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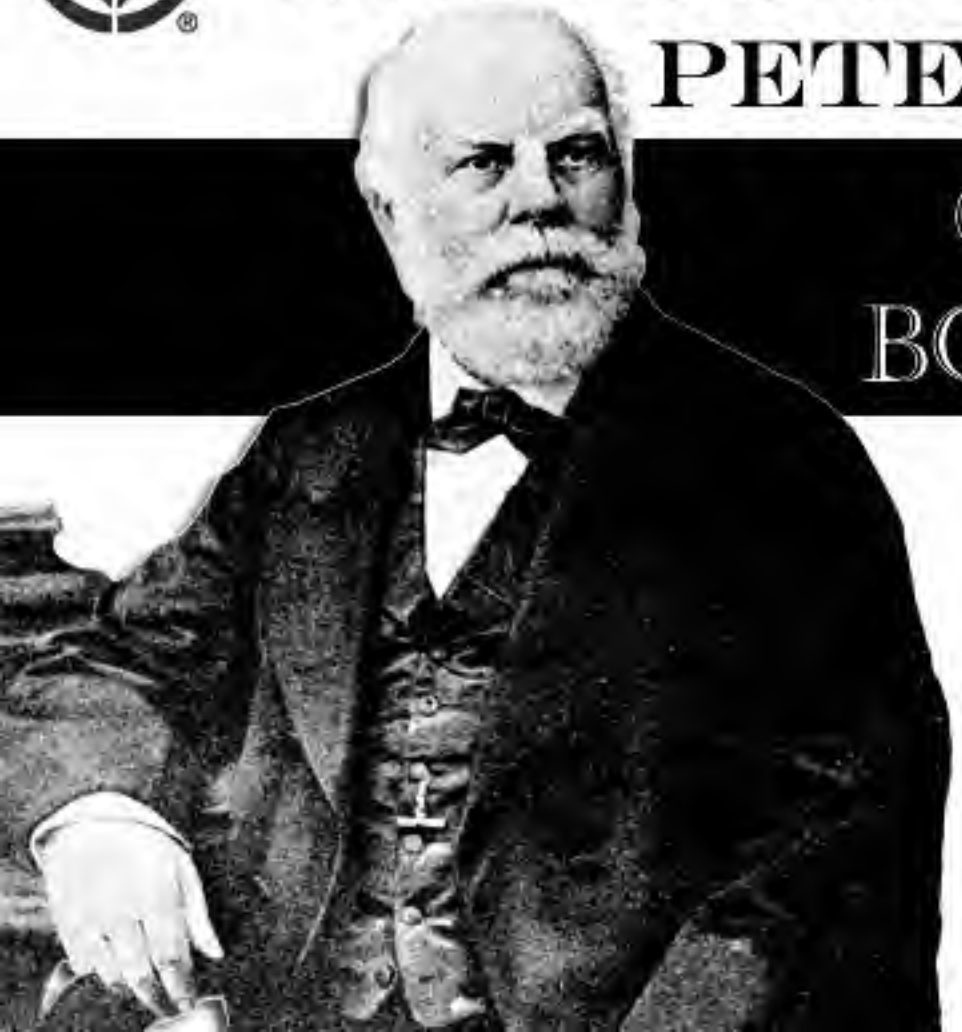

Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

Pinus ponderosa Lemmon 1879

Stomata 7-8 rows on each side above; 10 rows below

P. Jeffreyi Lemmon 1879

4-5 — 8

P. Jeffreyi Mount Raymond, Colorado

3-4 8

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Assistant Secretary.

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Mr. G. Engelmann
2003 Locust st
St Louis
Mo.

