



Jepson Field Books

Siskiyou Expedition

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A Link to all field notebooks: https://ucjeps.berkeley.edu/images/fieldbooks/jepson_fieldbooks.html

[Sure enough a few years later Jimmie surprised me by appearing in Berkeley in August ready to be a freshman! His first announcement to me was that he had his first years expenses! He went thru and graduated. In the last year he held a scholarship secured by my representations in his behalf. Sampson, a New York literateur, was my companion on the Siskiyou trip. Jimmie asked what he did. I said he is a gentleman of leisure. Jimmie did not understand what that meant. In his world at Sawyer's Bar on the Salmon River there were just two classes of people, those who worked and those who didn't. If you worked you worked like blazes to earn a living; if you didn't work you were just a saloon loafer. And Sampson didn't look like a saloon loafer!]

17_140d

Siskiyou Expedition

[June 27, 1907]

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June 27, 1907.

- Cont. from p. 140.

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Yreka, July 1, 1907.

Left Berkeley yesterday afternoon at 3:40. Reached Montague this a.m. early. Saw nothing of the Capulets. Half-way here saw *Quercus oerstediana*, low round trees on the hills, 20 feet high or less. Yreka is an old mining town. Its brick stores have the old-fashioned iron doors. There is some quaintness about the place. The little Episcopal Church has some attractive memorial windows. E.L. Greene preached here once. It was great fun to sit on the box seat of the Concord coach behind four rattling boys galloping out of the town to Fort Jones and Etna Mills. Arrived Etna Mills at 12:00 at night. On July 4 we are off and working up Shackleford Cañon, a fine cañon indeed.

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Shackelford Cañon

Western Siskiyou Co., region of Marble Mt.

Trees and Shrubs of Shackelford Cañon.

- Pinus ponderosa, 35% stand. also covers gravelly floors of Scott Valley, where stand is dense and reproduction splendid.
- Libocedrus decurrens, 35% stand. Trees of first diameter.
- Douglas Fir, 20% stand.
- Sugar Pine, a little.
- Populus trichocarpa, along stream in meadows.
- Abies concolor, very abundant in upper part cañon, replacing Pinus ponderosa, 75% stand.
- Pinus Murrayana, about meadows upper part of cañon.
- Acer macrophyllum, lower part cañon.
- Ceanothus integerrimus, blue and nearly white, each shrub alike.
- Ceanothus velutinus, not in fl. upper part cañon. Also Marble Mt.
- Populus tremuloides, 6 to 15 ft. h., forming thickets in the upper part of Shackelford cañon.
- Alnus tenuifolia, forming thickets 7 to 12 feet high in lower part cañon.
- Cerasus emarginata, Sierra Cherry, forming 10+20 acre thickets on sharp high slopes about Marble Mt. Frostbitten badly this season.
- Alpine Hemlock, base of snow drifts about summits of Marble Mt. 70 ft. h. at outside, 3 1/2 ft. diam. max. Tips very slender + pliable, never broken here as are the Red Firs.
- Pinus monticola, upper Shackelford Cañon. Large trees.
- Quercus Sadleriana, Marble Mt.

Saxifraga peltata

July 4, 1907.

- No. 2809. Chaenactis suffrutescens Gray. Scott Valley, stony creek bed.
- No. 2810. Cercocarpus betuloides, 10 ft. h., slender. See p. 146a.
- No. 2811. Rosa gymnocarpa. Lower Shackelford Cañon. 3 ft. h. See p. 146a.
- No. 2812. Ribes. Spreading bush 2 to 3 ft. h. anthers lavender, sepals purple, petals white.
- No. 2813. Pinus Murrayana. Shackelford Cañon. Of small size here. Staminate cones in cluster = 17 to 31. Californicus Benth. var. orsusulus.
- No. 2814. Ranunculus californicus Benth. var. orsusulus. Strictly erect plants at edge of gravel-edged meadow. Petals 5, yellow.
- No. 2815. Potentilla breweri Wats. Gravelly drift meadow. Petals yellow, broad, retuse or obcordate with obtuse sinus.
- No. 2816. Spraguea umbellata. Sepals 2, orbicular with small central green spot. Petals 4, white. Stamens 3. Style one, undivided.
- No. 2817. Oreobroma. Petals 7 to 10, white, strongly pink-veined along middle. Stamens 6 to 9, often but not always same no. as petals, united at base 1/4 their length. Great low broad rock forming a perfect garden on it. Head of Shackelford Cañon. (= O. cotyledon Howell.)
- No. 2818. Streptanthus. Sepals yellowish, their tips pale yellow. Petals very narrow, dull pink with marked purple veins. On rocks, upper Shackelford. cont. p. 146a.
- No. 2819. Ribes. Petals yellow. Sepals dark velvety purple. Stems 2 or 3 feet long bush 1 foot high. Upper Shackelford seen near Marble in low almost mat-like colonies 7 feet across and circular. R. Marshallii Greene.

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Shackelford Canyon

[July 4, 1907]

Western Siskiyou Co., region of Marble Mt.

Trees and Shrubs of Shackelford Canyon.

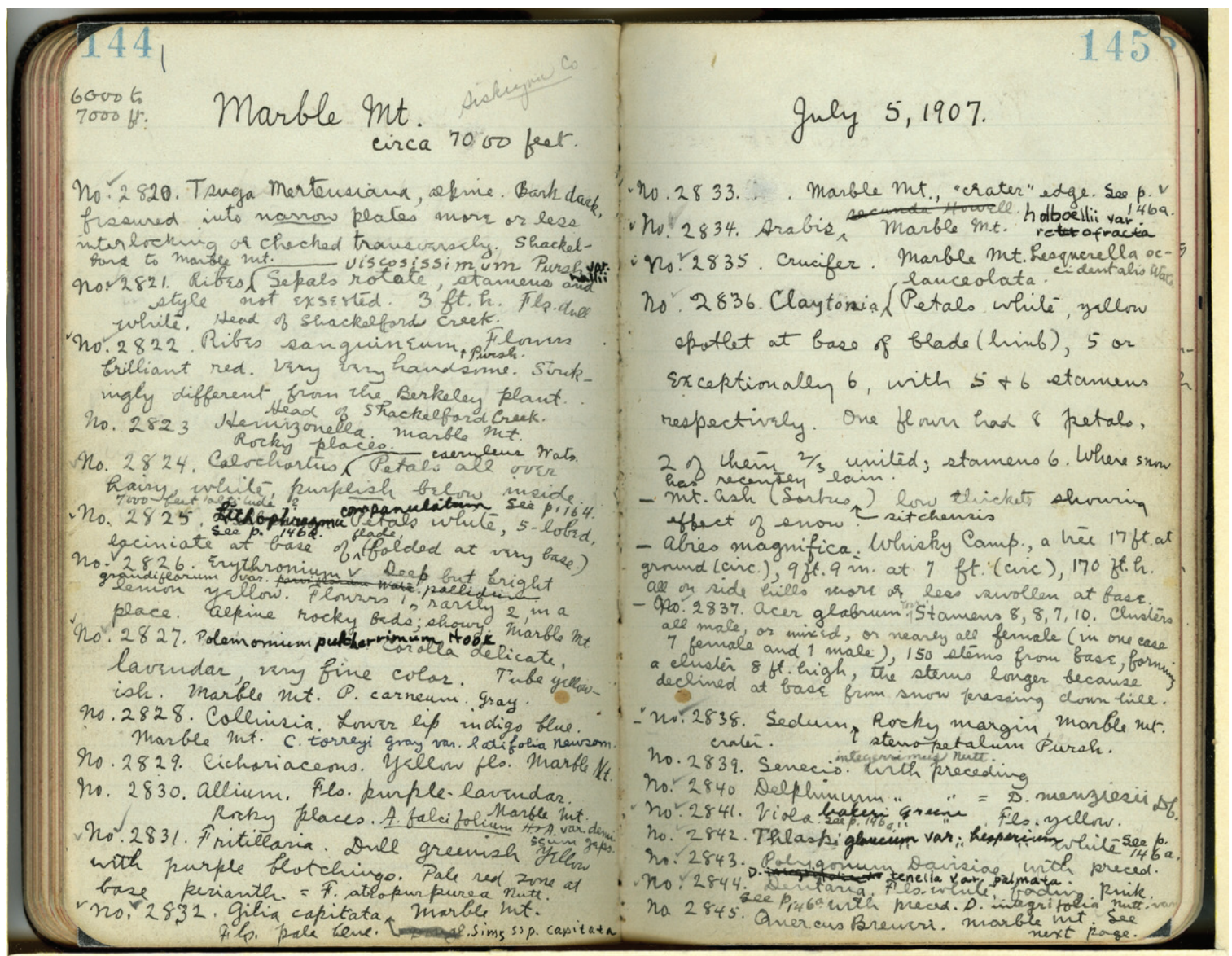
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Marble Mt. Siskiyou Co.

6000 to 7000 ft. circa 7000 ft.

[July 5, 1907]

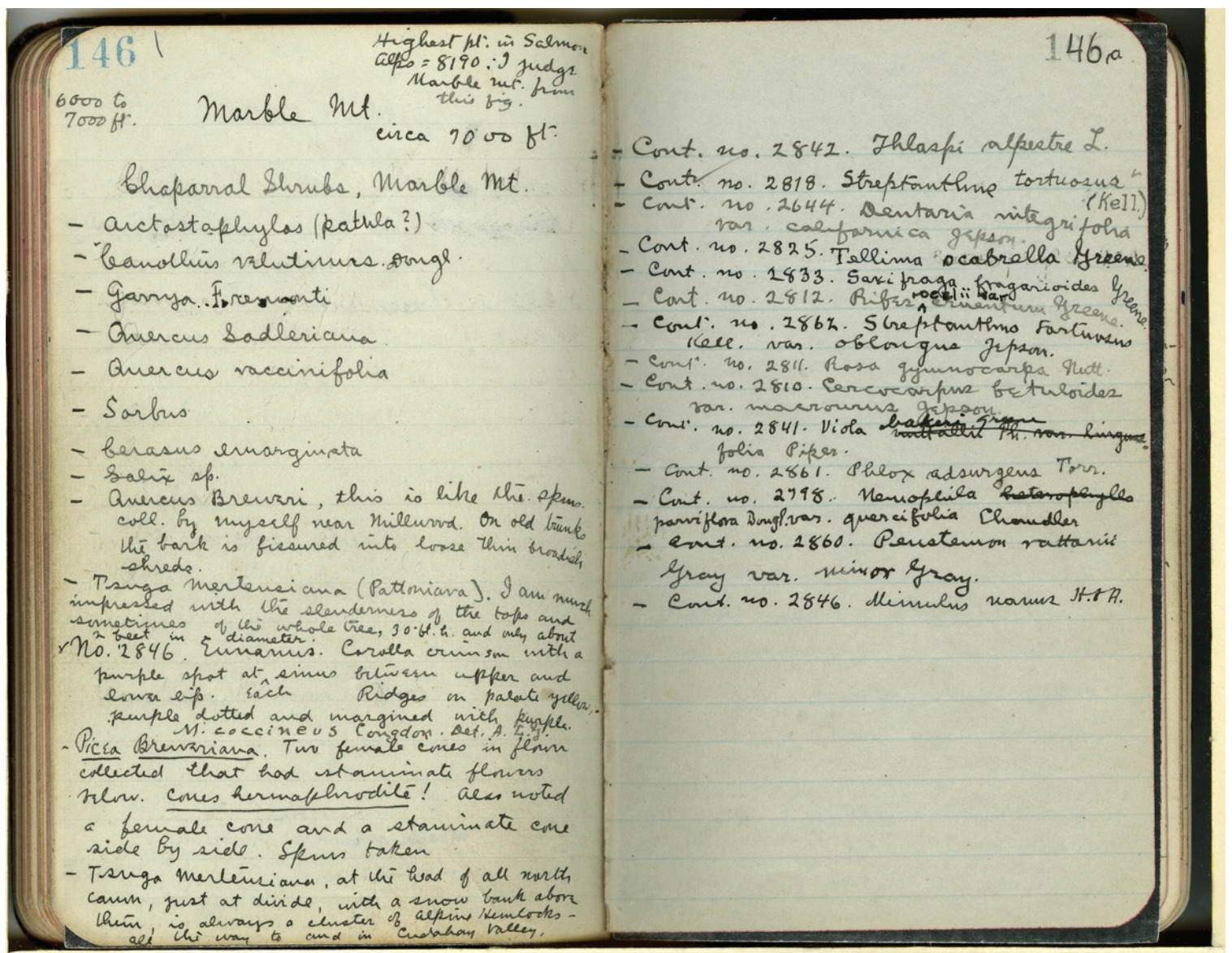
- No. 2820. *Tsuga Mertensiana*, alpine. Bark dark, fissured into narrow plates more or less interlocking or checked transversely. Shackelford to Marble Mt.
- No. 2821. *Ribes viscosissimum* Pursh. var. *hallii*. Sepals rotate, stamens and style not exerted. 3 ft. h. [feet high]. Fls. [Flowers] dull white. Head of Shackelford Creek.
- No. 2822. *Ribes sanguineum* Pursh. Flowers brilliant red. Very very handsome. Strikingly different from the Berkeley plant. Head of Shackelford Creek.
- No. 2823. *Hemizonella*. Marble Mt. Rocky places.
- No. 2824. *Calochortus coeruleus* Wats. Petals all over hairy, white, purplish below inside. 7000 feet altitude?
- No. 2825. *Lithophragma campanulatum*. See p. 164. Petals white, 5-lobed, lacinate at base of blade, (folded at very base.). See p. 146a.
- No. 2826. *Erythronium pallidum*. Deep but bright lemon yellow. Flowers 1, rarely 2, in a place. Alpine rocky beds; showy. Marble Mt.
- No. 2827. *Polemonium pulcherrimum* Hook. Corolla delicate, lavender, very fine color. Tube yellowish. Marble Mt. *P. carneum*. Gray.
- No. 2828. *Collinsia*. Lower lip indigo blue. Marble Mt. *C. torreyi* Gray var. *latifolia* Newsom.
- No. 2829. Cichoriaceous. Yellow fls. [flowers]. Marble Mt.
- No. 2830. *Allium*. Fls. [Flowers] purple-lavender. Rocky places. *A. falcifolium* H & A var. *demissum* Jeps. Marble Mt.
- No. 2831. *Fritillaria*. Dull greenish yellow with purple blotchings. Pale red tone at base perianth. = *F. atropurpurea* Nutt.
- No. 2832. *Gilia capitata* Sims. ssp. *capitata*. Marble Mt. Fls. [Flowers] pale blue.

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[Marble Mt.]

