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Scene in Tuolumne Meadows

High Sierra Number

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TREES ON LEMBERT DOME

Ranger-Naturalist Ernest A. Payne

Lembert Dome is a barren old rock as it thrusts its bald pate above the verdure of Tuolumne Meadows. So would be one's first impression. First impressions are often misleading and certainly so if the early experience with Lembert Dome permitted one to dismiss the great form as barren and uninteresting.

Hudsonian flowers, birds and mammals populate the granite sides. The granite mass itself is considered by Mr. Francois E. Matthes of the United States Geologic Survey to be one of the outstanding examples of a roches moutonnee to be found anywhere. From the point of the inverted saw tooth which is the top, the hiker is presented with one of the broadest and all inclusive panoramas of the entire meadows area and the background of Sierran peaks. The summit of the dome rises some eight hundred feet above the meadow floor and a climb to the crest is one of unending interest and fascination. Among the many things of nature that may be observed on this climb, the trees are far from the least in importance and interest.

At elevations corresponding to Tuolumne Meadows (8600 feet) we

should rightfully anticipate finding certain characteristic trees. When most of those species are found occurring in an area so limited in extent as Lambert Dome we may well be surprised and delighted. From the standpoint of a nature guide we are herewith afforded a splendid opportunity to acquaint the park visitor with a representative group of Sierran trees.

One of the thrills of nature guiding is derived from exposing a group of uninitiated visitors to new out of doors experiences and watching the expressions of surprise, enlightenment, and achievement on the faces of members of the group when a "new" specimen or phenomenon is brought to their attention. Early in the walk a spirit of friendly competition often develops among the hikers as they strain their eyes for some sign that would indicate a possible discovery and an addition to their list of observations. Lembert Dome is rich in such possibilities.

Of course, in the meadows and the adjacent territory the most typical forest tree is the Lodgepole Pine (*Pinus contorta*). This tree occurs abundantly throughout the

Hudsonian area and it follows the canyons and slopes upward until it finally gives way to the more hardy and adventuresome White-bark Pine (*Pinus albicaulis*). However, on a walk to the summit of Lembert Dome, a careful observer will soon discover that hidden away among the monopolizing lodgepoles and, in some cases towering above them, are several other trees that are usually not distinguished in the general forest maze of needles and cones. I have recorded seven distinct species in this district and there may be others.

Near the talus slides on the northwest side of the dome the beautiful Mountain Hemlock (*Psuga mertensiana*) appears in considerable numbers. Individual specimens of almost all sizes from seedlings of the current year to old patriarchs are interspersed with the lodgepoles. The towering, slender, steeple-like spires with the ever slightly-drooping top and the small, fully opened cones aid in identifying the hemlock. This graceful conifer seems to be a favorite with many visitors.

With two trees well in mind, someone in the group soon finds the cone of the third. Often due to natural or human agencies cones are found some distance from the tree of their origin. This is the case with the Western White Pine or Mountain Pine (*Pinus monticola*) on Lembert Dome. The trees grow most abundantly on the northwest shoulder of the dome and the cones are washed or carried down the hillside where they are found before the trees themselves are clearly visible.

The cone of this White Pine is rather suggestive of the Sugar Pine (*Pinus lambertiana*) but is somewhat smaller and more tapering at the distal end. The needles also resemble the Sugar Pine, being approximately three inches in length and containing five needles in each bundle. During the summer of 1937 the White Pine bore an abundant crop of golden-rust colored cones which hung in large clusters from the upper branches of the trees.

The typical timberline tree, the White-bark Pine (*Pinus albicaulis*) is represented by a few scattered specimens near the summit of the dome. In many respects the White-bark Pine may very easily be confused with the lodgepole with which it is so frequently found. However, the number of needles found in a bundle quickly distinguishes one from the other, as the Lodgepole bears two and the White-bark five. The cones, if present, also aid in identifying the White-bark Pine. The dark, beet-red cone is somewhat larger than the lodgepole cone and the thick scales are more compact and are invariably covered with a generous supply of very sticky pitch.

The fifth tree on the observer's list is the Jeffrey Pine (*Pinus jeffreyi*) and its representative on Lembert Dome is a small, rugged, storm-beaten individual struggling with its feet deeply embedded in a crack in the solid granite on the south shoulder of the dome not far from the top. This tree is not over three feet high, but its gnarled condition would indicate that its years were

many. One is reminded of the dwarfed conifers produced by horticulturalists and used for decorative purposes in their gardens, homes, and temples and, perhaps, the contributing environmental factors for the abnormal growth are fundamentally the same in each case—one natural and the other controlled.