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March 5 1879 — from Carrière

Pinus ponderosa Dougl in Lond Ark. 4. 2243 — tree 100 feet
leaves 4–9 inches, cones 3–4½ inches long — more or less straight
or slightly curved — seeds 3/4 line long. **Oregon**
[Probably including the Californian form]
Endlicher says after Loudon. 3-leaved, cones 3 inches —
transverse ridge of scales very strong

Pinus Benthamiana Hartw. leaves 3, 5–8 inches 150–200 high
cones 3–5 inches — Bulbs of the leaf-bases remaining long very marked
Monterey of Santa Cruz. seeds broad triangular. 3 lines long

P. Jeffreyi Hort Laws. Cat. seeds 5–6 lines long, 1 pitted.

P. Beardsleyi Hort. Laws. Cat seeds triangular, 2½ lines long;

P. Macintoshiana Hort Laws Cat seeds 2 l. long. dark

Pelletore

L 393 P. Jeffreyi Murr. a — leaves. 6–8" cones 6–7"
395 P. ponderosa Dougl (P. syn Beardsleyi Murr, Benthamiana Hartw.
P. Parryana Gord.) leaves 4–8 inches long
cones 4–4½ inches long. — B 1–1½ inches long

ponderosa seeds 2–3½ lines long
Jeffreyi " 5–6 l. long

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Auf das Jahr, das nun geschwunden, blickt heut' Mancher trüb' zurück,
Grollend, weil es ihm nicht brachte das in ihm erhoffte Glück;
Mit vermehrtem Muth beginne er den Kampf im neuen Jahr —
Unterliegen muß im Kampfe, wer zurückschreckt vor Gefahr.
„Kämpfen, Ringen!" ist die Losung, nur wer kämpft, gelangt an's Ziel,
Wer gestählt im Lebenskampfe, der gewinnt das schwerste Spiel.
Darum sei dem „Neunundsiebzig" ein Willkommen heut gebracht:
Was auch unerreicht geblieben Achtzehnhundert siebzig acht
Finde die ersehnte Lösung in des neuen Jahres Lauf —
Jedem wackern Streben gelte dieses herzliche Glückauf!

nd Heil

n

Jahre!

Juli.							August.							September.						
Sonnt.	Mont.	Dienst.	Mittw.	Donn.	Freitag	Samst.	Sonnt.	Mont.	Dienst.	Mittw.	Donn.	Freitag	Samst.	Sonnt.	Mont.	Dienst.	Mittw.	Donn.	Freitag	Samst.
...	...	1	2	3	4	5	...	...	...	..	...	1	2	...	1	2	3	4	5	6
6	7	8	9	10	11	12	3	4	5	6	7	8	9	7	8	9	10	11	12	13
13	14	15	16	17	18	19	10	11	12	13	14	15	16	14	15	16	17	18	19	20
20	21	22	23	24	25	26	17	18	19	20	21	22	23	21	22	23	24	25	26	27
27	28	29	30	31	..	..	24	25	26	27	28	29	30	28	29	30	...	...	..	.
...	...	...	...	...	...	...	31	...	...	...	...	...	...	...	...	...	...	...	...	..

October.							November.							December.						
Sonnt.	Mont.	Dienst.	Mittw.	Donn.	Freitag	Samst.	Sonnt.	Mont.	Dienst.	Mittw.	Donn.	Freitag	Samst.	Sonnt.	Mont.	Dienst.	Mittw.	Donn.	Freitag	Samst.
...	...	...	1	2	3	4	..	...	...	...	...	...	1	...	1	2	3	4	5	6
5	6	7	8	9	10	11	2	3	4	5	6	7	8	7	8	9	10	11	12	13
12	13	14	15	16	17	18	9	10	11	12	13	14	15	14	15	16	17	18	19	20
19	20	21	22	23	24	25	16	17	18	19	20	21	22	21	22	23	24	25	26	27
26	27	28	29	30	31	...	23	24	25	26	27	28	29	28	29	30	31	...	...	...
...	...	...	...	...	...	...	30	...	...	...	...	...	...	...	...	...	...	...	...	...

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Pinus ponderosa
Jeffreyi
"Cone from Oregon" Roland and
Pecos Valley Lemmon
Mt Raymond Roland
Brewers 1914 July 20 1863 Stanislaus River
San Bernardino side on Jeffries, Parry.
Rothrock 214 and 251
at Clarks, Rolands

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REMOVED TO 2934 OLIVE STREET.