July 5, 1907

- No. 2833. Marble Mt., "crater" edge. See p. 146a.
- No. 2834. *Arabis holboellii* var. *retrofracta*. Marble Mt.
- No. 2835. Crucifer. Marble Mt. *Lesquerella occidentalis* Wats.
- No. 2836. *Claytonia lanceolata*. Petals white, yellow spotlet at base of blade (limb), 5 or exceptionally 6, with 5 & 6 stamens respectively. One flower had 8 petals, 2 of them $\frac{2}{3}$ united; stamens 6. Where snow has recently lain.
- Mt. Ash (*Sorbus sitkensis*) low thickets showing effect of snow.
- Abies magnifica*. Whisky Camp., a tree 17 ft. at ground (circ), 9 ft. 9 in. at 7 ft. (circ), 170 ft. h. all on side hills more or less swollen at base.
- No. 2837. *Acer glabrum* Torr. Stamens 8, 8, 7, 10. Clusters all male, or mixed, or nearly all female (in one case 7 female and 1 male), 150 stems from base, forming a cluster 8 ft. high, the stems longer because declined at base from snow pressing downhill.
- No. 2838. *Sedum stenopetalum* Pursh. Rocky margin, Marble Mt. crater.
- No. 2839. *Senecio integerrimus* Nutt. with preceding.
- No. 2840. *Delphinium* with preceding. = *D. menziesii* Db.
- No. 2841. *Viola bakeri* Greene. Fls yellow. See p. 146a.
- No. 2842. *Thlaspi glaucum* var. *hesperium*, white. See p. 146a.
- No. 2843. *Polygonum Davisiae* with preced.
- No. 2844. *Dentaria tenella* var. *primata*. Fls. white, fading pink. See p. 146a with preced. *D. integrifolia*
- No. 2845. *Quercus Brewerii*. Marble Mt. See next page.



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Marble Mt. circa 7000 ft.

6000 to 7000 ft.

Highest pt. [point] in Salmon Alps=8190; I judge Marble Mt. from this fig.

Chaparral Shrubs, Marble Mt.

- Arctostaphylos (patula?)
- Ceanothus velutinus. Dougl.
- Garrya Fremonti
- Quercus Sadleriana
- Quercus vaccinifolia
- Sorbus
- Cerasus emarginata
- Salix sp.
- Quercus Breweri, this is like the spms. coll. [specimens collected] by myself near Millwood. On old trunks the bark is fissured into loose thin broadish shreds.
- Tsuga mertensiana (Pattoniava). I am much impressed with the slenderness of the tops and sometimes of the whole tree, 30 ft. h. and only about 2 feet in diameter.
- No. 2846. Eunanus. Corolla crimson with a purple spot at each sinus between upper and lower lip. Ridges on palate yellow, purple dotted and margined with purple. Micococcineus Congdon. Det. A.C.G.
- Picea Breweriana. Two female cones in flower collected that had staminate flowers below. Cones hermaphrodite! Also noted a female cone and a staminate cone side by side. Spms. [Specimens] taken.
- Tsuga Mertensiana, at the head of all north canyon, just at divide, with a snow bank above them, is always a cluster of alpine Hemlocks - all the way to and in Cudahay Valley.

17_146a

- Cont. no. 2842. Thlaspi alpestre L.
- Cont. no. 2818. Streptanthus tortuosus (Kell.)
- Cont. no. 2644. Dentaria integrifolia var. californica Jepson.
- Cont. no. 2825. Tellima scabrella Greene.
- Cont. no. 2833. Saxifraga fragarioides Greene.
- Cont. no. 2812. Ribes roezlii var. cruentum Greene.
- Cont. no. 2862. Streptanthus tortuosus Kell. var. oblongus Jepson.
- Cont. no. 2811. Rosa gymnocarpa Nutt.
- Cont. no. 2810. Cercocarpus betuloides var. macrourus Jepson.
- Cont. no. 2841. Viola bakeri Greene.
- Cont. no. 2861. Phlox adsurgens Torr.
- Cont. no. 2798. Nemophila parviflora Dougl. var. quercifolia Chandler.
- Cont. no. 2860. Penstemon rattanii Gray var. minor Gray.
- Cont. no. 2846. Mimulus namus H & H.

Cont.

No. 2914. *Whipplea modesta* Torr.

See p. 177. This had a strange look but I refer it to *modesta*.

- Cont. from p. 172 seq. While on this ride through the Redwoods (cf. p. 171 at bottom) I saw a white saprophyte that was probably *Monotropa uniflora*. Looking back upon it, it seems incredible that I did not take it, but I was utterly exhausted from the trip over the Siskiyou Mountains and could scarcely get down from the saddle without distinct effort. A real difficulty, too, lay in this, that I was at the rear of my mule-train, and if I had stopped my riding horse would at once become frantic and unmanageable in its desire to go on after the other animals. Where there is a place to tie the animal by the halter rope, it does not matter. One lets the horse plunge and fret until a plant is put in press. But one cannot rope a horse to a Redwood trunk. See p. 192

July 6, 1907. also 17, 183.
Description of Route. (See also p. 21)
(See Jimmie Davis in litt. 1-9-28) Supra

No. 2847. *Picea Breweriana*. First found at head of stream running towards Klamath, first stream west of Marble Mountain. I had best describe the route followed:— at head of Shackelford we passed over a divide to Wobley Creek (acc. men met on trail) It may merely have been a fork of Wobley. We then bore to left. In about a mile or so, the trail forks. We keep to the upper trail following along the sides of the divide and in about 3 miles come in sight of Marble Mt. with its white masses rising irregularly. Marble Mt. is in the form of a huge crater or circular rim open to the north. The highest masses on the east side of the rim are the white landmark peaks. The masses on the west side are not so high and not so white. We follow around the southerly rim of

17_146b

Cont.

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17_147

July 6, 1907. Description of Route. (See also p. 21 supra also 17, 183).

(See Jimmie Davis in litt. 1-9-28).

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Alt. estimates on this and following pages, Siskiyou trip, conservative, too low rather than too high.

(Spelled Cuddihy on Forest Service Map)

Marble Mt. to Cudahay Valley
circa 7000 feet.

The crater, being within 10 feet of it by trail at one point, pass over a divide which runs into crater rim and separates one fork of Wooley from another, go down in the canyon $\frac{1}{4}$ of a mile to Whisky Camp. We work along northerly, next, following the easterly rim of the "crater". At one point we come very near the edge of it and have a fine view of the white Marble Peak across the chasm. Soon the trail forks, we follow up a short distance to the divide by the upper trail. This brings up to the watershed of a stream flowing into the Klamath. Believing this ~~stream~~ trail to be a cattle trail and not wishing to risk it, we cut straight down to the trunk trail and continue to follow along the divide, slipping from one side to the other of it. On the very next Klamath creek (next west of one spoken

July 6, 1907.

of above) we find the Brewer Spruce at the head of it. It's a cold place. One tree measured 10 ft. 10 in. circ. at 4 ft. and was 95 feet high. The bark is whitish, smoothish but scaling of in thickish scales of irregular shape but usually 1 to 4 inches long and half as wide; they leave shallowly concave scars. The branches are horizontal, especially in top and few. The branchlets hang down in considerable numbers, 1 or 2 feet long, straight down, giving a rather formal effect to the exceedingly thin top. This is the strongest character impressed upon my mind - the thinness of the top, the scantiness of the branches. I saw but a few trees - not more than half-a-dozen, but it was getting late and I stopped no longer than to study the tree itself. From a dwarf tree we secured flowers. The male cones are very short. The female cones are dark purple. The sides (towards the top) of the scales are turned back (erectly) in such a way that all the scales together form rhomboidal areas, the appressed bract with its finely toothed edge. They stand erect on the branch. The associated trees were *Tsuga mertensiana* (Alpine Hemlock), *Pinus monticola*, *Abies magnifica* (at least this could not have been but a short distance away). Soon we slipped back to the other side of the divide and in about 2 miles found two

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Marble Mt. to Cudahay Valley (spelled Cuddihy on Forest Service Map.) Circa 7000 feet.

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17_149

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July 6, 1907

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Cudahay Valley

(Spelled Cuddihy on Klamath map, U. S. Forest Service). circa 6000 feet.

Brewer Spruce trees by trail, one of which was 10 ft. 5 in. circ. at 4 ft. Then we worked around the rocky shoulder of a mountain = my "Packer's Mt." side (on the divide) and then slanted down this mountain side to Cudahay Valley, in doing which we passed through a great brush area as high as our heads on horseback. The trail was clear below, but above had grown over the trail so that I rarely saw more than two animals ahead. It was very interesting; composed of the following species.

Ceanothus velutinus, a great deal of this, leaves not varnished.

Cercanus emarginata, a great deal of this. Along the south slopes of the divide in places it forms pure thickets of 10 + 20 acres extent. Also noted *Cercanus demissa* in fl. but this less common.

Sorbus sitkensis, common but not abundant. Its bud scales (winter buds) brilliant red.

Rhus tenuifolia, common in wet places, forming extensive thickets. Stems ascending, 20 ft. h. and 4 in. diam. at base.

Arctostaphylos manzanita, close to *patula*, abundant.

July 6, 1907.

Acer glabrum, frequent. Have never before seen so much of this. Strictly a bush. Its leaves deep red in spots from a fungus.

Amelanchier alnifolia, in fl.

Quercus vaccinifolia, its numerous slender straightish branchlets form a sort of vaccinium-like top that is very pronounced and is its most marked characteristic. Low 1 to 3 feet high. Leaves small, entire, or larger, sometimes toothed.

No. 2848. *Anemone deltoidea* Hook. Sepals 5 or 4. mt. top. rocky slope east of Cudahay Valley.
 No. 2849. *Arnica* Flower yellow.
 No. 2850. *Phyllodece empetriformis* red. See p. 186a.
 No. 2851. *Vaccinium nivictum* pink. See p. 186a.
 No. 2852. *Anemone occidentalis* Wats. Fls. white.
 No. 2853. *Lathyrus*. Fls. crimson, promptly fading blue. Cudahay Valley. L. nevadensis of Wats.

Trees of the Region.

In all this region, from the upper Shackelford Canyon to Cudahay Valley and our day's journey beyond, the true Firs form the main part of the forest, probably 90% of the whole of it. I saw but very little of *Pinus Murrayana* and in few places. *Pinus monticola* was rare, comparatively. The most abundant species on our trail next to the true firs (*magnifica* and *concolor*) is *Tsuga Mertensiana*. Along the divide, spoken of above, and about 2 miles west of the divide at head of Cudahay Valley

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Cudahay Valley

circa 6000 feet.

[July 6, 1907]

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[Cudahay Valley]

July 6, 1907

-*Acer glabrum*, frequent. Have never before seen so much of this. Strictly a bush. Its leaves deep red in spots from a fungus.

-*Amelanchier alnifolia*, in fl. [flower].

-*Quercus vaccinifolia*. Its numerous slender straightish branchlets form a sort of vaccinium-like top that is very pronounced and is its most marked characteristic. Low 1 to 3 feet high. Leaves small, entire, or larger, sometimes toothed.

No. 2848. *Anemone deltoidea* Hook. Sepals 5 or 4.

No. 2849. *Arnica* Flower yellow.

No. 2850. *Phyllodece empetriformis* red. See p. 186a.

No. 2851. *Vaccinium nivictum* pink. See p. 186a.

No. 2852. *Anemone occidentalis* Wats. Fls. white.

No. 2853. *Lathyrus*. Fls. crimson, promptly fading blue. Cudahay Valley. L. nevadensis Wats.

Trees of the Region.

In all this region, from the upper Shackelford Canyon to Cudahay Valley and our day's journey beyond, the true Firs form the main part of the forest, probably 90% of the whole of it. I saw but very little of *Pinus Murrayana* and in few places. *Pinus monticola* was rare, comparatively. The most abundant species on our trail next to the true firs (*magnifica* and *concolor*) is *Tsuga Mertensiana*. Along the divide, spoken of above, and about 2 miles west of the divide at head of Cudahay Valley

6000 down to 4000 ft.

Trail, Cudahay to the night camp
on ridge overlooking Klamath.
(Spelled Cuddihy on Forest Service map).

I saw a few trees of *Picea Breweriana*. They were less characteristic in habit than those first seen. *Tsuga Mertensiana* was still seen in its characteristic habitats at heads of north canyons, but in this high country was also found in the bottoms of south canyons. I noticed it reproducing abundantly in the bottom of a cold wet canyon valley. On the trail from Cudahay valley to our night camp, July 7, at the latter end of the journey we came down considerably and soon saw the "valley" of the Klamath below us. Along the ridges for a mile or so we passed through a pure brush area of *Quercus Sadleriana*. I noticed that the mules of our pack train liked the foliage and ate it greedily, preferring it to any other shrub.

Abies magnifica, bark dark brown, fissured into plates which maintain smooth surfaces. Bark dark red within, close-grained, uniform.

Abies concolor, bark drab, roughly fissured, the outer part loosely fibrous or spongy comparatively and whitish, the very inside red. A dead giant on trail measured 24 ft. circ. at 4 ft.

No. 2853a. *Lewisia* ^{*triphylla* Rob.} In sheet with 2854.
No. 2854. *Linanthus* ^{*nuttallii* Gray.} Fls. white; stamens equal. Ridge above Cudahay valley.
No. 2855. *Silene campanulata* Wats. Petals about 6-cleft into linear lobes which are 2-cleft at apex. Crest of petals consisting

Siskiyou Co. July 6-7, 1907.

of elaborate several-toothed appendages. Petals bordered by membranaceous wing on each side, developed above into broadish auricles. With preceding.

No. 2856. *Lupinus*. Fls. blue, center banner whitish, ~~the~~ fading purple. With preceding. *L. breweri* Gray.

No. 2857. *Picea Breweriana* ^{Wats.} Trail west of Cudahay at ridge.

No. 2858. *Lonicera conjugialis*. Corolla livid purple inside, choked in throat with hairs. With 2856 as to locality.

No. 2859. *Sarcodes sanguinea*. With 2856.

- *Tsuga Mertensiana* (*Pattoniana*), cones restricted to very top. As they grow on the lateral branchlets and there hang, the cluster in top is conspicuous and very heavy usually.

- *Pinus monticola*, rather rare, cones 9 in. long. The cones in clusters distinguish from Sugar Pine which bears its cones singly.

- *Quercus Sadleriana*, abundant as a shade shrub in fir forests.

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Trail, Cudahay to the night camp on ridge overlooking Klamath. (spelled Cuddihy on Forest Service map).

6000 down to 4000 ft.

