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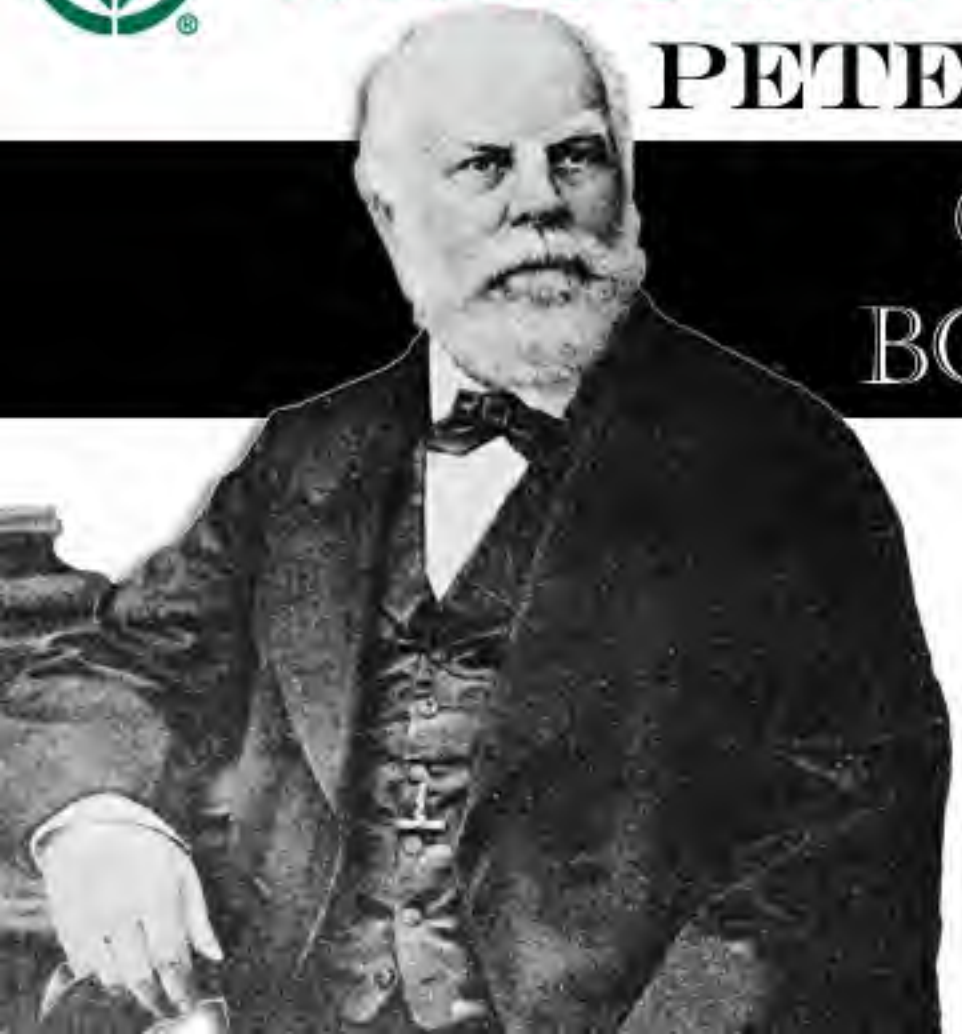

Pagination Note:
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Measurements of Trees
taken
on
the Pacific Coast
Summer of 1880.

Distances Travelled
by
Dr. Lindheimer

14503

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14502

June 22. Pikes Peak Col.

observed

Pinus ponderosa

Pinus flexilis

Abies Engelmanni Abies concolor

Quercus undulata.

Ther. at summit 74° F.

June 24 Pinon 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 a 15.6

" " 15.7.

wood specimen of same. 9.0.

Pinus insignis 14.5.

July 7th Monterey. Cal.

Pinus insignis

Engelmann.

~~Abies~~. 5½ in heart wood.

9 in sap wood.

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

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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. " base.

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.