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DR. GEO. J. ENGELMAN,

Office, 203 S. Fifth Street, Residence, 3003 Locust Street.

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Pin. ponderosa March 12 1879

Douglas Oregon	4	× 2	8
Bentie Oregon	4–5		8–10
Lyall Oregon	3–5		6–8
Colorado 3 leaved	5–6		10–12
" 2-leaved	(7–8)		7–8
Californian Lemon	7		13–14
Jeffrey's Lemon	4		8
" Bolander	4		8

distance of rows of stomata on convex side of leaf ×60

number of rows of stom. on one of the upper sides

on whole upper surface

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Bonapartea – but still a few flowers –

Yrs truly
H Shaw

S Grove
(Dec 23/78

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P. ponderosa Common Jan 1879
Miss. Park

foliage deep green
young branchlets reddish brown
sheaths of leaves brownish, longest caducous
lateral pair of scales broad, acute not longer
than diameter of leafbud – shoots 8–9 lr. old 3 inch
leaves always in 3s – purchased 3 years 7½–9½ in 5
deep green, apparently persistent (only 3 yrs 4)
young cone flat, spring 10 mo. on pedicel 3 mo.
scales cent. 200 – 13/21 – 21/34 order,
[illegible] spreading – slightly
curved upward –

Old cone 3 3/4 inches long, ovoid to regular
irregularly rounded apophysis with
protruded blow with slighter transverse
ridge, near the upper rounded edge
shorter more curved upwards

N

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Miss COMSTOCK'S

ENGLISH, FRENCH AND GERMAN

Boarding and Day School,

Nos. 32 & 34 West Fortieth St., near Fifth Ave.,

Murray Hill, opposite Reservoir Park, New York.

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P. Jeffreyi Lemmon mss Jan 1879
Fred

young glaucous to yellowish at last
young branchlets reddish glaucous
sheaths of leaves pale, lowest latest part of scales
long acuminate, much longer than ~~their~~ diameter
of leafbearing — sheath 8–9 lin. diam 3.5–6 lin
leaves average — 3" (persistent 2 years or more?) 7½–9 lin
Cone flat spreading 1¾ inch or partial 3/4 inch long
about 300 or more scales — 26/35, mucros
spreading & slightly recurved upward

Old cone 7–8 inches long
rhombic appearance with strong very prominent
transverse ridge — middle mucron
small, sharp, recurved.

Has this light or black bark? Is it the
Black Bull or Swamp Pine? beautiful symmetrical conical
growth — black scaled twigs — blackish, finely broken
bark — cones medium — invariably near streams
4–6000 ft. high —

Another form is found in high altitudes, clothed
6 or 8 feet with long leaves (8–13 inches) — few large
ascending limbs — cones very large, very true
glaucous light green — bark yellowish.

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L. C. Arthur, Jr., wants to know what his 53 is

San Diego Lyceum my publications (Academy?)

Farlow	~~April~~ 22	
Newberry	~~April~~ 5	1875
Flagg	April 28	"
~~Buchenau~~	March 6	"
~~Warnstorff~~	~~" 23~~	~~"~~
Ravenel	Nov 19	1873
Gredney	June 9	1870
Lesquereux	May 2	1876
Vasey	April 7	etc.
~~Hage & Sprat~~	Dec 31	'75
~~Hegelmaier~~	~~May 29~~	~~'76~~
Palatore	14 Jan	1874
Parkinje	7 April	76
Regel	21 May	
~~Sarpent~~	~~29 Jan~~	
Sor. Belgian	—	
Debary	Dec	'75
Carnel	July 16	'75
Crepin	Sept 21	"
Boelger	Nov 5	"
Pfersdorf	Nov 27	"
Gillman	Dec 7	"
Chapman	July 12	"
Roetter		
Schneck	Dec 29	1875

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P. S. The Arceuthobi Americana on P. contorta I collected in upper Yo-Semite Aug 24 '78.