[Siskiyou County July 6-7, 1907]

I saw a few trees of *Picea Breweriana*. They were less characteristic in habit than those first seen. *Tsuga Mertensiana* was still seen in its characteristic habitats at heads of north canyons, but in this high country was also found in the bottoms of south canyons. I noticed it reproducing abundantly in the bottom of a cold wet canyon valley. On the trail from Cudahay Valley to our night camp, July 7, at the latter end of the journey we came down considerably and soon saw the "valley" of the Klamath below us. Along the ridges for a mile or so we passed through a pure brush area of *Quercus Sadleriana*. I noticed that the mules of our pack train liked the foliage and ate it greedily, preferring it to any other shrub. *Abies magnifica*, bark dark brown, fissured into plates which maintain smooth surfaces. Bark dark red within, close-grained, uniform.

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No. 2854. *Linanthus nuttallii* Gray. Fls. white; stamens equal. Ridge above Cudahay Valley.

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[Trail, Cudahay to the night camp on ridge overlooking Klamath. 6000 down to 4000 ft.]

Siskiyou County July 6-7, 1907

of elaborate several-toothed appendages. Petal claws bordered by membranaceous wing on each side, developed above into broadish auricles. With preceding.

No. 2856. *Lupinus*. Fls. blue, enter banner whitish, fading purple. With preceding. *L. breweri* Gray.

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Cudahay Trail to Dutch Henry's on Klamath
(Spelled Cudihy on Forest Service map) 4000 down to 2500 feet?

Zone below Fir Zone on Klamath.

- Just below the night camp we strike a different zone. Douglas Fir comes in abundantly, Sugar Pine a little with it, *Castanopsis chrysophylla* abundant both in shrub form and as trees, a very little shrub-like Tan Oak, *Ceanothus integririmus* common, madrona noted, a little scattering small Black Oak hardly more than shrubs, a little *Pinus ponderosa*, *Rubus nutkana* abundant, *Cornus Nuttallii*, *Corylus Californica** As we range lower the Black Oak becomes large trees. On a ridge I see twenty Tan Oaks 1 1/2 to 3 feet diam. at butt and 75-100 feet high. Trees of the best grade. Strangely I saw no more.

The trail now becomes open, passing through a fine forest of Douglas Fir and Yellow Pine. Higher up the trail was everywhere blocked with fallen timber. The wreckage of the winter's storms was everywhere in evidence and we were constantly circling these windfalls. Above Cudahay, west, the trail was much blocked with snow and we had much snow, for this season, for ten miles.

Douglas Fir reproduction splendid on all these lower slopes.

Oregon Oak (*Garryana*) a little. *Alnus rhombifolia* on lower streams.

* *Corylus rostrata californica*.

River, July 8, 1907

(Near Cottage Grove)

Along the Klamath River ^(up)

- *Cercis occidentalis*. *Vitis Californica*. Both common
- *Boschniakia strobilacea*. I have never before seen so much of this. For several miles I noted it as common without especially looking for it. (*Rhus diversiloba*).
- Poison Ivy (*Rhus diversiloba*) only along river. None higher up.
- *Acer macrophyllum*, common.
- *Populus trichocarpa*, river benches.
- *Quercus chrysolepis*, large trees, some 3 ft. diam.
- *Umbellularia Californica*.
- *Fraxinus oregana*

♣ ♣ I have seen ~~on~~ this trip no

Quercus lobata, no *Aesculus Californica*, no *Quercus Douglasii*, no *Pinus Sabiniana*. The latter is not even in the hot canon of the Klamath as might be antecedently expected. Be it noted however that *Pinus ponderosa* and *Pseudotsuga taxifolia* come straight down to the waters of the river here.

- This is the country of the Klamath Indians. It is truly a frontier country. There are not only no railroads but no roads. A wagon would be as strange a sight to the native inhabitants of these parts as a Pullman coach to our grandfathers. Everywhere our train excited curiosity. White men, mahalies and Indian men were equally excited. Children ran to look and mothers held up rosy-cheeked small ones to see the strangers with their curious equipment go riding past through the woods. Even the U.S. Mail does not penetrate this country from Happy Camp to Soames Bar.

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Cudahay (spelled Cudihy on Forest Service map)
Trail to Dutch Henry's on Klamath
4000 down to 2500 feet?

Zone below Fir Zone on Klamath.

Just below the night camp we strike a different zone. Douglas Fir comes in abundantly, Sugar Pine a little with it, *Castanopsis chrysophylla* abundant both in shrub form and as trees, a very little shrub-like Tan Oak, *Ceanothus integririmus* common, madrona noted, a little scattering small Black Oak hardly more than shrubs, a little *Pinus ponderosa*, *Rubus nutkana* abundant, *Cornus Nuttallii*, *Corylus Californica* (*Corylus rostrata californica*). As we range lower the Black Oak become large trees. On a ridge I see twenty tan oaks 1 1/2 to 3 feet diam. [diameter] at butt and 75 to 100 feet high. Trees of the best grade. Strangely I saw no more.

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Douglas Fir reproduction splendid on all these lower slopes.

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River, [ref to prev p] July 8, 1907
Along (up) the Klamath River (Near Cottage Grove)
- *Cercis occidentalis*. *Vitis Californica*. Both common.
- *Boschniakia strobilacea*. I have never before seen so much of this. For several miles I noted it as common without especially looking for it.
- Poison Ivy (*Rhus diversiloba*) only along river. None higher up.
- *Acer macrophyllum*, common.
- *Populus trichocarpa*, river benches.
- *Quercus chrysolepis*, large trees, some 3 ft. diam.
- *Umbellularia Californica*.
- *Fraxinus oregana*
[drawn pointing finger and paragraph sign]. I have seen on this trip no *Quercus lobata*, no *Aesculus Californica*, no *Quercus Douglasii*, no *Pinus Sabiniana*. The latter is not even in the hot canon [canyon] of the Klamath as might be antecedently [?] expected. Be it noted however that *Pinus ponderosa* and *Pseudotsuga taxifolia* come straight down to the waters of the river here.
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Klamath River

- In camp on sand-beach of Klamath River.

The Klamath here is an imposing stream 250 yards wide. It does not look that to the untrained eye, but it does when one surveys its flood, studies its power, the sweep of its current, the mighty powers of the waters of its eddies sweeping steadily and irresistibly, yet without hurry, into place and on, like the steady march of battalions. People, civilized, do not appreciate rivers. They cross them in Pullman coaches over steel bridges. How were we to cross this? No bridge, not even a ferry? Absolutely no place by which it can be forded. A "ford" means a place where canoes carry the traveler across and animals may swim

July 8, 1907.

with safety. An Indian managed the canoe. Some of the mules sensed danger and were persuaded ^{into} ~~across~~ the water with difficulty. The smaller mules swam the current well, but one big mule fought to get back to land, his eyes aflame with fear, desperately for land and his life as he believed. The Indian pulled frantically at the oars but the current and the mule were too much for him and the mule regained the bank. It was then necessary, for the second trial to take the animal higher up stream and plunge him off at once into deep water. Headed for the middle of the stream, the Indian pulling on his oars, they were caught by the current and carried down some distance in making their way to the other side. The same fight happened with the bull-horse. This horse fought so hard

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Klamath River [July 8, 1907.]

-In camp on sand-beach of Klamath River.

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[Klamath River] July 8, 1907.

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Klamath River, July 8, 1907

to regain the land that the boat was carried down stream dangerously near the rapids and the Indian was forced to let the animal go back to the shore they had left. A curiously tattooed and withered old dame looking near a century sat on the ground by her cabin and responded in the Klamath language to the queries of an Indian guide. Her gestures were the real thing. With an overhead wave of the hand she continually motioned towards Cottage Grove to indicate that the man to take us across the river would be found there. Jimmie went for him and came down the opposite bank to get the boat. They had to pull the boat up through the rapids, in the edge of the river, opposite us. First our baggage was taken across and then the animals as told above.

Then we repacked and picked our way over the old placer diggings where Chinamen still work there. Cottage Grove consists of one 2-story cottage painted white and very neat to look at (as compared with the Indian cabins) where a patriarch rather dirty as are nearly all Squaw men lived with his Indian wife. A colony of Indians in cabins lived about. It is 23 miles by trail along the river to Happy Camp. We leave this trail in about a mile and strike up the mountain on the Crescent City trail = Kelsey Trail 70 miles to Crescent City, for which journey the pack trains take five days. * - Kelsey Trail

Crescent City Trail from Cottage Grove.
[="Kelsey Trail" to Crescent City] see p. 202d.

- *Hypericum Scouleri*, common on the river benches.
- *Tan Oak*, ranging 500 to 1500 feet above river and forming about 10% total stand. In particular canyons 5 to 15% stand. Trees mostly small or medium sized, a few large trees. One noted 3 1/2 ft. diam. and 80 ft. h. (on ridge).
- *Quercus chrysolepis*, rather common. A few large trees. One 12 ft. circ. at 4 ft.
- *Madrona*, old leaves turn red and hang down by July 1. Adds to its color symphony.
- *Tan Oak* is here in competition with *Douglas Fir*, the strongest species of conifer in reproductiveness. Same everywhere that it is in competition with it. It holds its own well against the *Fir* which speaks well for its persistence and aggressiveness. Advantage in resistance to fire and in stump sprouting. Advantage of *Fir* in lightness of its numerous seeds and their viability. *Black Oak* on ridges holds its own well against *D. Fir*. Very beautiful mixed stand of the two species on ridge of Cottage Grove - Crast trail. *Black Oak* probably resists fire better than *Douglas Fir* but latter finally overtops it.
- *Azalea occidentalis* white fls. at spring. Nearly always at water. I have never seen them away from water. We were looking for water for noon halt. When I saw the *Azalea* I said there would be water there. Sampson went to see and found a spring.

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Klamath River July 8, 1907

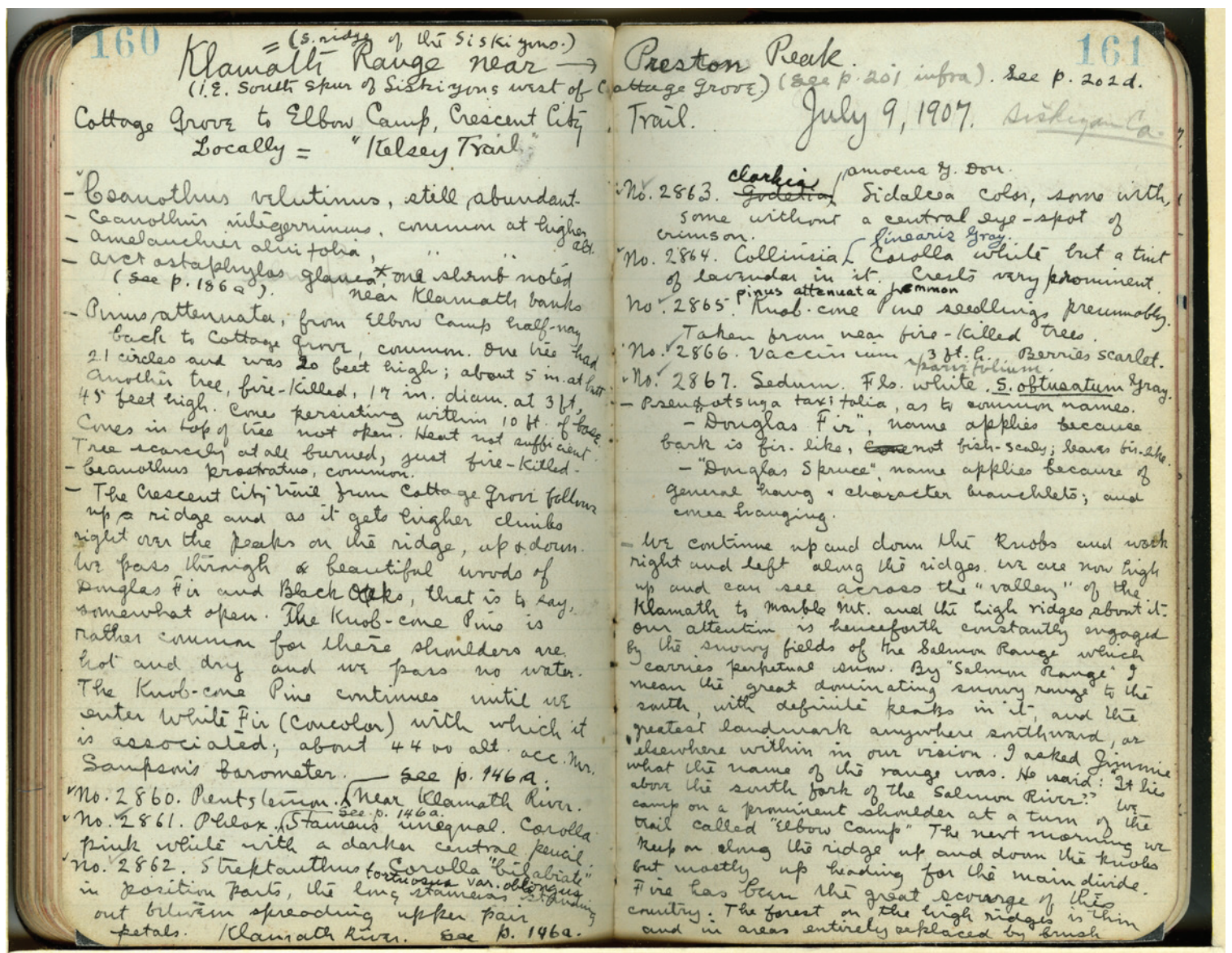
to regain the land that the boat was carried down stream dangerously near the rapids and the Indian was forced to let the animal go back to the shore they had left. A curiously tattooed and withered old dame looking near a century sat on the ground by her cabin and responded in the Klamath language to the queries of the Indian guide. Her gestures were the real thing. With an overhead wave of the hand she continually motioned towards Cottage Grove to indicate that the man to take us across the river would be found there. Jimmie went for him and came down the opposite bank to get the boat. They had to pull the boat up through the rapids in the edge of the river, opposite us. First our baggage was taken across and then the animals as told above.

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Crescent City Trail from Cottage Grove
(="Kelsey Trail" to Crescent City] see p. 202d.

- Hypericum Scouleri*, common on the river benches.
- Tan Oak*, ranging 500 to 1500 feet above river and forming about 1% total stand. In particular canyons 5 to 15% stand. Trees mostly small or medium sized, a few large trees. One noted 3 1/2 ft. [feet] diam. [diameter] and 80 ft. h. [feet high] (on ridge).
- *Quercus chrysolepis*, rather common. A few large trees. One 12 ft. circ. [feet circumference] at 4 ft. [feet].
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- *Azalea occidentalis*, white fls. [flowers] at spring. Nearly always at water. I have never seen them away from water. We were looking for water for afternoon halt when I saw the *azalea* I said there would be water there. Sampson went to see and found a spring.