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Age 180.
Sapwood 5½ 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 Rare
11 ft circum
100-120 high.
Longest growth of Chamaecyparis
4500 ft.
At 4500 ft. Tsuga Pattoniana
is replaced by A. Menziesiana
Abies amabilis 43[rd]00 ft.
cut for specimen.
120 ft high.
1st branch 56 ft.
170 years age.
2 ft diam
Sap 50 yrs. 2½ metres of

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~~this~~ growth of last 10 yrs as
rapid as first 60 yrs.
1st Thuya Rem 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. Douglasii " "
Pinus Monticola " "
2000 lower feet composed
of Thuya, Douglasii, and
Hemlock principally
two former.
Silver Peak (Mountain) estim
ated at 6900 ft.
~~Highest~~ Timber line
about 6000 ft.
Highest trees in the

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ratio of three to one are
as follows.

3. Tsuga Pattoniana
1. Pinus albicaulis

Abv. 5600 ft. sheltered position.
two specimens Abies Lub
alpina 50 ft high.

About the cabin 5000 ft
Tsuga Pattoniana, Pinus
albicaulis and Abies
Lubalpina, 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. yrs.

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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 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? 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.

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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. 179 years
2 ft diam. Sap. 50 years = 2½ in.
Last 10 years growth as
rapid as first 10 years of
tree 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.

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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

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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 3.14 72 in. Diam 23 inches
628
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

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Aug 14.-15. From Coos City
to Roseburg.
Coast Range Divide betwn
Coos City & Roseburg = 2200 ft.
Divide betweren Valleis 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.

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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

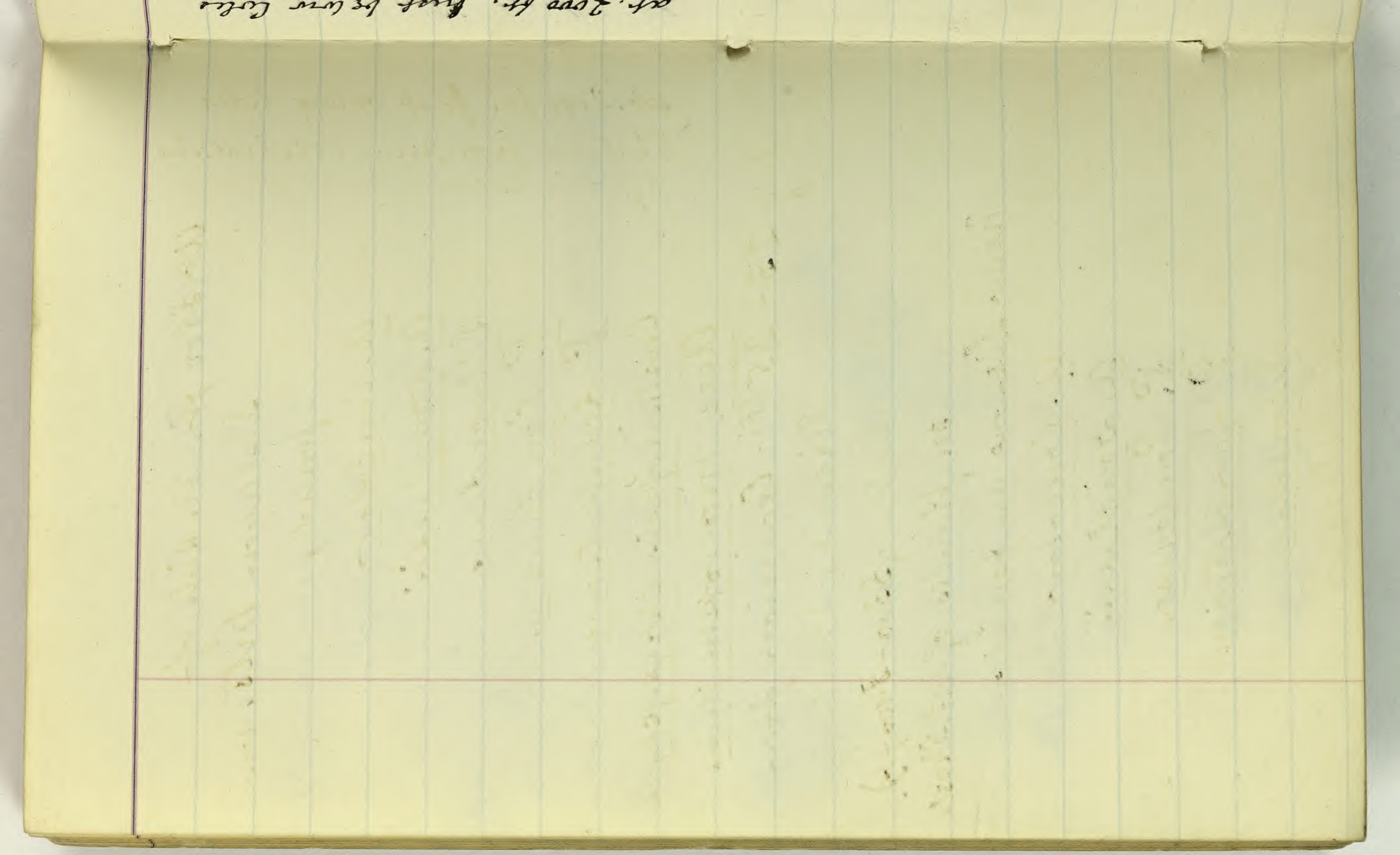
Toll House = 3200 ft.