Several very fine Jeffrey Pines are to be found in the forested area on the east slope of Lemberg Dome. As the Jeffrey Pine is the only long-needled and three-needled pine in the vicinity, the identification should not be difficult.

The Sierra Juniper (*Juniperus occidentalis*) is to be expected here and we find it. Members of the party often confuse the Juniper with the Incense Cedar but the differences which are many are easily pointed out. The large trunks covered with reddish-yellow, cedar-like bark seem grotesquely out of proportion to the height and general structure of the tree. Huge, malformed limbs emerge at all angles and hold the large globular clumps of scale-like leaves in unusual positions. The misshapen, distorted Juniper forms one of the most picturesque aspects of the Sierran skyline.

Among the Junipers, Jeffrey Pines, and Lodgepoles on the east slope of the dome a number of splendid Red Firs (*Abies magnifica*) occur. The rich velvety red of the trunk crowned by a dense covering of short, erect silver-green needles are consistent with the specific name, for the Red Fir is truly a magnificent tree.

It is of interest to note that all seven trees mentioned above are cone-bearing trees. No broadleaf species are found growing on Lemberg Dome. Every living thing, plant or animal, is modified and adapted for existence in the environment in which nature has placed it. Apparently, then, the needle-leaf trees alone are able to endure and survive the environmental conditions peculiar to this immediate vicinity.

The trees on Lemberg Dome illustrate a truth evidenced so many times throughout Yosemite National Park. No single field of science has a monopoly on any part of the area. All branches of the natural sciences are beautifully correlated and intergrated in the formation of the complete and perfect whole—Yosemite. And for one to fully appreciate Yosemite and to experience the maximum potential personal enrichment, his background of acquaintances in things of nature must be broad rather than too specialized.

NATURE NOTELETS

By Ranger Frank Givens

My tame coyote also causes considerable comment. Many dudes think it is a dog when it chases their cars snapping at their tires. The other night it started playing with the CCC boys as it always does with me. They mistook its antics for an attack and immediately produced a pocket knife, then the coyote left.



MOUNTAIN TEACHINGS

By Ranger-Naturalist M. D. Bryant

There is something about the majesty, massiveness, and permanence of mountains that has always intrigued me. Even in my boyhood on the prairies of North Texas, a picture of the mountains was enough to send my imagination on a voyage toward the skies. I wanted to climb those rocky slopes, to smell the pines, and to listen to the whisper of the breeze as it swept through the boughs of fir trees. My youthful ambitions have been realized—yet the call of the mountains remains and always shall remain in my heart.

I find myself incapable of expressing the real spirit of the mountains and call upon the immortal John Muir for a portrayal of the lessons they teach:

"Climb the mountains and get their good tidings,

Nature's peace will flow into you as the sunshine flows into flowers.

The winds will blow their own freshness into you, and the storms, their energy.

While cares will drop off like autumn leaves."

The thoughts of great men are usually in advance of their times, and Muir's recognition of mountain values is no exception. Even now there are many whose experiences are so

limited that they will see little in his lines. My sympathy for them is deep. Come join a Seven Day Hike with me over Yosemite trails and let the Mountains teach you their lesson.

Only those visitors who can overcome "cushionitis" and are willing to travel by saddle leather or soft leather are able to receive their heritage from the mountains. For them a fine system of trails has been constructed throughout the park. The park operators have assisted by locating five High Sierra Camps at favorable spots well up toward the crest of the Sierra. This has permitted the government to extend its educational program beyond the centers of visitation and into the fastnesses of the mountains. Each Monday morning during July and August a ranger-naturalist leaves the valley with a group of fourteen, who have previously made reservations at the Museum, to spend seven glorious days in hiking, studying, and enjoying close communion with the life of the mountains. I have had the good fortune to lead two of these hikes and can think of no better way to explain the teachings of the mountains than to summarize a few of the features of my trips.