Have followed up your observations on leaf anatomy with microscope this winter. How beautiful and invariable! Hence what good characters. Have guessed that your named concolor is given because white bands of stomata are always found on both sides. Am I right? Have no spec.

Sierra Val. Cal. Feb 18. '79.
mailed Loyalton Feb 22d
Sierra Co, Cal

Rec'd Febr 28 '79
Ans March 4

of sub-alpina. grandis nobilis × bracteata. Would like some, must to study {next winter, if I remain at home.}

My dear Dr.

Have just returned from a long day's ride ride and clamber among the trees getting specimens and items for you.

This winter I did not hybernate at Webber lake — as formerly 2 winters — but remained down here in my herbarium. Have not been able to go up to W. this winter — too soft snow. Our snow-shoes cannot slide over soft snow. Several persons who have attempted trips over the snow in this condition have suffered much, often perishing. But I have done the next best thing. I have visited the forests about Sierra valley, taking notes and to-day I came home laden with boughs. To-morrow I will make a selection of characteristic specimens, put them in heavy papers & forward. I have no doubt that during this fine cool weather they will arrive in tip-top condition.

Please take note that these specimens all come from trees located on the west side of Sierra valley, in Lon. 120°. 25' by Lat. 39. 35' Alt. 4. 326 ft.

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Answers to Questions on Pinus Contorta,

1st "Do the cones of the season grow always on the apex of the branch, or also laterally?"

Ans. Both — (see spec.) but generally terminal. yes!

2nd "Do the cones always open immediately on maturing, or do many of them remain closed longer or shorter?"

Ans. Some of the trees seem to shed all their fruit at maturity — in Oct. — all the scales of their cones becoming reversed, and generally falling soon after. (as see Cone marked "A" gathered a few years ago at Webber L.) The cones of other trees will open only partially on one side — the out-side of the cone, a few seed fall out. the cone persists and when the winter rains come, the scales close up again. always, in all pines! These are the sort that persist for years. To-day I noticed some 4 or 5 yrs. old, on limbs (the limbs), 2 inches thick, & 6 feet from the end.

I know that nutricious (but whether germinative or not, I do not know) seed remain in these cones over the first winter; 1st from examination of cones (as you can do) 2nd from the practice of squirrels, of cutting off twigs and harvesting the cones. I send the denuded ends of several cones found to-day freshly removed from twigs just let down upon new-fallen snow, marked "B". 3rd At Webber each year a flock of Cross-bills (curvirostra) of 13 to 22 lived in the grove all winter chirping and working in the trees — (only P. contorta for miles around,) and I would find the snow beneath occasionally dusted with broken wings of the seed. They must have been feeding upon these belated or immature seeds. From 6 to 20 feet.

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3rd "Do the cones fall soon after maturity, or at least by spring, or do they remain attached for many yrs.?"

Ans. Much of this answered in preceding. I will in this connection make a general statement. My somewhat extended exploration & observation leads me to conclude that there is a permanent distinction between the 5-leaved section of pines and the rest in this particular: persistence of cones.

The 5-leaved pines perfect their cones & shed them in the fall, with few exceptions: the rest very generally retain a part of their cones, apparently undeveloped ones, for 2 to several years, notably the P. tuberculata. Of the 3-leaved & 2-leaved pines some trees will perfect their cones of large size and drop them in autumn. The scales will be more numerous, and very firmly reflexed at maturity, giving the cone this quadrangular shape in outline:—

ordinarily the scales at maturity stand out perpendicular to the radius mostly, but towards the apex, ascending giving the form of a true cone, like a pine-apple.

4th "About Pinus ponderosa & its varieties, can you distinguish?"