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Klamath Range near [Preston Peak] = (S. ridge of the Siskiyou.) (i.e. South spur of Siskiyou west of C [Cottage Grove])

Cottage Grove to Elbow Camp, Crescent City

Locally = "Kelsey Trail"

- Ceanothus velutinus, still abundant.
- Ceanothus integerrimus, common at higher alt.
- Amelanchier alnifolia, " " [common at higher alt.]
- Arctostaphylos glauca_ (see p. 186a). one shrub noted near Klamath banks
- Pinus attenuata, from Elbow Camp half-way back to Cottage Grove, common. One tree had 21 circles and was 20 feet high; about 5 in. at butt. Another tree, fire-killed, 17 in. diam. at 3 ft, 45 feet high. Cones persisting within 10 ft. of base. Cones in top of tree not open. Heat not sufficient. Tree scarcely at all burned, just fire-killed.
- Ceanothus prostratus, common.
- The Crescent City trail from Cottage Grove follows up a ridge and as it gets higher climbs right over the peaks on the ridge, up [and] down. We pass through beautiful woods of Douglas Fir and Black Oaks, that is to say, somewhat open. The Knob-cone Pine is rather common for these shoulders are hot and dry and we pass no water. The Knob-cone Pine continues until we enter White Fir (concolor) with which it is associated; about 4400 alt. acc. [altitude according to] Mr. Sampson's barometer. See p. 146a.
- No. 2860. Penstemon. See p. 146a. Near Klamath River.
- No. 2861. Phlox. See p. 146a. Stamens unequal. Corolla pink white with a darker central pencil [?].
- No. 2862. Streptanthus tortuosa var. oblongus Corolla "bilabiate" in position parts, the long stamens standing out between spreading upper pair petals. Klamath River. See p. 146a.

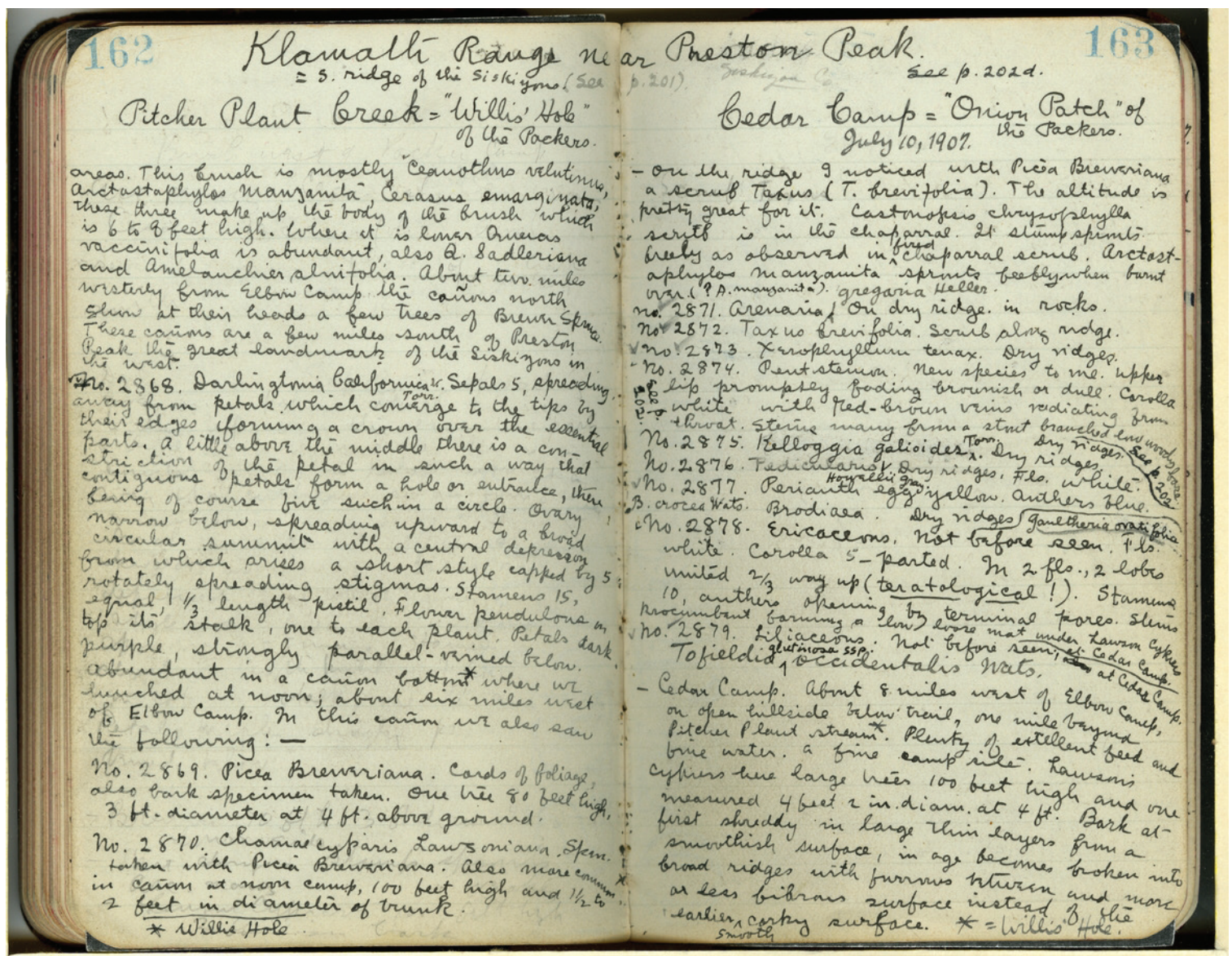
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Preston Peak.

ottage Grove) ["i.e. south spur of Siskiyou west of Cottage Grove"; cont. from prev. p.] (see p. 201 infra). See p. 202d.

Trail [Crescent City Trail; from prev. p.] July 9, 1907. Siskiyou Co.

- No. 2863. Clarkia amoena G. Don. Sidalcea color, some with, some without a central eye-spot of crimson.
- No. 2864. Collinsia linearis Gray. Corolla white but a tint of lavender in it. Crests very prominent.
- No. 2865. Pinus attenuata Lemmon. Knob-cone Pine seedlings presumably. Taken from near fire-killed trees.
- No. 2866. Vaccinium parvifolium. 3 ft. h. Berries scarlet.
- No. 2867. Sedum. Fls. white. S. obtusatum Gray.
- Pseudotsuga taxifolia, as to common names.
- "Douglas Fir", name applies because bark is fir-like, not fish-scaly; leaves fir-like.
- "Douglas Spruce", name applies because of general hang [and] character branchlets; and cones hanging.
- We continue up and down the knobs and work right and left along the ridges. We are now high up and can see across the "valley" of the Klamath to Marble Mt. and the high ridges about it. Our attention is henceforth constantly engaged by the snowy fields of the Salmon Range which carries perpetual snow. By "Salmon Range" I mean the great dominating snowy range to the south, with definite peaks in it, and the greatest landmark anywhere southward, as elsewhere within in our vision. I asked Jimmie what the name of the range was. He said: "It lies above the south fork of the Salmon River." We camp on a prominent shoulder at a turn of the trail called "Elbow Camp" The next morning we keep on along the ridge up and down the knobs but mostly up heading for the main divide. Fire has been the great scourge of this country. The forest on the high ridges is thin and in areas entirely replaced by brush



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Klamath Range near [Preston Peak.]

=s. ridge of the Siskiyou (see [p. 201])

Pitcher Plant Creek= "Willis' Hole" of the Packers.

areas. This brush is mostly *Ceanothus velutinus*, *Arctostaphylos manzanita*, *Cerasus emarginata*, these three make up the body of the brush which is 6 to 8 feet high. Where it is lower *Quercus vaccinifolia* is abundant, also *Q. Sadleriana* and *Amelanchier alnifolia*. About 2 miles westerly from Elbow Camp the canons [canyons] north show at their heads a few trees of Brewer Spruce. These canons [canyons] are a few miles south of Preston Peak the great landmark of the Siskiyou in the west.

No. 2868. *Darlingtonia Californica* Torr. Sepals 5, spreading away from the petals which converge to the tips by their edges forming a crown over the essential parts. A little above the middle there is a constriction of the petal in such a way that contiguous petals form a hole or entrance, there being of course five such in a circle. Ovary narrow below, spreading upward to a broad circular summit with a central depression from which arises a short style capped by 5 rotately spreading stigmas. Stamens 15, equal, 1/3 length pistil. Flower pendulous on top its stalk, one to each plant. Petals dark purple, strongly parallel-veined below. Abundant in a canon [canyon] bottom where we lunched at noon; about six miles west of Elbow Camp. In this canon [canyon] we also saw the following: --

No. 2869. *Picea Breweriana*. Cards of foliage, also bark specimen taken. One tree 80 feet high, 3 ft. diameter at 4 ft. above ground.

No. 2870. *Chamaecyparis Lawsoniana* Spm. [Specimen] taken with *Picea Breweriana*. Also more common in canon [canyon] at noon camp, 100 feet high, and 1 1/2 to 2 feet in diameter of trunk.

_Willis Hole

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[Klamath Range ne]ar Preston Peak.

See p. 202d.

Cedar Camp = "Onion Patch" of the Packers.

July 10, 1907.

on the ridge I noticed with *Picea Breweriana* a scrub *Taxus* (*T. brevifolia*). The altitude is pretty great for it. *Castanopsis chrysophylla* scrub is in the chaparral. It stump sprouts freely as observed in fired chaparral scrub. *Arctostaphylos manzanita* sprouts feebly when burnt over. (?*A. manzanita*). No. 2871. *Arenaria gregaria* Heller. On dry ridge in rocks. No. 2872. *Taxus brevifolia*. Scrub along ridge. No. 2873. *Xerophyllum tenax*. Dry ridges. No. 2874. *Pentstemon*. New species to me. Upper lip promptly fading brownish or dull. Corolla white with red-brown veins radiating from throat. Stems many form a stout branched low woody base. See p. 202. No. 2875. *Kelloggia galioides* Torr. Dry ridges. No. 2876. *Pedicularis Howellii* Gray. Dry ridges. Fls. [Flowers] white. No. 2877. Perianth egg yellow. Anthers blue. *B. Crocea* Wats. *Brodiaea*. Dry ridges. No. 2878. Ericaceous, not before seen. Fls. [Flowers] white, corolla 5-parted. In 2 fls. [flowers], 2 lobes united 2/3 way up (teratological!). Stamens 10, anthers opening by terminal pores. Stems procumbent forming a low loose mat under Lawson Cypress at Cedar Camp. No. 2879. Liliaceous. Not before seen at Cedar Camp. *Tofieldia glutinosa* ssp. *occidentalis* Wats. Cedar Camp. About 8 miles west of Elbow Camp, on open hillside below trail, one mile beyond Pitcher Plant stream _Willis Hole. Plenty of excellent feed and fine water. A fine camp site. Lawson's cypress here large trees 100 feet high and one measured 4 feet 2 in. diam. at 4 ft. Bark at first shreddy in large thin layers from a smoothish surface, in age becomes broken into brand ridges with furrows between and more or less fibrous surface instead of earlier smooth corky surface. * = Willis' Hole.

Cedar Camp to "Divide", summit of →
 = "Onion Patch" of the Packers
 no. 2879a *Senecio triangularis* Hook.
 - *Picea Breweriana*, west of Cedar Camp, saw more of this, in forest on south slope, one tree noted 100 feet high.
 - *Calachortus*, no. 2824, ^{= *C. coeruleus* Wats.} noted today, at least 6000 feet. Does any other species range so high?
 - *Rubus Nutkana*, common in Douglas Fir forests and fir forests, herbaceous; a little lower than 5000 or 6000 it shows a little woody.
 - *Pinus attenuata*, 6 feet high, eight or nine years old, bore cones when five or six years old, as near as I can calculate the age. Safely the latter figure.
 - From Cedar Camp we worked to the divide and left the waters of the Klamath and came on to the waters of South Fork of Smith River. All the way along the ridge leading to the divide I noted at intervals *Picea Breweriana*, even on the south side of the ridge. This ridge like the rest of the country has been terribly fire stricken and seems now very dry and arid. Yet snow has been off it but a short time for snow lies in patches here and there, still, on protected slope. So while it seems a very dry place for Brewer Spruce, they really have but a short season with the snow off the ground. Port Orford Cedar I note in moist places all the way to the ford of Smith Fork of Smith River. At the divide we have a grand view of the whole country. The broad gap in the mountains where the Klamath turns easterly to the great inner plateau basin shows plainly. The Salmon Range looms strongly from here and asserts its prominence as a

mountain range over all other mountain masses in this region. After leaving the divide we came down rapidly, soon passing a cabin, Williams Cabin, and then zigzagging for keeps down, down, down. Passed on the dry shoulders the *Pinus attenuata* described on the previous page. All brush, brush, brush. We worked through it for miles, for it had overgrown the trail badly. On the abrupt slopes and shoulders it consisted of: -
Quercus Sadleriana. *Quercus vaccinifolia*. *Arctostaphylos manzanita*. *Castanopsis chrysophylla*.
 No. 2880. *Montia parvifolia* (inac.) Greene ^{parvifolia}. Dry rocky places on ridge. Note the sterile rosettes. Petals pink. I judge the altitude 6500 feet. Between Cedar Camp and divide.
 No. 2881. *Pentstemon menziesii*. Corollas purple-blue. Very handsome. On divide. 6000 feet.
 No. 2882. *Silene grayii*. On divide 6000 feet.
 No. 2883. *Polygonum phytolaccaefolium* Meissn. Sometimes filling the meadows. Swampy meadow just below divide. Noted as far back as Marble Mt.
 No. 2884. *Quercus Breweri*, the genuine thing. Low shrub 2 or 3 feet high. On ridge west of divide.
 No. 2885. *Quercus vaccinifolia*. Low spreading shrubs 4 to 6 feet or more broad and 1 ft. high. This is fairly typical as to foliage of all I have seen from Whiskey Camp and Marble Mt. No pollen-like buzz on young leaves. On ridge west of divide.
 No. 2886. *Lilium*, new to me. On dry rocky exposed chaparral ridge where grew shrubs listed at top of this page and also *Pinus attenuata*. (Lunch place). Petals livid purple, the segments below tips dotted. cf. #2891.
 No. 2887. *Quercus densiflora*. Scrub form, on

July 11, 1907.

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 Klamath Range [near Preston Peak]
 = s. ridge of the Siskiyou (See [p. 201])
 [July 11, 1907]
 Cedar Camp to "Divide," summit of [the Siskiyou]
 ="Onion Patch" of the Packers.