We saw Venus shining brightly in

the east at eight o'clock one morning; we followed smooth stretches of water and streams charging madly through granite walled canyons; we swam and fished in lakes of the clearest blue; we saw a rainbow halo around the sun at mid-day with a golden eagle making the view beautifully alive; we discovered white columbines growing profusely at timber line and watched hummingbirds securing nectar from masses of blue larkspurs; we wondered how rosy finches could survive in their snowy habitat; we watched conies gathering the grass that would carry them through the period when their rocky homes were covered with snow; we climbed up and up, past glacial lakes of deepest emerald and vivid blue, and onto a glacier actively at work in tearing down a mountain; we sat in close friendship and understanding around roaring campfires at night and discussed the greatness of the out-of-doors. So many things unsaid! One can merely hint at the inspiration and the exhilaration of the mountains.

We arrived at Tenaya Lake on the afternoon of the sixth day. The remaining hours were spent in swimming, boating, and strolling through meadows in search of flowers and birds. Darkness fell, and we partook of another of those grand meals prepared in the camps. Chicken! oh, boy! The meal ended and around the campfire we decided to review the tangible teachings of the trip. What was this? The group recalled the names of 51 peaks, 33 birds, 22 trees, 21 shrubs, 10 mammals, 2 rep-

tiles, 2 amphibians, and 77 flowers! Imagine this in six days! But in themselves numbers are nothing. It is the thrill of learning and understanding the animals and plants in their natural surroundings, the inspirational knowledge of the oneness in nature, that really counts.

The groups have scattered to the corners of the nation. Is this, then, the end of the experience with the mountains? I think not. The letters that come to me from those who have taken the trips indicate that the memories of the mountains linger long to brighten the lives of those who have been close to them. The introduction to nature has in many cases resulted in nature study back home, a hobby that is second to none in educational and inspirational value. So I invite all who will come to Yosemite to spend seven wonderful days in the Sierra. Perhaps you will be able to thrill to the following lines as we lovers of the Sierra do:

"We knew the desolation of great heights

And the contentment

of deep valleys;

We saw the moon leap silver

from the mountain peaks

And watch the red sun die

in the welter of mists

on the horizon;

We knew the white swift decline

of vast snow fields

And the small beauty

of forest flowers;

Our dreams rose with the smoke

of our campfires

in the wilderness

And our friendship glowed

with the embers of the fir fires;
 We shared hunger, thirst, and the
 struggle to the mountain top
 As we shared peace, good food and
 pleasant rest in our night camps;
 All these things . . . the dizziness of
 sudden precipices, straining mus-
 cles, weariness, exaltation, the
 soothing fragrance of pine trees, the
 chatter of mountain streams and the

roar of furious rapids entered into
 the pattern of our friendship and
 made it fine.

These things we knew together . . .
 And these things we will remember."

These lines were written by Don Blanding of
 the Sierra Club and inscribed "To Don May,
 a friend who climbed mountains with me."
 They are used with the authors permission.



Waterwheel Falls

PRELIMINARY CHECK LIST OF DRAGONFLIES TAKEN IN YOSEMITE NATIONAL PARK

By Ranger-Naturalist Carsten Ahrens

Collected by the writer while a member of the Yosemite School of Field Natural History during the summer of 1936. The arrangement of species is according to Needham's "A Handbook of the Dragonflies of North America."

ANISOPTERA

1. **Tanypteryx hageni** Selys. (The Western Grayback). Collected at Snow Creek, 7000 feet, July 21 and August 4.
2. **Ophiogomphus bison** Selys. (Club Tails). A female collected where Meadowbrook crosses the Pohono Trail, 6000 feet, June 30.
3. **Octogomphus specularis** Hagen. (Club-tails). A male collected where Meadowbrook crosses the Pohono Trail, 6000 feet, June 30.
4. **Anax junius** Drury. (The Green Darners). Six specimens at base of El Capitan, Yosemite Valley, 4000 feet.
5. **Aeschna multicolor** Hagen. (The Blue Darners). Common in val-

leys below 5000 feet.

