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YOSEMITE NATURE NOTES

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Yosemite Nature Guide Service

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This is one of a series of bulletins issued from time to time for the information of those interested in the natural history and scientific features of the park and the educational opportunities the park affords for the study of these subjects.

Utilization of these bulletins by those receiving them to the end that the information contained therein might be as extensively distributed as possible will be appreciated.

W. B. Lewis, Superintendent

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TOAD DEVOURS A MOUSE

A large California Toad (*Bufo boreas halophilus*), which was taken in Yosemite Valley, has for several weeks occupied a place in the live reptile and amphibian room of the Yosemite Museum. The animal's appetite has been voracious. Wasps, beetles, flies, and ants have been snapped up in great numbers.

The toad's feeding mechanism is quite interesting, and many museum visitors have learned for the first time of the amphibian's strange equipment. A muscular tongue rests on the floor of the toad's mouth. Its being muscular in no way differentiates it from the tongues of other animals, but its method of use is quite distinctive. Unlike most tongues, it is attached

at the front end and free from all attachment from the front to the back of the mouth. It is a very sticky organ and capable of great extension - and is as accurate as a flying arrow. Toads habitually maintain a very quiet posture, their rough skins and protective colors blending well with their earthy surroundings. Insects approaching within striking distance of the sticky tongue are caught and snapped back into the open mouth with a quickness and precision that is astonishing.

Recently two young house mice were caught alive and brought to the museum. One of them was placed in the glass enclosure occupied by the toad. Bufo at once manifested an interest, and as the infant's shaky crawling did not bring it within range, the toad waddled up to the mouse, stretched toward it inquiringly, and shot forth the retractile weapon. The little mammal was struck fair enough, but Mr. Toad had misjudged the weight of his prey. Instead of drawing the mouse back into his mouth, the returning tongue merely bowled the youngster over and over and left him on his back with all four feeble legs weaving about like an overturned turtle. Another shot at closer range, and the mouse disappeared in the toad's huge mouth. A mighty gulp with closed eyes, and a mammal was on its way to build toad tissues.

#### A PERFECTLY CONCEALED NEST

As we were skirting the meadow below the Yosemite Village with a nature class on the morning of July 1, 1924, our attention was attracted by the squealing, begging voices of young birds. The sounds seemed to come from a yellow pine tree on the edge of the meadow. As we approached the tree, the birds continued to call, and we were able to get quite close without disturbing them. Now the voices came from a branch directly above and not ten feet overhead. Try as we would we could not catch sight of either bird or nest.

While we were trying to locate the young birds, a pair of Green-backed Goldfinches came into the tree. It was noted, as the birds flitted about among the branches, that both male and female were carrying food. The parent birds were awed by our presence and refused to approach or to disclose the whereabouts of the nest.

The young kept up their calling, the old birds flitted about, and then a Chipping Sparrow with food in its bill appeared on the scene. The Chipping Sparrow was soon joined by its mate, and then an argument seemed to take place between sparrow and goldfinch as to which was to feed the squealing young. We were undecided as to whom the young belonged, but while the argument was going on one of the young goldfinches allowed his hunger to get the better of his judgment and by undue activity exposed his hiding place.

As it turned out, the nest was directly over our heads, fifteen feet above the ground, at the very tip of the pine branch in a dense needle tuft. Even with the exact location divulged, it was not possible to see the nest from below. Of the many nests of different kinds of birds discovered this spring, this nest of the goldfinches was the most perfectly concealed.

While the nature class sat around under the tree waiting for the parent goldfinches to come to the nest, one of the party discovered the nest of the Chipping Sparrows. This nest was in a like situation, tucked away in a needle tuft, and about fifteen feet above the goldfinch nest in the same tree.

The parent birds did not visit the young while watched, but as the class moved off across the meadow, the young in both nests were fed.

### THE LITTLE YOSEMITE CAMP

The first unit in the series of new HIKERS' CAMPS is located in the park-like Little Yosemite Valley. Formed as was the Yosemite Valley by the gouging action of a glacier, this smaller basin has experienced the same filling by river-carried sand, and its flat forested floor extends a hospitality to the hiker. The camp is situated most pleasantly against the north wall of the valley at a point where Sunrise Creek cascades with unceasing music upon the valley floor. Sheltering Jeffrey Pines throw their shade upon the tents, and extending some hundreds of yards before the camp is a broad opening in the forest through which approaches the trail from Yosemite.

It is a very easy half-day's climb from Happy Isles to Little Yosemite. The wonders of the Vernal-Nevada Falls Trail should not be missed by any Yosemite visitor, no matter how time-poor he be, and it is this trail which takes one to Little Yosemite. Ascending the gigantic steps in the canyon's profile, the hiker finds himself at the mouth of a beautiful three mile basin surrounded by granite domes and precipitous slopes. Through the expanse of flat, sandy floor the Merced loiters in preparation for its plunge of 2200 feet to its next rest in Yosemite Valley. Little Yosemite is 6200 feet above sea level.