No. 2879a. *Senecio triangularis* Hook.
 -*Picea Breweriana*, west of Cedar Camp, saw more of this, in forest on south slope, one tree noted 100 feet high.
 -*Calachortus*, no. 2824, = *C. coeruleus* Wats. noted today, at least 6000 feet. Does any other species range so high?
 -*Rubus Nutkana*, common in Douglas Fir forests and fir forests, herbaceous; a little lower than 5000 or 6000 it shows a little woody.
 -*Pinus attenuata*, 6 feet high, eight or nine years old, bore cones when five or six years old, as near as I can calculate the age. Safely the latter figure.
 -From Cedar Camp we worked to the divide and left the waters of the Klamath and came on to the waters of South Fork of Smith River. All the way along the ridge leading to the divide I noted at intervals *Picea Breweriana*, even on the south side of the ridge. This ridge like the rest of the country has been terribly fire stricken and seems now very dry and arid. Yet snow has been off it but a short time for snow lies in patches here and there, still, on protected slope. So while it seems a very dry place for Brewer Spruce, they really have but a short season with the snow off the ground. Port Orford Cedar I note in moist places all the way to the ford of Smith Fork of Smith River. At the divide we have a grand view of the whole country. The broad gap in the mountains where the Klamath turns easterly to the great inner plateau basin shows plainly. The Salmon Range looms strongly from here and asserts its prominence as a

17_165
 [Klamath Range] near Preston Peak
 [= s. ridge of the Siskiyou] See [p. 201]
 July 11, 1907
 [Cedar Camp to "Divide," summit of] the Siskiyou

mountain range over all other mountain masses in this region. After leaving the divide we came down rapidly, soon passing a cabin, Williams Cabin, and then zigzagging for keeps down, down, down. Passed on the dry shoulders the *Pinus attenuata* described on the previous page. All brush, brush, brush. We worked through it for miles, for it had overgrown the trail badly. On the abrupt slopes and shoulders it consisted of:
Quercus Sadleriana. *Quercus vaccinifolia*. *Arctostaphylos manzanita*. *Castanopsis chrysophylla*.
 No. 2880. *Montia parvifolia* (inac.) Greene [note: last two words were written by a different hand]. Dry rocky places on ridge. Note the sterile rosettes. Petals pink. I judge the altitude 6500 feet. Between Cedar Camp and divide.
 No. 2881. *Pentstemon menziesii*. Corollas purple-blue. Very handsome. On divide. 6000 feet.
 No. 2882. *Silene grayii*. On divide 6000 feet.
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 No. 2886. *Lilium*, new to me. = *L. bolanderi* Wats. On dry rock exposed chaparral ridge where grew shrubs listed at top of this page and also *Pinus attenuata*. (Lunch place). Petals livid purple, the segments below tips dotted. cf. #2891.
 No. 2887. *Quercus densiflora*. Scrub form, on

Ford of S. Fork of Smith River
"Upper Crossing" See p. 202d.

- mt. side half-way to ford S. Fork Smith River.
- No. 2888, *Phacelia Bolanderi*. Corolla sky-blue and finely veined. Bench of S. Fork of Smith River.
- No. 2889, *Pinus attenuata*, cones of the tree, 6 feet high, described in p. 164 + p. 165. Three year old cones.
- *Acer glabrum*, common in moist hollows from divide nearly to S. Fork Smith River. Also frequently met with all the way to Marble Mt. I have never before seen so much.
- Tan Oak. Scrub form abundant from near Williams Cabin below Siskiyou divide to "Upper Crossing." In a few places there are trees 1 to 2 feet in diameter and 50 to 70 ft. h. but of slight importance because scattered. On the hill between upper crossing and Quartz Creek the Tan Oak stand is about the same in size and number of trees as at Sherwood or a little less of the largest sized trees. Trees 1 to 3 feet in diameter and 60 to 90 feet high. As I figure it along the divide in most places it will run 1 to 2 cords to the acre. On the main ridge one could see the appalling way in which fire denuded the Siskiyou west from the divide towards the coast as well as east. Great ridges were utterly barren or with small tongues or patches of timber here and there. There was every evidence as we went along that these brush-covered ridges once bore the stands of timber prevailing in whole or

July 11, 1907.

- in part on neighboring slopes. I think I must have seen 125,000 acres at the least that had been denuded. Even at one cord to the acre this would be 125,000 cords whose value at this time laid down in the S.F. market would be 1 1/2 million dollars. This would be sufficient to guard the whole Klamath Forest a long time. This is considering only a small part of the Klamath Forest and only one species of tree in it.
- Madrona - No tree in California takes so deep a hold upon the interest to those who know it as the Madrona. It engages the attention without effort and always pleases by revealing new characteristics. We passed through groves of it today, the tall trunks craning high to the sky for light, yet never straight perfectly, like other broad-leaved trees in competition with conifers as Tan Oak.
- *Aralia Californica*. Hill between Upper Crossing and Quartz Creek.
- Douglas Fir, 19 ft. 6 in. circ. at 5 ft. Bark 8 1/2 in. thick! With preced.
- *Pinus attenuata*. Good stand 2 to 20 feet h. on shoulders between Upper Crossing and Quartz Creek. Cones borne within 2 to 4 feet of ground. (First circle)
- at Quartz Creek I note the following:
Acer circinatum, 22 ft. h. + 2 1/3 in. diam. at 1 ft. Also another tree 30 ft. h. Common.
Taxus brevifolia, 45 ft. h. Common.
Chamaecyparis Lawsoniana, 110 feet h.
Acer macrophyllum, 6 in. diam. at 2 ft. and 70 feet high. Shade!
Oxalis oregana. See next page.

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Ford of S. Fork of Smith River

"Upper Crossing"

See p. 202d.

[July 11, 1907]

mt. side halfway to ford, S. Fork Smith River.

No. 2888. *Phacelia Bolanderi*. Corolla sky-blue and finely veined. Bench of S. Fork of Smith River.

No. 2889. *Pinus attenuata*, cones of the tree, 6 feet high, described in p. 164 and p. 165. Three year old cones.

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[Del Norte Co.]

Ford of S. Fork of Smith River

"Upper Crossing"

See p. 202d.]

July 11, 1907

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Oxalis oregana. See next page.

Quartz Creek, Jones Creek (Big Flat)

(night camp)

cont. from preced. page.

Vaccinium ovatum
Goats beard

-Tan Oak, from Quartz Creek we climb over a mountain and drop straight down to Jones Creek. There is Tan Oak along all the ridges that we follow. It thins out and disappears on the steepest canyon sides dominated by Douglas Fir. Madrona is with it on all the ridges and little flats or benches on the mountain sides. On some north canyon walls I see streaks of Tan Oak up and down the mountain side. It is more unevenly distributed here than in any other place that I have seen it. In some places on the ridges I saw spots of two acres that will peel 15 cords. The stand is tall, 70 to 100 feet high, and 1 to 3 feet diameter, straight clean long trunks for the most part. Taking the backbone of the ridges generally I suppose a cord an acre would be a good high average. So said it is exceedingly spotty but sufficient to be of great commercial value, altho too inaccessible now to be of any importance. Nearly all of it is badly damaged in the trunks by fire hollows at base. I never saw trees of Tan Oak more generally or badly damaged.

Madrona - In sylvan beauty the North Coast Range woods of Madrona, Tan Oak, Douglas Fir and Black Oak are the most beautiful woods of California, and this is chiefly owing to the Madrona. These mixed woods of which I speak are fairly open, never dominated by one coniferous species, so as to

July 12, 1907.

be gloomy, but they have a lightness, diversity and color which appeals with the liveliest effect to the imagination and gives a satisfying pleasure to the senses. These woods are more beautiful than the Sierran woods, the best and finest example of which is the Giant Forest, altho that is grander, more impressive and has a more magnificent setting of mountains, snow peaks and abysmal gorges.

Tan Oak - Has had a hard time in this country. It is stump sprouting freely, but one sees that it has been burned twice in very recent years. *Ceanothus velutinus* grows with great rankness. It is still bush-like or shrub-like but individuals have the stature of trees, 16 feet high and with distinct long trunks because so crowded and so high. The dead fire-killed limbs sticking over and into trail made the descent of the hill (down to Jones Creek) one of the worst I ever followed. One had to bend his head below his saddle horn and then was never sure that something worse wasn't coming to jab his eyes if he raised his head.

- Douglas Fir - Mutilation - Saw three healed over stumps 10 in. to 1 1/2 ft. diam. in trail from Klamath to Crescent City.

- *Chamaecyparis Lawsoniana* - along Quartz Creek fine trees 150 feet high. The gorge very deep and narrow and all the trees carried up, tall and slender.

- Jones Creek, Big Flat - Indian half-breed settlement. Night camp.

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Del Norte Co. [July 12, 1907]

Quartz Creek, Jones Creek (Big Flat)

(night camp)

cont. from preced. [preceding] page. See p. 202a.

Vaccinium ovatum

Goats beard.

-Tan Oak, from Quartz Creek we climb over a mountain and drop straight down to Jones Creek. There is Tan Oak along all the ridges that we follow. It thins out and disappears on the steepest canyon sides dominated by Douglas Fir. Madrona is with it on all the ridges and little flats or benches on the mountain sides. It is more unevenly distributed here than in any other place that I have seen it. In some places on the ridges I saw spots of two acres what will peel 15 cords. The stand is tall, 70 to 100 feet high, and 1 to 3 feet diameter, straight clean long trunks for the most part. Taking the backbone of the ridges generally I suppose a cord an acre would be a good high average. So said it is exceedingly spotty but sufficient to be of great commercial value, altho too inaccessible now to be of any importance. Nearly all of it is badly damaged in the trunks by fire hollows at base. I never saw trees of Tan Oak more generally or badly damaged.

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[Del Norte Co.] July 12, 1907

[Quartz Creek, Jones Creek (Big Flat)

(night camp)]

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Jones Creek, Big Flat - Indian half-breed settlement. Night camp.

Big Flat, River Trail, Red Hill, Bald Mt., Crescent
 [* = S. Fork Smith R.] See p. 202d.

- No. 2890. *Picea Breweriana*. Near summit of Siskiyou, Cottage grove, Crescent Trail.
 No. 2891. *Lilium* ^{with dry wats.} High dry ridges in chaparral, Williams Cabin to upper crossing, S. Fork Smith River, about half-way. Also noted nearly to Big Flat. (Same as no. 2886) - Oct. 12
 No. 2892. *Allotropa virgata* T. & G. Quartz Creek to Jones Creek. Douglas Fir woods.
 No. 2893. *Ribes bracteosum* Dougl. Stream bank, Quartz Creek, 6 ft. h. Fruit with a strong but rather pleasant cinnamon odor. See p. 173.
 No. 2894. *Lilium*. 5 feet high. Quartz Creek to Jones Creek. Petals salmon to dull red, spotted half-way. *L. occidentale* Purdy.
 No. 2895. *Berberis*. 5 ft. h. Big Flat.
 No. 2896. Leguminous shrub 6 ft. h. along a settlers fence as a sort of hedge plant. Big Flat. *Cytisus scoparius* Link.
 No. 2897. *Quercus*. Big Flat. From different shrubs, but from one spot and indubitably one species. *Q. garryana*.
 No. 2898. *Senecio*. River trail, Big Flat to Red Hill.
 No. 2899. *Coptis venosa*. " " " " " "
 No. 2900. *Veratrum insolitum* Jeps. Petals white, fimbriate edged. Upper half of fil. rotately spreading with declined anthers, eventually becoming erect as dehiscence proceeds. Red Hill = *V. insolitum* n. sp. see p. 174.
 No. 2901. *Potentilla*. Sts. 10, the longer 5 with muchly dilated fil. the other 5 very short, with feebly dilated fil. Red Hill. Summit. Petals broadly

City,

July 13, 1907.

sericata Greene.
 cuneate obovate, pinkish white. P. 2
 - From Big Flat to the Redwoods little Tan Oak. Whole country badly burned. Ranges stretch off that are wholly denuded. Red Hill east and north and on summit shows vestiges of former forest. The Tan Oak sprouts have been twice killed recently and now form low scrub. The dead sprouts 6 ft. h., the new sprouts spreading, mainly 1 to 3 feet high and forming a low cover. Douglas Fir and Yellow Pine here.
 I never before saw so extensive a stand of *Pinus attenuata* as on Red Hill. It formed a forest of several hundred acres, the trees 4 to 14 feet high and standing in the denser parts of the area as thickly as stalks in a cornfield. This dense area stretched down the north slope and I could not see all of it from the trail. If fire helps any pine it helps this to extend its area.
 - Douglas Fir - stump at Big Flat, 2 1/2 feet diam., healed over
 - Below Bald Mt. a short distance we entered the redwoods and rode through them for about six miles. A dense primitive forest of magnificent trees. Never before saw so many old giants going to their death but the younger stand was ample. This is a rain forest, the only forest in California that simulates a tropical forest. A

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Del Norte Co. [July 13, 1907]

Big Flat, River Trail, Red Hill, Bald Mt., Crescent [City]

_S. Fork Smith R.) See p. 202d.

No. 2890. *Picea Breweriana*. Near summit of Siskiyou, cottage grove. Crescent Trail.

No. 2891. *Lilium bolanderi* Wats. High dry ridges in chaparral, Williams Cabin to upper crossing, S. Fork Smith River, about half-way. Also, noted nearly to Big Flat.

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No. 2901. *Potentilla*. Sts. [Stamens_ 10, the longer 5 with muchly dilated fil. [filaments], the other 5 very short, with feebly dilated fil. Red Hill. Summit. Petals broadly

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[Del Norte Co.]

Big Flat, River Trail, Red Hill, Bald Mt., Crescent City, July 13, 1907.

cuneate obovate, pinkish white. *P. sericata* Greene.

From Big Flat to the Redwoods little Tan Oak.

Whole country badly burned. Ranges stretch off that are wholly denuded. Red Hill east and north and on summit shows vestiges of former forest. The Tan Oak sprouts have been twice killed recently and now form low scrub. The dead sprouts 6 ft. h., the new sprouts spreading, mainly 1 to 3 feet high and forming a lower cover. Douglas Fir and Yellow Pine here. I never before saw so extensive a stand of *Pinus attenuata* as on Red Hill. It formed a forest of several hundred acres, the trees 4 to 14 feet high and standing in the denser parts of the area as thickly as stalks in a cornfield. This dense area stretched down the north slope and I could not see all of it from the trail. If fire helps any pine it helps this to extend its area.

Douglas Fir-stump at Big Flat, 2 1/2 feet diam. [diameter], healed over.