A. Douglasii

Libocedrus

P. Ponderosa

2. Kellogii



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ab. 2000 ft. Associated by low Cobs
Station Juniperus occidentalis
8 ft 10 in Circum. 30-35 ft high.

At 3800 ft. N. side of
Siskeyou 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
Q. Kelloggii

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and for 1st 1500 ft above that
for undergrowth,
Ceanothus prostratus
Ceanothus velutinus
Ceanothus spinosus.
at. 1500 feet. after plants.
of Quercus dentiflora.
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 one, 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 5860 ft.

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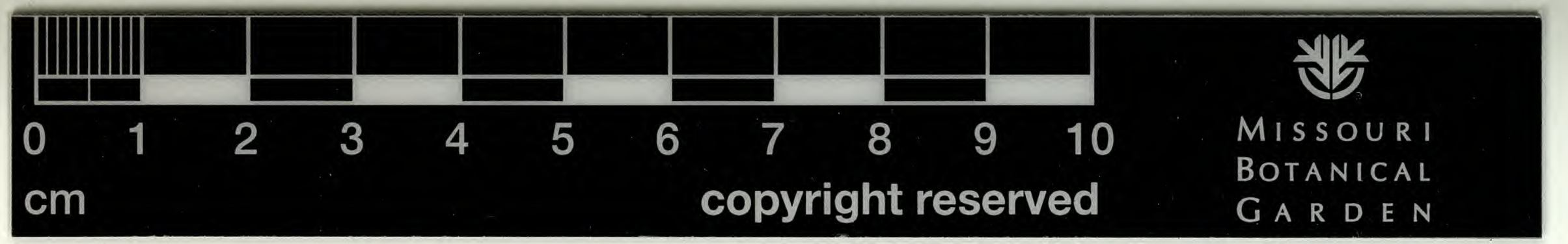
On the lower slopes
in some places no under
growth. In others Man-
zanita & Ceanothus form
dense thickets ("but not
impenetrable" Dr E)
P. tuberculata was found
in isolated specimens
at from 4500 - 5500 ft. One
was found and cut at
5600 ft.
P. ponderosa disappears
above 5500 ft.
On Open meadow near Camp
and on a slight decline.
was found.
Veratrum Californicum Rhiz
in flower
Aquilegia.?
Lilium parvum.
Smilacina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Delphinium (blue)
and on a streamlet near
by Aconitum.
Campo tree A nobilis 16 ft 4 in Circ.
A Nobilis (near by) 19 ft. —.
A. concolor goes to 6500 ft.
1st A. Fattoniana 6600 ft.
1st D. Albicaulis 7000 ft. at
which elevation also I
Fattoniana = 8 ft 4 in circum
At 7500. ft. Largest growth
of Tsuga Fattoniana;
and a very few scattering
A. nobilis
Circum
I. Fattoniana 7550. ft. 16 ft. 3 in.
" " 7500 ft. 13 ft. 6 in
A. nobilis and I. Fattoniana
reach about 8100 ft.

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Timber Line. Extreme limit of
timber 9,000 ft.
all of P. albicaulis.
at 8000 ft. P. albicaulis stilo
bears cones. 15-20 ft high.
15 in diam.
A. nobilis further west
at 8000 ft 3ft dia.
Forests of A. nobilis 6000-
7500 covered at lower
Elevation with A. concolor
and at the upper P. Sattoniana
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

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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.

1st Hopkey Camp. 6300 ft

P. monticola

Near camp. 13 ft 1 in. cir.

P. contorta

Near Camp 4 ft 3 in cir

P. Jeffreyi

New Camp 14 ft 9 in cir.