Ans. No & Yes. Cannot draw the line of demarkation between them always. I have examined log-yards by saw mills, taken experts in timber with me into the forests, the latter often very confident at first but soon owning their confusion. When manufactured a tree into lumber it is easily distinguished as "Yellow" or "pitch", but not before. The trees bearing these two names afford our principal lumber wealth. They are yellowish-barked,

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broken into large sections. on large trees from 2 to 5 feet long by half as wide, the limbs are few, short, crooked and generally alive only at a distance from the ground on the trunk. Lvs. dark apple-green short 4 to 6 inches, tufted at the ends of ~~small~~ narrow crooked twigs. Cones very variable, from 3 to 9 inches long and exhibiting all degrees of spreading.

When the timber beneath the sapwood of these trees proves to be yellowish, soft & valuable the tree is a "yellow pine" "I knew it at a glance at the bark!" "I told you so" &c, from the tree shorps. If the center is dark, pitchy, brittle, less valuable. "Why that's a pitch pine, of course; I told you so" &c. Is this the typical ponderosa?

Before leaving this subject of ponderosa I wish to speak of other characters. ~~Specimens~~ Another variety is ~~are~~ found in high altitudes bearing but few large, nearly straight, ascending limbs clothed for a long 6 to 8 feet way with long lvs. 6 to 12 inches, persistent for several years, that is, there will be representatives of several yrs. A specimen branch of such a tree even 3 feet of the terminal part would weigh 6 to 10 lbs. they are so robust, the yearly portion being often over an inch thick; I could not get one now without much trouble. The cones are usually very large, with scales moderately spread. Lvs. of young trees often glaucous, light green. These trees when large are very striking with their symmetrical plumed branches & few large divergent cones in 2s or 3s. and I dont wonder that the maximum forms if such were sent to Eng. caused the belief that the spec. was distinct. What variety is this? Jeffrey? I dont know about its timber, whether "yellow" or "pitch". Bark yellowish as above.

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(Benthamiana?) Jeffreyi??

Another variety here enjoys the vernacular name of "black", "swamp", "pitch" & "bull". These are in general, very symmetrical & beautiful, heavily-foliaged trees, fusiform or even perfectly conical in outline, the lowest limbs being the longest, and these forms occur in mid-forest, even. These are very numerous (I've counted 3-600 live body limbs on a tree 150 ft. high.) but small and ascending with black-scaled twigs, tufted at the ends with short, (for the species,) narrow bvs.

The bark is blackish, finely broken, into irregular sections 3 & 4 inches long & half as wide. Cones medium or often variable. Lumber little prized, the white sap-wood very wet & soft; the center generally pitchy, dark, & brittle, grains interlaced, hard & split.

These trees are I believe, invariably found near streams or on wet flats at about the elevation of 4,000 & 5000 ft.

Is the above Benthamiana? Now what are these forms? & which is the typical ponderosa?

One of my greatest puzzles is in regard to the appearance of our young groves of ponderosa. Two distinct colors accompanied by wide differences of form are often seen in them. Certain little trees will present the general appearance of the species; dark-green, short bvs. tufted on the ends of slightly straggling, narrow branches; other trees have glaucous, lighter, longer, thicker bvs. tufting and pluming for several feet, fewer, larger, nearly straighter regularly inserted limbs. I cannot detect in standing trees these differences in mature trees; that is, I have not the time to frequent the forest where people are cutting & so, While at Jaboa with Hooker & Gray these phenomena were much talked of &

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hundreds of trees examined, I dont know the result in their minds. It may be that a distinct var., is coming on to be detected by an Englmann of a hundred years hence.

I send samples of contorta, twigs, fresh squirrel-eaten cones, one old wide-spread cone from Webber Co, &c, also two bearing twigs of ponderosa. the smaller one from com. small-coned form. the larger, with cones beneath the tree 8 & 9 inches long, scales recurved more or less. limbs few. larger approaching the splendid, alpine, plume-limbed form, described.

Also a section of bark with a few grains of sap-wood of the big contorta tree a section of which I sent to Cent-Ex, Height 122 ft. dia. 6 ft. age 274 yrs. body limbs 268.