Below Bald Mt. a short distance we entered the redwoods and rode through them for about six miles. A dense primitive forest of magnificent trees. Never before saw so many old giants going to their death but the younger stand was ample. This is a rain forest, the only forest in California that simulates a tropical forest. A

Del Norte Co.
Red Hill to Crescent City.
See p. 202d.

fallen monarch would have its great root mass covered with ferns, a beautiful sight. A fallen log carries a miniature forest of seedling Douglas Fir, *Vaccinium ovatum*, and herbaceous plants (cf. p. 146 & ante). A hemlock tree 40 feet high or more is growing on a Redwood stump 40 feet high and has succeeded in getting its roots to the ground which make a great sight on the Redwood stump. In the lower part of the forest Sitka Spruce comes in. Huge trees with enormously buttressed roots; the bark checks off in large scales. Hemlock is as tall as the Redwood; bark smoothish, only ^{finely} superficially fissured. *Monotropa uniflora*? cf. p. 199. Vine Maple is but a shrub but is tall as is everything for light competition. Above Jones Creek we rode for miles through and often

July 13, 1907.

under *Ceanothus velutinus*. (So here *Ribes* no. 2893 is 15 ft. h. I question this as I took no spms.)
No. 2902. *Chlorogalum* = *Schoenolirion album* Dur. Red Hill. Petals soon reflexed and the membranaceous margin involute curling along the green midrib. Style obscurely notched. Red Hill. *californica occidentalis* (Howell) C. Wolf.
No. 2903. *Rhamnus* Red Hill. 6 feet high spreading bush.
No. 2904. *Silene* Fls. bright red. Gravelly opens on Red Hill. *californica* Dur.
- At several camps on the trail we made a tea for dinner by steeping *Yerba Buena* foliage. It was rather pleasant, and quite warming.
- Jimmie says Incense Cedar posts are farmed in his country on the Salmon. When you ask a man how long they will last they say a lifetime. I have known Redwood posts in the Sacramento Valley to last 50 years. Of course the life depends on the moisture of the locality. *Sequoia gigantea* logs down in the forest last far longer than *Sequoia sempervirens* logs.
- Crescent City is a typical coast sawmill town. Its streets and buildings have for the most part the characteristic rawness altho it is an old place. Hobbs, Wall & Co. are the main people here. They own the big sawmill and have a general store in the town. The population is largely "square-heads" as to the foreign part of it. There is an Indian colony. Once again I am impressed with the waste pile fire that burns at

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Red Hill-Del Norte Co. to Crescent City-Del Norte Co.

See p. 202d.

[July 13, 1907]

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[Red Hill-Del Norte Co. to Crescent City-Del Norte Co.]

July 13, 1907

under *Ceanothus velutinus*. (So here *Ribes* no. 2893 is 15 ft. h. I question this as I took no spms. [specimens]).

No. 2902. *Chlorogalum* = *Schoenolirion album* Dur. Red Hill. Petals soon reflexed and the membranaceous margin involute curling along the green midrib. Style obscurely notched. Red Hill.

No. 2903. *Rhamnus californica occidentalis* (Howell) C. B. Wolf. Red Hill. 6 feet high spreading bush.

No. 2904. *Silene californica* Dur. Fls. [Flowers] bright red. Gravelly opens on Red Hill.

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Crescent City

the mill, burning night and day, weekdays and Sundays, year in and year out, unceasingly eating up good wood that people in the cities are in want for.

- I went to the office of L. F. Cooper. He is a lawyer and also interested in timber and mines. His office is large and he has a rear office of as large proportions. Both were veritable libraries of law and a not negligible quantity of general literature, including the latest current books. Besides both places were full of interesting things. The front office had glass cases containing minerals. A table top made of burly redwood, of oval outline interested me at once. I did not get much information from him about Tan Oak.

- Phil Stevens is the Forest Ranger at Big Flat. C. E. Shillingford is a Fire Warden and wants to be a Forest Ranger.

- The town to the north west is backed by a grove of Sitka Spruce which protects it from the most steadily prevailing winds. The winds blow three days, attaining the maximum velocity on the second day, after that the fog comes. I noticed a small grove on the flat southeast of the town. At a distance it looked quite like the Bishop Pine on the Mendocino Coast. I made a trip to be sure. They were Beach Pines (*Pinus contorta*), 20 to 35 feet high, rough barked. They certainly simulated in the

July 14, 1907

colony, the aspect of Bishop Pine. They also associate with Sitka Spruce on the flats.

- The Redwood Forest here is not pure. Sitka Spruce is abundant on the western part of it. The trees with trunks 2 to 8 feet through at 6 ft. and 175 feet high. They are remarkably buttressed at base, being nearly twice the diam. at base. *Abies grandis* is also in this part of belt; trees 1 to 4 ft. trunk diam. and 150 feet high. Also noted in middle of belt. Coast Hemlock is mostly 1 to 2 feet diameter and 175 feet high. It is throughout main stand of belt. As illustrating the tropical character of forest: on a Redwood stump 45 feet high is a Hemlock tree growing which is 50 feet high and sends its roots down the sides of the Redwood, clasping the supporting stump like long slender fingers of a grasping hand.

- *Rhododendron occid.* 14 ft. h., often simulating a small tree with distinct long trunk + crown. - Smith River forest.

- *Vaccinium ovatum*, 12 ft. h., Smith R. forest.

- From the South Fork Hotel to Adams Station there is some Tan Oak scattered through the forest all the way. It is 1 ft. trunk diam. and 50 to 70 feet high. I saw only one patch where the trees were 2 ft. diam. Redwood, very thin, extends about half way to Adams Station. Adams Station is on the main Smith River, just below the forks (Middle Fork and North Fork).

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Crescent City [July 14, 1907]

the mill, burning night and day, weekdays and Sundays, year in and year out, increasingly eating up good wood that people in the cities are in want for.

- I went to the office of L. F. Cooper. He is a lawyer and also interested in timber and mines. His office is large and he has a rear office of as large proportions. Both were veritable libraries of law and a not negligible quantity of general literature, including the latest current books. Besides both places were full of interesting things. The front office had glass cases containing minerals. A table top made of burly redwood, of oval outline interested me at once. I did not get much information from him about Tan Oak.

- Phil Stevens is the Forest Ranger at Big Flat. C. E. Shillingford is a Fire Warden and wants to be a Forest Ranger.

- The town to the northwest is backed by a grove Sitka Spruce which protects it from the most steadily prevailing winds. The winds blow three days, attaining the maximum velocity on the second day. After that the fog comes. I noticed a small grove on the flat southeast of the town. At a distance it looked quite like the Bishop Pine on the Mendocino Coast. I made a trip to be sure. They were Beach Pines (*Pinus contorta*), 20 to 35 feet high, rough barked. They certainly simulated in the

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[Crescent City]

July 14, 1907

colony, the aspect of Bishop Pine. They also associate with Sitka Spruce on the flats.

- The Redwood Forest here is not pure. Sitka Spruce is abundant on the western part of it. The trees with trunks 2 to 8 feet through at 6 ft. and 175 feet high. They are remarkably buttressed at base, being nearly twice the diam. [diameter] at base. *Abies grandis* is also in this part of belt; trees 1 to 4 ft. trunk diam. and 150 feet high.

Also noted in middle of belt Coast Hemlock is mostly 1 to 2 feet diameter and 175 feet high. It is throughout main stand of belt. As illustrating the tropical character of forest: on a Redwood stump 45 feet high is a Hemlock tree growing which is 50 feet high and sends its roots down the sides of the Redwood clasping the supporting stump like long slender fingers of a grasping hand.

- *Rhododendron occid.* 14 ft. h., often simulating a small tree with distinct long trunk and crown. - Smith River forest.

- *Vaccinium ovatum*, 12 ft. h., Smith R. forest.

- From the South Fork Hotel to Adams Station there is some Tan Oak scattered through the forest all the way. It is 1 ft. trunk diam. and 50 to 70 feet high. I saw only one patch where the trees were 2 ft. diam. redwood, very thin, extends about half way to Adam Station. Adam Station is on the main Smith River, just below the forks (Middle Fork and North Fork).

Crescent City to Adams Station.
July 15, 1907.

Table of Distances.

	miles
- Adams Station to Gasquet = 1	
- Gasquet to Waldo = 37	
- Adams Station to Crescent City = 17	
" " " Grant's Pass = 78	
" " " Eureka = 119	
" " " Port Orford = 117	
" " " Monumental = 22	

Shelley Creek is this side of Monumental a short distance. Three miles beyond Monumental is the Oregon Line. The line is near the "Summit" where there is feed and water.

- Adams Station to Patrick Creek = 15 mi.

- No. 2905. *Picea Sitchensis*. Near Crescent City.
 No. 2906. *Rhamnus Purshiana*. Smith River Redwood Forest. 20 ft. h.
 No. 2907. *Sedum*. S. Fork Smith River near S. Fork Station. *S. obtusatum* Gray.
 No. 2908. *Iris*. Chaparral between Adams Station and Patrick Creek. *I. macrosiphon* Torr.
 No. 2909. *Chaenactis*. with preced.
 No. 2910. *Pasania Echinoides*. Bushes low, spreading, 2 to 3 feet high. 1 to 4 acorns in a place. Leaves blunt small, entire. Only rarely notched as in specimen. with preced.
 No. 2911. *Pinus contorta* var. with preceding.

Adams Station to Shelley Creek, July 16, 1907.

- laetus* Gray var. *sagittatus* (Keck).
 No. 2912. *Pentstemon*. Fls. azure blue. With preceding.
 No. 2913. *Umbellifer*. *Lomatium howellii* Jepson. With preceding. See p. 146b.
 No. 2914. New to me. *Whipplea modesta*. With preceding. W. *modesta* Torr.
 No. 2915. *Veratrum fimbriatum*. With preced.
 No. 2916. *Asarum* = *V. insolitum* n. sp. Central pale blotch running to summit along midrib. Shelly Creek. See p. 179.

- From Adams Station to Shelley Creek the hills show bare in the main save for chaparral. The hills were at one time forested heavily as shown, first by the patches of timber and second by the dead timber. The opposite canyon wall, across the Middle Fork of Smith River looks at a casual glance as if it had been chaparral for age. But looking a second time one sees white shafts of standing dead trees and dead trees shining white litter the hillslope. The chaparral is in great part *Quercus echinoides*. Its characteristics come out here well. The low spreading bushy habit, the small blunt entire leaves and several acorns in a cluster. There was a big lot of this, covering thousands of acres as we went along. With it a great quantity of *Pinus attenuata*, 3 to 10 or 16 feet high, covering leagues and leagues in a fairly dense forest, but not pure. Also ran into a rather dwarfish colony of *Pinus contorta* var. (No. 2911), 3 to 18 feet high with roughish bark. There is also a great lot of *Rhamnus* no. 2903, *Greenei* species. It looks quite distinct from any other species, *Californica* as well as *Purshiana* and I consider it good. *Xerophyllum tenax* is common. Its pedicel

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Del Norte Co.

Crescent City to Adams Station

July 15, 1907

Table of Distances

--Adams Station to Gasquet = 1

(see p. 202a)

--Gasquet to Waldo = 37

--Adams Station to Crescent City = 17

Adams Station to Grant's Pass = 78

Adams Station to Eureka = 17

Adams Station to Crescent City = 119

Adams Station to Port Orford = 117

Adams Station to Monumental = 22

Shelley Creek is this side of Monumental a short distance. Three miles beyond Monumental is the Oregon Line. The line is near the "Summit" where there is feed and water.

--Adams Station to Patrick Creek = 15 mi

No. 2905. *Picea Sitchensis*. Near Crescent CityNo. 2906. *Rhamnus Purshiana*. Smith River Redwood Forest. 20 ft. h.No. 2907. *Sedum*. S. Fork Smith River near S. Fork Station. *S. obtusatum* Gray.No. 2908. *Iris*. Chaparral between Adams Station and Patrick Creek. *I. macrosiphon* TorrNo. 2909. *Chaenactis*. With preced.No. 2910. *Pasania echinoides*. Bushes low, spreading, 2 to 3 feet high. 1 to 4 acorns in a place. Leaves blunt, entire. Only rarely notched as in specimen. With preced.No. 2911. *Pinus contorta* var. with preceding.

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Adams Station to Shelley Creek, July 16, 1907

No. 2912. *Pentstemon laetus* Gray var. *sagittatus* (Keck).

Fls. [Flowers] azure blue. With preceding.

No. 2913. *Umbellifer*. *Lomatium howellii* Jepson. With preceding. See p. 146b.No. 2914. *Whipplea modesta*. New to me. With preceding. W. *modesta* Torr.No. 2915. *Veratrum fimbriatum*. With preced. see p. 179.No. 2916. *Asarum* = *V. insolitum* n. sp. Central pale blotch running to summit along midrib. Shelly Creek.

-From Adams Station to Shelley Creek the hills show bare in the main save for chaparral. The hills were at one time forested heavily as shown, first by the patches of timber and second by the dead timber. The opposite canyon wall, across the Middle Fork of Smith River looks at casual glance as if it had been chaparral for age. But looking a second time one sees white shafts of standing dead trees and dead trees shining white litter the hillslope. The chaparral is in great part *Quercus echinoides*. Its characteristics come out here well. The low spreading bushy habit, the small blunt entire leaves and several acorns in a cluster. There was a big lot of this covering thousands of acres as we went along. With it a great quantity of *Pinus attenuata*, 3 to 10 or 16 feet high, covering leagues and leagues in a fairly dense forest, but not pure. Also ran into a rather dwarfish colony of *Pinus contorta* var. (No. 2911), 3 to 18 feet high with roughish bark. There is also a great lot of *Rhamnus*, no. 2903, *Greenei* species. It looks quite distinct from any other species, *Californica* as well as *Purshiana* and I consider it good. *Xerophyllum tenax* is common. Its pedicel

Shelley Creek to Waldo.
(Del Norte Co., California) (Josephine Co., Ore.)

in flower are spreading, past anthers strictly erect, as the fruit matures the pedicels bend outward and the capsule is on a diverging pedicel. *Azalea occidentalis* is a low shrub in the chaparral and is further evidence that the forest prevailed here not so long ago. *Rhododendron Californicum* is not uncommon in the chaparral of these slopes. At Patrick Creek there is a small clump of Tan Oak (1 ft. diam., 40 to 55 feet high) through which the road runs and I note another small lot across the creek. These driblets are in virgin (unburned) forest. Lawson's Cypress is common along Shelly Creek. Fine trees. The young trees display beautifully the wonderful fern-like character of the foliage.

- *Darlingtonia californica* Torr. Sprays of. Between Big Flat and Bald Mountain. Also between Adam's Station and Shelly Creek at several places. Plentiful on headwaters of Shelly Creek and W. Fork Illinois Creek.

- *Taxus brevifolia*. More in bottom of Shelly Creek than I ever before saw in any other two places. Abundant for miles. One could say this is a narrow grove of it. Most of it about 15 to 25 ft. h. and the largest trunks 1 foot in diameter.

July 17, 1907.