Libocedrus

New camp. 20 ft. 9 in cir

" " " 22 ft 1 in cir

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Aug 30 5 mi. Thermometer 32° F.

Pass between

Sacramento & Trinity Rivers 7500 ft.

Here are found.

P. Albicaulis

A. ~~Pattoniana~~ nobilis

T. Pattoniana

A. concolor

P Balfouriana 7.400 ft.

Toad Lake Luncheon place.

— 6800 ft.

Aug 31. Langat Cones

of P. Jeffreyii 5700 ft.

1st. ponderosa 5000.

Thermometer 48° F.

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Excursion from Visalia
to Mile Flat. Sep 11–14.

1st Pinus ponderosa.	3.000 ft
Mile Flat.	5000 ft
at Urgy's Mile.	
Big Tree.	31 ft. Circ. at the base
Big Stumps	90 ft 7 in. Circ
18. Jeffreyi	6300 ft.
The Big Tree.	99 ft 6 in Circ.
Another " "	67 ft "
" " "	89 ft. "
" " "	72 ft "

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Excursion into
The Santa Rita Mts
from Tucson, Arizona.

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

Sep 26 Camp 5 5600 ft
Saw Mile. 6500 ft.
P. Chihuahuana. 5900 ft.
155 years. 102 years age = 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 centers
rotten.

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

Oct 11. Above this zone hemlocks
of fast two kinds.
P. contorta
A. concolor
A. nobilis
5 ft spec. "Red fir Record.

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Distances travelled by
Dr. Engelmann while
in company with C.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 Cauly'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

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Portland to Corvallis O. & Return.	194
Portland to Drains	161.
Drains to Gardiner	53.
Gardiner via 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 Hat. & return.	101.

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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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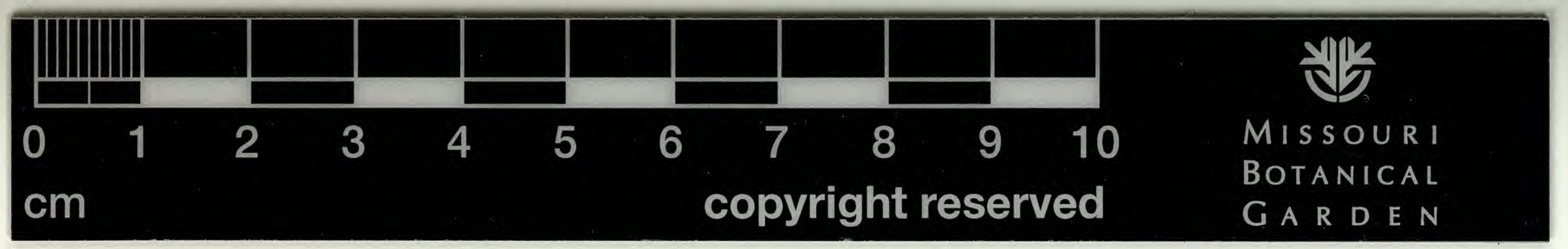
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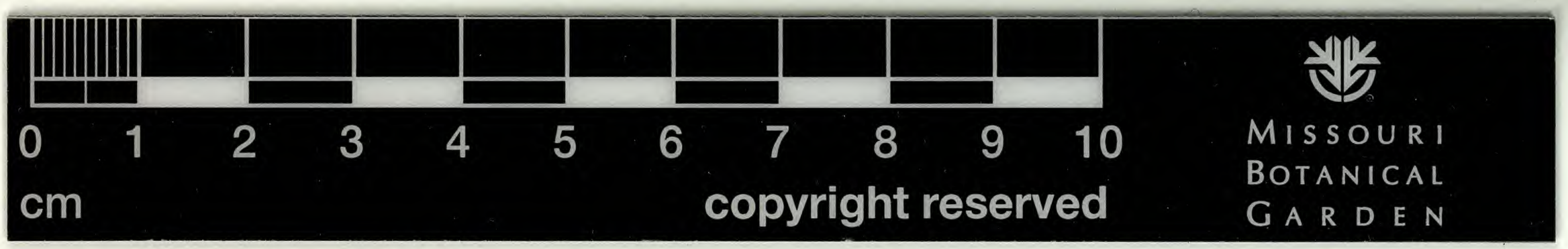
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