Now Dr. I hope these specimens & notes will serve you so that you will not be obliged to write 32 ?? per letter, often in future.

Have I not sent you spec. of Hallisteria? Only a few left. Am very busy & badly overworked trying to make botany pay by putting up ten sets of plants for sale. Only 4 of them ordered yet. The task of taking out, selecting, putting in papers, writing 10 labels each, is very close & laborious. I fear I shall have to suspend. Am not 1/3 done & been at it nearly three months. Snow going off. Mud 18 inches deep. Spring opening. I expect a free pass from the R. R. officials soon (by kindness of Dr. Gray & friends at S. F.) so must prepare soon to be off. in meantime must canvass for microscopes to keep from starving. Very, very tired & over-taxed. Please excuse errors & incoherence.

Yours faithfully

S. B. Parsons.

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Acû Febr 28 Siuna Ully Febr 20' 1879

P. S.

Two days after.

After a night's rest I concluded to search again in behalf of science. So for two days more I have been climbing and hunting, the snow & mud very troublesome, and I return so tired that I can scarcely think. The mail & express go in the morning so I have to fix up my green spec. for you at once — tired as I am.

I have so much now that I change plan & send a box by express. I have had to fix it up as best I could in the night but I trust that its contents will please you.

I have traveled far these two days mostly on foot in search of cedars and their par-

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visitor, There are none in all this region that are infested with the Arceuthobium libocedri.

I sent you good specs in fruit years ago gathered near Lafayette peak. 70 miles north of here, don't you remember them? Yes Coll Oct 1875 (Lim Ville Nov 75 Colorado) Pres. Sec. Bot. I have not been in the vicinity since, and know of no other locality for it.

I had an idea that I had seen some near here, years ago before I commenced collecting, but diligent search among hundreds of trees fails to discover it.

Next after the Libocedri hunt I have been looking up the var. of Pinus ponderosa.

I have enclosed for you several characteristic specs. which you will have no trouble in matching.

There is but the two varieties of ponderosa called "yellow" & "pitch" pine growing at this level, as I said.

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The snow is so soft that I can not go so high as Webber L. so have not that splendid mountaineer & wrote of (Jeffrey?)

Now let me recall what is in the box & enumerate,

1. Spec. of contorta, bearing limb, & terminal shoot of a young tree, about 8 ft. high, more robust and short in the internodes than the average, an open cone of same (from Webber L.) and section of bark. (Centerminal tree)

2. Spec. of 2 vars of ponderosa, 2 stubs of terminal stems of 2 young trees growing side by side about 12 feet high, with 2 side limbs of same, the one glaucous, with white leaf-scales & sheaths; the other brownish; each var. accompanied ~~with~~ by bearing limbs easily matched by color of leaf-bases &c.

No doubt one of these always produces the "yellow", the other the "pitch" pine, but only much search would tell, which from which.

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The bearing twigs of the glaucous var. I procured to-day from the top of a robust tree on the edge of the forest — out alone, tree about 75 ft. high, 3 ft. dia., limbs very symmetrical, in whorls. The phyllotaxy of the main trunk observable distinctly from the apex down to where the stem was over a foot thick, a most beautiful character of this var. Cortex very thin on this tree. very small sections, shallow cracks, the usual appearance of trees in open situations. The large cone is from same tree,

" small " from the other var. of tree. The bearing twigs of this ~~other~~ or brownish var. are from a larger tree, cut down a few days ago and reduced to stove-wood. 200 yrs. old, timber soft yellowish with a few ft. of pitch in center at base — called by a lumberman "yellow", altho equally as observing, call the white var. "yellow" but I could not cut the tree to see.

I. Winter states of A. concolor, young & bearing; Libocedrus male & female, fls. Juniper with parasite, & with berries.

I must pre-pay charges, as you know, on such articles, and I hope they will be of such service together with these hurried notes, as to cause no regret for the labor expended. There, Dr. I must turn to a still harder task, selecting & packing plants "for bread & butter".

Wearily but faithfully J. G. Lemmon.

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