- No. 2917. Douglas Fir seedlings. Cots = 5, 5, 6, 6, 6, 6, 7, 7, 8, 8. Shelly Creek.
- No. 2918. *Lilium pardalinum* Kell. 6 ft. h. Leaves very narrow, the lower alternate, then a few in pairs, in 3's and so on up to 7, but not forming a complete whorl, the partial whorl not horizontal but at an angle or spiral, then well up a true whorl of 8, one only, then alternate leaves only all the above taken from the one plant coll. Rootstock horizontal, only half in specimen, crowded especially above with scales which are jointed. Petals recurving, upper half deep red, lower half yellowish, spotted anthers large, brown. Pedicels ascending from main axis, about 15 in cluster. Shelly Creek, in rich deep muddy loam of brush tangle by creek side.
- No. 2919. *Senecio triangularis* Hook. By creek. Shelly Creek.
- No. 2920. *Senecio howellii* Greene. In dry chaparral, just over California line. Seen in col. also.
- No. 2921. *Erigeron foliosus* Nutt. Rays blue, fading purple at first. With preced. [preceding] seen in col. also.
- No. 2922. *Arenaria howellii* new to me. with preced.
- No. 2923. *Phacelia*. Caudex branching and with the foliage forming a low mat. Fls. white with preced. P. *brigidia* Greene.
- *Veratrum fimbriatum*, common in chaparral, basin Illinois River, west fork, near California line. Growing in driest soil. Compare other species. Panicles large, yucca-like. See 2900, 2915.
- No. 2924. Composite. Wet springy hillsides. Headwaters of W. Fork Illinois River.

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Shelley Creek (Del Norte Co., California)
to Waldo (Josephine Co., Ore.).
[July 17, 1907]

in flower are spreading, past anthers strictly erect, as the fruit matures the pedicels bend outward and the capsule is on a diverging pedicel. *Azalea occidentalis* is a low shrub in the chaparral and is further evidence that the forest prevailed here not so long ago. *Rhododendron Californicum* is not uncommon in the chaparral of these slopes. At Patrick Creek there is a small clump of Tan Oak (1 ft. diam., 40 to 55 feet high) through which the road runs and I note another small lot across the creek. These driblets are in virgin (unburned) forest. Lawson's Cypress is common along Shelly Creek. Fine trees. The young trees display beautifully the wonderful fern-like character of the foliage.

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- *Taxus brevifolia*, More in bottom of Shelly Creek than I ever before saw in any other two places. Abundant for miles. One could say that there is a narrow grove of it. Most of it about 15 to 25 ft. h. [feet high] and the largest trunks 1 foot in diameter.

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[Shelley Creek (Del Norte Co., California)
to Waldo (Josephine Co., Ore.)]
July 17, 1907

No. 2917. Douglas Fir seedlings. Cots = 5, 5, 6, 6, 6, 6, 7, 7, 8, 8. Shelly Creek.

No. 2918. *Lilium pardalinum* Kell. 6 ft. h. [feet high]. Leaves very narrow, the lower alternate, then a few in pairs, in 3's and so on up to 7, but not forming a complete whorl, the partial whorl not horizontal but at an angle or spiral, well up a true whorl of 8, one only, then alternate leaves only all the above taken from the one plant coll. Rootstock horizontal, only half in specimen, crowded especially above with scales which are jointed. Petals recurving, upper half deep red, lower half yellowish, spotted anthers large, brown. Pedicels ascending from main axis, about 15 in. cluster. Shell Creek, in rich deep muddy cram of brush tangle by creekside.

No. 2919. *Senecio triangularis* Hook. By creek. Shelly Creek.

No. 2920. *Senecio howellii* Greene. In dry chaparral, just over California line.

No. 2921. *Erigeron foliosus* Nutt. Rays blue, fading purple at first. With preced. [preceding] seen in col. also.

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No. 2924. Composite. Wet springy hillsides. Headwaters of W. Fork Illinois River.

To Waldo via W. Fork of Illinois River

- Pinus monticola*. On waters of W. Fork Illinois River. Bears at 30 to 35 years, but also noted bearing at 13 years.
- Pinus Lambertiana*, a few scattered trees on waters of W. Fork Illinois River.
- Pinus ponderosa*, frequent, abundant about Waldo. Long cones with horizontally radiating scales. One of the approximations to *P. Jeffreyi*.
- Quercus Californica*, common about Waldo.
- Quercus Garryana*, frequent about Waldo. Occurs as shrub, small tree and tree 50 ft. high with trunk 2 or 3 ft. diam. The old trees do not hold any of the old leaves. The young growth does. I notice it on growth 4 to 14 feet high, but individuals standing alongside will be without the dead leaves. I have never noticed to my memory persistent dead leaves on *Quercus Breweri*. But I cannot see that the shrubs here differ in any particular from the *Quercus Breweri* of the Kaweah region. The shrubs here have rather loosely broken bark but I notice the same kind of bark in the tops of undoubted *Quercus Garryana*. Leaves of 2 (indefinite) kinds are noticeable in their extreme forms.

July 17, 1907.

- Quercus densiflora*. Patch on hillside near Waldo and an occasional tree seen on the lower part of East Fork Illinois. The keeper at the stage station on the west fork Illinois told me that there was a large body of it to the west of Selma, Oregon, on the Illinois River. I think he said he passed through it for 25 miles. He calls it Sovereign Oak which is the name for it in southwestern Oregon. He says Oregon White Oak is used for tanning. I showed him a specimen of *Quercus densiflora* and he recognized it as Oregon Tan Oak. He also gave corroborative evidence, saying that his partner who was with him on the Illinois trip told him Sovereign Oak was used for tanning in California; and that the wood was worthless, rotting very quickly.
- Linnaea borealis*, in fl. E. fork Illinois.
- Lawson Cypress, both forks Illinois.
- Pinus attenuata* is unbranched (main axis) or with main axis branched in usually 2 or 3 strictly erect forks bearing cones heavily. This latter case is very usual and characteristic. I have seen old trees with horizontally spreading branches bearing cones but only old trees.
- Waldo is a village of a hotel, general store and post office, blacksmith shop, half a dozen shacks or houses. It is hopelessly crude and rough. The surrounding country to the very village is pretty. If only they would

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To Waldo via W. Fork of Illinois River
[July 14, 1907]

- Pinus monticola*. On waters of W. Fork Illinois River. Bears at 30 to 35 years, but also noted bearing at 13 years.
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- Pinus ponderosa*, frequent, abundant about Waldo. Long cones with horizontally radiating scales. One of the approximations to *P. Jeffreyi*.
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[To Waldo via W. Fork of Illinois River]
July 14, 1907

- Quercus densiflora*. Patch on hillside near Waldo and an occasional tree seen on the lower part of East Fork Illinois. The keeper at the stage station on the west fork Illinois told me that there was a large body of it to the west of Selma, Oregon, on the Illinois River. I think he said he passed though it for 25 miles. He calls it Sovereign Oak which is the name for it in southwestern Oregon. He says Oregon White Oak is used for tanning. I showed him a specimen of *Quercus densiflora* and he recognized it as Tan Oak. He also gave corroborative evidence, saying that his partner who was with him on the Illinois trip told him Sovereign Oak was used for tanning in California; and that the wood was worthless, rotting very quickly.
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- Waldo is a village of a hotel, general store and post office, blacksmith shop, half a dozen shacks or houses. It is hopelessly crude and rough. The surrounding country to the very village is pretty. If on they would

Waldo to Upper Spring, Happy Camp Trail,
Oregon. (traveling southerly)

lay out an orderly place and keep the trails of cattle off it - and pigs. In other words such villages in this region are too barnyardy.

- From Waldo you take the trail to the left of the general store straight up the hill. One soon runs into the road running to the Queena Brown mine. Cross the river (ford) and take the main road, turning sharply to right. Follow past a gate with a roof cover and ford the river by a bathhouse. Keep on, until roads fork at buildings, take left, cross river by bridge and keep all left hand roads and trails which takes me straight to the summit of the Siskiyou. By the Happy Camp trail where one passes the Brewer Spruce in its original locality.

- Douglas Fir. Botanists rightly call it Douglas Spruce because (a) its leaves spread all around stem like spruces and resemble spruce leaves altho blunt more than fir leaves. The cones resemble spruce cones far more than fir cones and are pendant like spruce cones. The general habit of the tree is more spruce like than like firs whose radiating whorls are very regular. Douglas Fir has supernumerary buds in addition to the whorl just below and not a fir. In only one particular does it resemble firs and that is in its

n. of divide on basin e-fork Illinois, July 18, 1907
River

bark which is roughly and deeply fissured and very unlike the smooth bark of the spruces with the deciduous scales. But woodsmen, of the lumber camps especially, recognize a conifer by its bark and seldom pay attention to its leaves. Consequently they all call the tree by the name of Fir, Red Fir, Yellow Fir, or simply Fir, and naturally for exactness the lumbermen have called the tree Douglas Fir. Cont. just below.

- *Saxifraga peltata*, petiole 3 ft. 9 in. high, the blade 1 to 1 ft. 9 in. broad. E. Fork Illinois R.

- Douglas Fir. Has weeping branchlets and in this respect is more like Spruce than Fir. I have just noted nearly pendulous branchlets 8 feet long, only the upper portion not strictly hanging straight down but a little curved. This is not uncommon. Pendulous branchlets 1 to 2 ft. long very common, especially with trees that are not crowded.

- Mutilation. - Tan Oak, "jayhawked" trees
Douglas Fir - healed over stumps noted two on west fork Illinois River. This species shows special capability to perform this feat.
Madrona, often ringed and mutilated. Great power to heal over. Alder (*A. rhombifolia*), ringed trees at Cottage Grove, bark stripped for four feet but had healed over owing to cambium sticking.

- Mules feed greedily on Saddle Oak on trail but pass Garry Oak over

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Waldo to Upper Spring, Happy Camp Trail, Oregon.
(traveling southerly)

[July 18, 1907]

lay out an orderly place and keep the trails of cattle off it and pigs. In other words such villages in this region are too barnyardy.

- From Waldo you take the trail to the left of the general store straight up the hill. One soon runs into the road running to the Queena Brown mine. Cross the river (ford) and take the main road, turning sharply to right. Follow until past a gate with a roof cover and ford the river by a bathhouse. Keep on, until roads fork at buildings, take left, cross river by bridge and keep all left hand roads and trails which takes me straight to the summit of the Siskiyou. By the Happy Camp trail where one passes the Brewer Spruce in its original locality.

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[Waldo to Upper Spring, Happy Camp Trail, Oregon]

n. of divide on basin e-fork Illinois River,

July 18, 1907

bark which is roughly and deeply fissured and very unlike the smooth bark of the spruces with the deciduous scales. But woodsmen, of the lumber camps especially, recognize a conifer by its bark and seldom pay attention to its leaves. Consequently they all call the tree by the name of Fir, Red Fir, Yellow Fir, or simply Fir, and naturally for exactness the lumbermen have called the tree Douglas Fir. Cont. just below.

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- Madrona, often ringed and mutilated. Great power to heal over. Alder (*A. rhombifolia*), ringed trees at Cottage Grove, bark stripped for four feet but had healed over owing to cambium sticking.

- Mules feed greedily on Saddle Oak on trail but pass Garry Oak over.

Josephine Co., Ore., from Waldo

Happy Camp Trail to headwaters Indian Creek, Siskiyou Co.

- No. 2935. *Vancouveria parviflora* Greene. By stream in shade, canyon bottom, E. fork Illinois R., Siskiyou
- No. 2936. *Peucedanum*. Dry hill. East Fork Illinois. *P. macrocarpum* Nutt.
- No. 2937. *Phacelia*. Annual! Hill slope, E. Fork Illinois River, half-way to summit of Happy Camp trail. = *P. virgata* Greene. ^{see p. 202c}
- No. 2938. *Hieracium albiflorum*. with preced.
- No. 2939. *Hackelia setosa* (Piper) Jtn.
- *Leptotaenia Californica*, roots eaten by Klamath Indians who call it "wild sage" - Jimmie Davis.
- Pendant oak balls on leaves of *Quercus chrysolepis* ^{vacciniifolia} eaten by Indian boys who call them _____ and esteem them highly. Jimmie Davis says they also grow on tree form.
- *Saxifraga peltata*. Indians eat the petioles, stripping down the bark. Best when young. I tried it and found it very pleasant. They eat *Leptotaenia Californica* in same way. Jimmie Davis says he likes this better than *Saxifraga*. "Why, I could live on this."
- *Acer glabrum*, abundant at and near divide of Siskiyou, Happy Camp Trail. It is abundant throughout range of the Siskiyou, evidently as I saw it in great plenty on the Kelsey Trail. Nowhere else so abundant in California.
- *Boschniakia strobilacea*, 19 spikes within 8 sq. ft., Indian Creek.

- *Bryanthus empetriformis* Gray. No. 2850. See p. 151.
- *Arctostaphylos* x p. 160. Could not be *A. glauca*.
- *Vaccinium caespitosum* Michx. Cont. no. 2851. See p. 151.
- On the Happy Camp trail from Waldo, going towards Happy Camp, above Happy Camp we ran into a hail storm - the hail stones as big as quail eggs. Our mules at once took shelter under Incense Cedar trees, like Indians! for it is said lightning never strikes *Libocedrus decurrens*.

Cont. from p. 141. At Montague, by prearrangement I met Alden Sampson, club man of New York City; we traveled together to Etna Mills securing our seats on the box (see p. 141 ante) by engaging them in advance. It took two days at Etna Mills to round up everything, repair saddles, get the pack saddles together, secure the horses and so on. (see p. 140a ante.)

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Josephine Co., Ore.

Happy Camp Trail from Waldo to headwaters Indian Creek, Siskiyou Co.

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- No. 2939. *Hackelia setosa* (Piper) Jtn.
- *Leptotaenia Californica*, roots eaten by Klamath Indians who call it "wild sage" - Jimmie Davis.
- Pendant oak balls on leaves of *Quercus chrysolepis* *vacciniifolia* eaten by Indian boys who call them _____ and esteem them highly. Jimmie Davis says they also grow on tree form.
- *Saxifraga peltata*. Indians eat the petioles, stripping down the bark. Best when young. I tried it and found it very pleasant. They eat *Leptotaenia Californica* in same way. Jimmie Davis says he likes this better than *Saxifraga*, "Why, I could live on this."
- *Acer glabrum*, abundant at and near divide of Siskiyou, Happy Camp Trail. It is abundant throughout range of the Siskiyou, evidently as I saw it in great plenty on the Kelsey Trail. Nowhere else so abundant in California.
- *Boschniakia strobilacea*, 19 spikes within 8 sq. ft. [square feet], Indian Creek.