6. *Aeschna walkeri* Kennedy. (The Blue Darners). Four males taken between 4000 and 6000 feet on June 28.
7. *Aeschna interrupta nevadensis* Walker. (The Blue Darners). A male at Dog Lake, 9000 feet on July 22 and a male on snow-bank on Shepherd Crest, 11,000 feet on August 1.
8. *Aeschna verticalis* Hagen. (The Blue Darners). A male at Dog Lake, 9000 feet, on July 22 and a male on White Mountain, 11,000 feet on July 23.
9. *Cordulegaster dorsalis* Hagen. (The Biddies). Ten males along creeks at 5000 to 6000 feet June 28 and July 17.
10. *Somatochlora semicircularis* Selys. (Ringtails). Numerous in high mountain bogs and meadows between 8000 and 11,000 feet altitude.
11. *Cordulia shurtleffi* Scudder. Common throughout Park.
12. *Libellula saturata* Uhler. (The Big Red Skinner). Below 7000 feet.
13. *Libellula pulchella* Drury. (The Tenspot). Common below 7000 feet.
14. *Libellula quadrimaculata* Linne. (The Skimmers). Up to 10,000 feet.
15. *Libellula nodisticta* Hagen. (The Skimmers). Two males and one female at Wawona, 4000 feet on July 17.
16. *Plathemis lydia* Drury. (The White-tail). Common at lower elevations.
17. *Sympetrum corruptum* Hagen. (Toppers). Apparently the most widely distributed Anisopteron in the West. It seemed to flourish in any habitat and at any altitude. It was taken over standing water and along swift glacier-fed stream, over deserts and around mountain tops. It was first on wing in the morning and the first on wing after the rain.
18. *Sympetrum illotum* Hagen. (Toppers). A male, Yosemite Valley, 4000 feet, on June 28.
19. *Sympetrum pallipes* Hagen. (Toppers). Collected Yosemite Valley, 4000 feet, July 1, 13 and August 4.
20. *Sympetrum decisum* Hagen. (Toppers). Common in swampy meadows Yosemite Valley at 4000 feet in late June.
21. *Sympetrum semicinctum* Say. (Toppers). A male at Mather, 5000 feet, June 28 and a female in Yosemite Valley, 4000 feet, August 4.
22. *Sympetrum costiferum* Hagen. (Toppers). Specimens taken at Mono Lake, 6000 feet, August 1, 4.
23. *Sympetrum danæ* Sulzer. (Toppers). Series taken at Mono Lake, 6000 feet, on August 1 and 4.
24. *Leucorrhinia hudsonica* Selys. (The White-facer Skimmers). Collected during late June and early August.
25. *Leucorrhinia intacta* Hagen. (Johnny White-face). Four males at Mather, 5000 feet, June 28.
26. *Leucorrhinia glacialis* Hagen. (The White-faced Skimmers). Series taken on July 11 and 28.
27. *Pantala hymeneæ* Say. Collected at 11,000 feet on Conness

Glacier, July 23.

28. *Tramea lacerata* Hagen. (The Raggedy Skimmers).

ZYGOPTERA

29. *Lestes congener* Hagen. Taken in Yosemite Valley and Mono Lake.
30. *Lestes forcipatus* Rambur. A series in Yosemite Valley, 4000 feet, during July.
31. *Lestes uncatatus* Firby. Series in Yosemite during July.
32. *Argia vivida* Hagen. Common up to 6000 feet during July.
33. *Amphiagrion abbreviatum* Selys. Series in Yosemite during July.
34. *Enallagma cyathigerum* Charpentier. (The Bluets). Series taken in July.
35. *Enallagma carunculatum* Morse. (The Bluets). Frequently taken.
36. *Enallagma civile* Hagen. (The Bluets). Common.
37. *Ischnura denticollos* Burmeister. (Fork-tails). Very common.
38. *Ischnura perparva* Selys. Common.
29. *Ischnura cervula* Selys. Common.

Representative specimens of the above listed Dragonflies have been presented to the Yosemite Museum where they will be found available

in the Research Collections. The Park Naturalist would welcome any additions to this preliminary checklist of Odonata.

A COYOTE FEEDS

By Ranger H. S. Hildreth

Chief Townsley and I were driving along the meadow that is just north of the old orchard in the upper end of the valley on Saturday, April 16, 1938 when we noticed a coyote roaming about in the meadow. We stopped the car near him and after looking us over he continued about his business.

He would trot around in a rather haphazard manner then freeze in his tracks much in the same attitude as a bird dog on point. Then with a sudden spring he would come up with what appeared to be a gopher in his mouth which he promptly devoured hair and all. During the twenty minutes that we watched him he repeated this process six times and captured his prey four times out of the six attempts which is a good batting average in anybody's league.

It would be interesting to know how many gophers constitute a meal for a coyote.





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Dan Anderson