 ft
Mill Flat.	5000 ft
at Urgy's Mill.	
Big Tree.	31 ft. 6in in the bark
Big Stump	90 ft 7in. Cir
1 P. Jeffreyi	6300 ft.
The Big Tree.	99 ft 6 in Cir.
Another " "	67 ft "
" " "	89 ft. "
" " "	72 ft "

Excursion into
The Santa Rita Mts
from Tucson, Arizona.

Sep 25 Mesquit near Tucson. 22 in diam
3 ft. cir.

Sep 26 Camp 5000 ft
Saw Mill. 6500 ft.
P. Chihuahuana. 5900 ft.
155 years. 102 years caps = 5 in.
20 in. diam. bark. 2-4 in
54 ft high.

Sep 27. Fraxinus pistaciaefolia
16 1/2 in diam. 35 ft high
55 years counted centre
rotton.

Oct. 10 from S.F. to Soda Springs
on the Sierra. 7000 ft.

Oct 11. Above this some hundreds
of feet were seen.
P. contorta
A. concolor
A. nobilis
5 ft spec. "Red Fir" Redwood.

Distances travelled by
Dr. Engelmann while
in company with C.S.S
& J.S.

Ogden to S. Francisco.	895.
S.F. to Monterey & return	250.
S.F. to Portland. O.	
by sea.	675.
Portland to Tecoma W.T.	145.
Tecoma to Puyallup & return	70
Tecoma to Victoria B.C.	120.
Victoria up Fraser	
River to Cantly's camp	
& return to V.	390.
Excursion on return	
trip to Silver Peak.	
from Hope B.C.	30
Victoria to Tecoma.	120
Tecoma to Portland	145.
Portland to Dalles	
& return.	252

Portland to Corvallis O. & return.	194
Portland to Drains	161.
Drains to Gardner	53.
Gardner viâ Winchester to Empire City	29.
Empire City to Coos City.	17
Coos City to Roseburg.	62
Roseburg to Strawberry Valley (Sissons)	200.
2 Excursions on Mt Shasta & Scott Mt.	90.
Strawberry Valley to Redding	76.
Redding to S. Francisco	321.
Excursion to Santa Cruz & return.	180.
S.F. to Visalia	248.
Visalia to Mile Flat. & return.	101.

Visalia via Los Angeles
to Santa Monica. 282.
Santa Monica
to San Bernardino 96.
Excursion from
San Bernardino . 50.
San Bernardino
to Tucson. 442.
Excursion from Tucson
into Santa Rita Mts. 75.
Tucson to San Francisco 978.
San Francisco to
via the Sierras, Soda Springs. 253


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