17_186a

- *Bryanthus empetriformis* Gray. No. 2850. See p. 151.
- *Arctostaphylos* p. 160. Could not be *A. glauca*.
- *Vaccinium caespitosum* Michx. Cont. no. 2851. See p. 151.
- On the Happy Camp trail from Waldo, going towards Happy Camp, above Happy Camp we ran into a hail storm - the hail stones as big as quail eggs. Our mules at once took shelter under Incense Cedar trees, like Indians! for it is said lightning never strikes *Libocedrus decurrens*.
- cont. from p. 141. At Montague, by prearrangement I met Alden Sampson, club man of New York City; we traveled together to Etna Mills securing our seats on the box (see p. 141 ante) by engaging them in advance. It took two days at Etna Mills to round up everything, repair saddles, get the pack saddles together, secure the horses and so on. (see p. 140a ante.)

- *Tellima grandiflora* Dougl. no. 2945
See p. 187.
- *Tolmiea menziesii* T. & G. no. 2940
- *Oenothera alyssoides* H. & A. var. *decorticans* Jepson. no. 2729 cont.
from p. 55.

- Whiskey Camp, cont. from p. 148.

At this point in the cañon we found a beautiful camp spot with a rough sign on a tree "Whiskey Camp". My companion Alden Sampson of New York City was all for tearing down the sign instantly, not because he is a teetotaler (which he is not) but because it outraged his esthetic sense! However, he was prevailed upon to desist when he learned Whiskey Camp is a very old landmark on the trail and a guide post in the mountains

(trib. Klamath River),
headwaters,
Indian Creek (over Siskiyou Divide, July 19,
Siskiyou Co. from Waldo, 1907.

- no. 2940. Saxifragaceae. Bilabiate, 3 upper sepals of same length, spreading upwards and backwards, 2 lower of same length, turned downward. Stamens 3 (but no time to make sure on trail). Petals filiform. Headwaters Indian Creek. see p. 186b.
- no. 2941. *Collinsia*. Upper petals white or nearly so, lower lip pale blue. Headwaters E. Fork of the Illinois River, Siskiyou Co.
- no. 2942. *Erigeron aliceae* Howell
Composite. Heads showy, pale lilac (nearly white) rays; $\frac{2}{5}$ the plant taken. Headwaters E. Fork Illinois River.
- no. 2943. *Vicia*. With preceding. (*V. calif. Greene*).
- no. 2944. *Nemophila*. " "
- no. 2945. Saxifragaceae. With no. 2940. See p. 186b.
- no. 2946. *Libocedrus decurrens* seedlings. In their third year. Note that the plant is bilateral from its first to its third year. Indian Creek.
- no. 2947. *Salix scouleriana* Barr. 5 in. diam. trunk and 14 ft. high. Usually 6 to 10 feet and common in the high mountains wherever I have been this trip. Indian Creek.
- no. 2948. *Berberis pumila* Greene. Indian Creek.
- *Quercus chrysolepis*, noticed a typical *vaccinifolia* shrub 12 feet high, very bushy, with broom-like tops to the branches - Indian Creek.
- *Quercus Garryana* - young trees 12 feet high stump sprout freely when firekilled - Indian Creek.
- no. 2949. Brewer Spruce. *Picea breweriana*. Top branchlets. Taken from tree which log specimen came. Headw. [Headwaters] Indian Creek.

17_186b

Tellima grandiflora Dougl. No. 2945. See p. 187.
Tolmiea menziesii T. & G. no. 2940.
Oenothera alyssoides H. & A. var. *decorticans* Jepson.
No. 2729 cont. from p. 55.

Whiskey Camp, cont. from p. 148.

At this point in the canyon we found a beautiful camp spot with a rough sign on a tree "Whiskey Camp." My companion Alden Sampson of New York City was all for tearing down the sign instantly, not because he is a teetotaler (which he is not) but because it outrage his esthetic sense! However, he was prevailed upon to desist when he learned Whiskey Camp is a very old landmark on the trail and a guide post in the mountains.

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Indian Creek (trib. [tributary] Klamath River), headwaters, over Siskiyou Divide, from Waldo, July 19, 1907.
Siskiyou Co. [County]

No. 2940. Saxifragaceae. Bilabiate, 3 upper sepals of same length, spreading upwards and backwards, 2 lower of same length, turned downward. Stamens 3 (but no time to make sure on trail). Petals filiform. Headwaters Indian Creek. see p. 186b.

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- *Quercus Garryana* - young trees 12 feet high stump sprout freely when firekilled - Indian Creek.

No. 2949. Brewer Spruce. *Picea breweriana*. Top branchlets. Taken from tree which log specimen came. Headw. [Headwaters] Indian Creek.

Indian Creek to Happy Camp
(Reeve's Ranch)

- Happy Camp is quite a bit of a settlement. But it is old, fearfully down at the heels. It is old. Its palmy days were in the fiftys. Its hotel and other buildings were quite fine structures for the time and place. Here we met the most distinguished man of the place. Not Lane, the storekeeper. Not the hotel man. Not the saloonkeeper, nor various dignified old loafers of the days of 50-60, but "Baugh". Baugh, who owns a pack train running between Yreka and Happy Camp. Baugh who is a Chinaman, one of these very jolly (see p. 202b) Chinamen of the most characteristic and likeable type in all the Californias and known to all Californians from the days of old. He has a wife and children in Yreka (see p. 202a) and is a "heap smart Chinaman" according to one of his compatriots. Mr. Sampson wanted a crupper for his saddle-mule because there was a little pimple of a sore under the tail; his cloth crupper would not do. He raised the tail and showed to the Chinese astride his mule. Baugh fairly howled with derisive laughter and good nature. Then he began to banter: Him get sore! Let him get well again!
- Coming down Indian Creek we passed "Classic Hill", a placer mining camp in the forest.

July 20, 1907.

We camped the night at a big ranch (for the country about two miles this side Happy Camp. Next day we go on about 23 miles up the Klamath past Nolton and Lowden's (P.O.'s) to Nutsais Ferry, the second ferry, pack animals 10 cents, saddle animals 25 cents, to a ranch one mile beyond Everell's Ranch where they gave us most delicious freshly preserved cherries. In return we left them a supply of our excess provisions.

- On the Klamath River in Bed.

Populus trichocarpa

Many willows

teratogens.

Also in commonwall: *Libocedrus decurrens*, Black Oak, *Pinus ponderosa*, Douglas Fir, Oregon Oak, *Alnus rhombifolia*

Happy Camp to Hamburg July 21, 1907
(Burhart's Ranch.)

Hamburg is mainly an Indian settlement, all along the river are marks of both old and recent settlements, old and recent mining beds.

* Burhart's Ranch to Hamburg July 22, 1907
Near Hamburg noticed an *Alnus rhombifolia* young tree that had been zone girdled, a band about 6 inches wide yet the

17_188

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[July 20, 1907]

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[Indian Creek to Happy Camp (Reeve's Ranch)]
July 20, 1907

we camped the night at a big ranch (for the country about two miles this side Happy Camp. Next day we go on easterly, about 23 miles up the Klamath past Nolton and Lowden's (P.O.'s) to Nutsais Ferry, the second ferry, pack animals 10 cents, saddle animals 25 cents, to a ranch one mile beyond Everell's Ranch where they gave us most delicious freshly preserved cherries. In return we left them a supply of our excess provisions.

-On the Klamath River in Bed.

Populus trichocarpa

Many willows

teratogens [sp?]

Also in commonwall: *Libocedrus decurrens*, Black Oak, *Pinus ponderosa*, Douglas Fir, Oregon Oak, *Alnus rhombifolia*.

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(Burharts Ranch.)

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_Burharts Ranch to Hamburg July 22, 1907.

Near Hamburg noticed an *Alnus rhombifolia* young tree that had been zone girdled, a band about 6 inches yet the

Hamburg to Scott Valley via

tree is alive and flourishing! The inside bark stuck when the mutilation was done. The inside bark does not stick now so I imagine it was done when the sap was down.

No. 2950. *Quercus Garryana*. All from shoots of one young stump. 3 in. diam. Klamath R.

No. 2951. *Crataegus douglasii* 8 ft. h. stream bed of the Klamath, Lowden P.O. Spreading shrub but branches erect mainly 9 ft. h.

No. 2952. *Salix Hindsiana* prob. [probably] *melanopsis*. 5 to 20 (!) feet high. Slender and tall. Streambed Klamath River at Burhart's Ranch.

No. 2953. *Salix Hindsiana* Benth., chiefly 5 to 8 ft. h. with preced. Both everywhere along the Klamath.

No. 2954. *Eriogonum nudum* var. *pubiflorum* closely allied to *E. nudum* of Berkeley Hills. Flowers sulphur yellow. Hamburg, on the Klamath River.

No. 2955. *Quercus Garryana*. Stump sprouts leaves all from one stump. Hamburg, on the Klamath River.

No. 2956. *Eschscholtzia californica* Cham. Miamber Trail Scott Bar to Scott Valley.

No. 2957. *Eriogonum vimineum* with preceding.

No. 2958. *Pseudotsuga menziesii* (Mirb.) Franco. Douglas Fir: On Miamber Trail, Witch's Broom, 11 feet up trunk of a tall tree, normal above broom. Broom very dense, drooping, forming with its pendulous branchlets 4 to 8 feet long a perfect bower 9 to 11 feet in diameter inside.

Miamber Trail, July 22, 1907.

Weeping Trees - California.

Quercus lobata
Picea Breweriana.
Pseudotsuga taxifolia - especially marked in witch broom trees. Never saw so many before as on the Miamber Trail. today - noticed half-a-dozen.
Quercus chrysolepis, var. *pendula*.
Quercus Garryana - noticed a stump 4 ft. h. today, with a cluster of sprouts, a few of which hung straight down.

Table of Distances.

from Wood's Ranch, Klamath River:

to	Miles
Happy Camp, (west)	15
Lowden's P.O. (east)	5
Everills Ranch "	10
Burhart's Ranch "	11
Hamburg, East	14
Scott Bar "	19
Miamber Trail from Scott Bar to Scott Val.	10
Scott Valley level to Greenview	10
Etna (from Greenview)	6

S. Bantini

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Hamburg to Scott Valle via [Miamber Trail, July 22, 1907]Siskiyou Co.

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Miamber Trail, July 22, 1907.

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Picea Breweriana.
Pseudotsuga taxifolia-especially marked in witch broom trees. Never saw so many before as on the Mi-amber Trail. today-noticed half-a-dozen.
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Scott Bar, East	19
Miamber Trail from Scott Bar to Scott Val. [Valley]	10
Scott Valley level to Greenview	10
Etna (from Greenview)	6

Scott Valley to Etna, July 23, 1907

- Sugar Pine, took 2 bark specimens on Miamber Trail, July 23, 1907. The trees were 4 & 5 ft, respectively. The 4 ft. tree had bark ___ in. thick; the 5 ft. tree had bark ___ in. thick. Trees 150 ft. h.
- *Populus trichocarpa*, the most beautiful and extensive groves I ever saw in Scott Valley, at lower end of Shackelford Valley, and in Shackelford Valley.
- Douglas Fir. Noticed some barns most beautifully reddish brown weather stained. Also some cottages. The boards unplanned and unpainted. Valley of the Klamath. Jimmie says Douglas Fir wood.
- No. 2959. Composite. Fls. yellow. Very attractive. Hill slide. Shackelford Valley.
- No. 2960. Composite. *Malacothrix floccifera*. Fls. pale blue. Scott Valley. Dry lands. Also noted on Klamath.
- No. 2961. *Eriogonum strictum* ssp. *proliferum* var. *proliferum*. Fls. clear white. Patterson Creek bed, Scott Valley.

Etna to Callahan to Gazelle, July 25, 1907.

- *Crataegus douglasii*, 25 ft. h. + tree like. Scott Valley apparently same as seen on Klamath & coll.
- *Prunus subcordata*, small tree 15 ft. h. with trunk 5 in. diam. and distinct crown. Scott Valley.
- *Quercus Oerstediana*, clumps of young trees 12 to 16 feet high in small circles, the circles filled in center. These clumps are very marked on the thinly wooded hills from Callahan to the Mountain House (stage station) and beyond to the summit (5100 feet). Just beyond the summit on a steep slope there is low bushy *Quercus Breweri* and every gradation to the small trees of *Quercus Oerstediana*. This is an outlying part of the Scott Mountains of which there is a good view from near the Mountain House, as they lie to the south of Callahan.
- The stage line from Etna runs south to Callahan or southerly, then north easterly to Gazelle. It is a roundabout business.
- The Scott River at Callahan is a shallow stream but they use a dredger in mining its gravel bottom! They dig a hole deep enough for the dredger to work, fill it with water, and as the dredger advances and increases the hole in front, the tailings are run in behind.

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Crataegus douglasii, 25 ft. h. and tree like. Scott Valley apparently same as seen on Klamath [?].

-*Prunus subcordata*, small tree 15 ft. h. with trunk 5 in. diam. and distinct crown. Scott Valley.

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Mountain House to Gazelle
July 25, 1907.

No. 2962. Compositae. Rays 3, broad, 3-lobed, a pink streak on middle of each lobe beneath and running to base. Mountain House, Scott Mt.

- After passing the summit beyond Mountain House, the country and its vegetation instantly changes. The forest diminishes, and from the divide one looks far and wide over the desert scenery of the Shasta Valley and eastward. My eyes rest with a sense of indefinable lure and attraction on that type of scenery. I like its breadth, its sweep, its mystery

* better than the dense forest.

Some distance down grade I passed a tree (with trunk 1 ft. diam. and distinct crown) 20 feet high of *Cercocarpus ledifolius* in full fruit. I saw it only as the stage passed swiftly, right by road. It might have been *ledifolius* but could not have been the large leaf No. 2810.

Juniper over all country

Sherwood Valley, July 30, 1907.

- Petross, the bark peeler says: I do not like to clean up snags and rough trees after another man. I like to work in fresh timber. I can plan my work right, lay my trees better, not as much trouble, turn out more work and not work so hard, it looks like something when I get done with it, and its more satisfaction.

- *Cornus Nuttallii* - 50 ft. h. and 1 ft. diam. at 1 ft. a.g.

- Bark should be taken off in broad pieces and not cut into narrow strips. These pieces curl up, are easily handled, do not break in handling as much as uncurled narrow strips, so there's less loss in transportation. A strip or ring should not be so wide that when curled up one man cannot handle it on account of its great weight. Not economical.

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Mountain House to Gazelle
July 25, 1907

No. 2962. Compositae, Rays 3, broad 3-lobed, a pink streak on middle of each lobe beneath and running to base. Mountain House, Scott Mt.

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(Juniper over all country)

17_195

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-*Cornus Nuttallii*-50 ft. h. [feet high] and 1 ft. diam. [diameter]at 1 ft. a.g. [above ground].

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