There is much within the valley itself to interest the visitor. Kah-win'-na-bah', a former village of the Yosemite tribe, was situated here, and mortar holes cut in great slabs of granite now mark the site of the ancient dwellings. These relics of another race are but a ten minute walk from the Hikers' Camp. The Merced meanders with many a twist and turn, and deep pools contain splendid Loch Leven, Eastern Brook, and Rainbow Trout. Along the river and throughout the valley are gigantic specimens of the Sugar Pine. In many places the ground is littered with the beautiful, long cones of this tree. Perfect examples of Jeffrey Pine growth may also be seen, and much of the forest is made up of Lodgepole Pine. At the lower end of the valley near the lip of Nevada Falls are numerous picturesque Western Junipers. Close acquaintance with these knarled ancients make the trip a full success to any lover of trees.

A thrill is in store for all who have never seen glacial polish. The junipers of the lower end of the valley grow upon rocks which still bear the mark of the grinding ice. Patches of glassy, enamel-like surface have withstood the weathering of 20,000 years, and it seems that the ice melted but yesterday. Higher in the canyon of the Merced areas of this polish, acres in extent, yet exist. In three places in Little Yosemite moraines mark the one-time locations of the glacier's snout. In a miniature way most Yosemite features are exhibited here. Domes, Royal Arches, and cliff walls remind one of the giant carvings in Yosemite Valley, but here the walls are but 2000 feet high and the domes are modeled on a

smaller scale. The beautifully rounded sugar bowl dome, Sennell Point, is one of the characteristic features of the place. To the north is seen the rounded profile of the back of Half Dome, and east of it one of the Pinnacles of Clouds Rest projects sharply from the skyline.

It has been a difficult undertaking, in the past, to climb Half Dome and Clouds Rest. With this camp as a base, even inexperienced hikers may make these ascents. A rebuilt trail starts from the new camp and provides a short-cut to the Merced Lake Trail, from which marked branches lead to the summits of Half Dome and Clouds Rest. At the head of Nevada Falls will be found the beginning of the Panorama Trail to Glacier Point. This route provides a most interesting way of returning to Yosemite for those who cannot spare the time to visit more of the High Country camps. The Starr King Plateau is accessible from Little Yosemite also.

Three other Hikers' Camps lie within one day's walking distance, and few hikers who have tasted the joy of days in the High Sierras will fail to move on to one or more of the upper camps. Tenaya Lake Camp may be reached by the Forsyth Pass Trail. The Sunrise Trail leads northward to Tuolumne Meadows Camp. Ten miles to the east is the Merced Lake Camp, a camp of remarkable facilities and accommodations located in the midst of unequalled trout waters and glaciated grandeur.

Beds may be had at Hikers' Camps for 75¢ a night and meals for 75¢ each. Make reservation at Camp Curry or Yosemite Lodge before starting from Yosemite. Nature guides make regular trips to the High Country camps. Full information may be had at the Yosemite Museum.

#### PENTSTEMONS

The flower lover who visits Yosemite will find in the Pentstemons some of the showiest of our flowers and well worth observation. There are such wide variations in color and size of these flowers that their study is one of never ending interest. The word Pentstemon is derived from two Creek words meaning five stamens. These flowers all have five stamens, although the fifth one is sterile; that is, it has no anther and so does not produce any pollen. The Meadow Pentstemon (*Pentstemon confertus*), as its name implies, is found in the meadows, and may be recognized by the way in which its flowers are borne. They seem to be in whorls, but a close examination shows that the apparent whorl is composed of clusters. An inhabitant of the dry talus slopes is the Short-flowered Pentstemon (*Pentstemon brevisflorus*), occurring in clumps. The slender stems of this species were used by the Indians in the weaving of baskets. Blue Pentstemon (*Pentstemon laetus*) and Scarlet Pentstemon (*Pentstemon bridgesii*) are conspicuous members of the floral population. Pride of the Mountains (*Pentstemon menziesii*) with its magenta flowers cannot fail to attract the attention of the visitor if he takes any of the trails to the rim of the valley. Its clumps with their profusion of blossoms dot the way along the trail or lend a touch of color to the gray cliffs where these plants are wont to grow from some crevice in the granite wall.

## AS VIEWED BY AN EASTERN NATURALIST

A Rhode Island Nature Guide in the YOSEMITE experiences a succession of sensations. He finds himself in a park larger than his own state. He is "shut in" by canyon walls, and every time he looks up he thinks that a thunder cloud is rising. He remembers that he left the folks at home complaining about the daily rains rotting the crops. But the complaint here is "no rain". The Belichened cliffs may resemble a thunder head but offer little in the way of moisture.

Then comes the humiliation of not knowing the life that he sees, for exceedingly few eastern plants and animals have crossed the Sierras. He may be greeted with a clear whistled song of three notes. How queer! It must be a chickadee. Yet, in the East his call is two notes, "Phoebe". Perhaps he knows that I am puzzled and so says, "Oh, dear me". Then from overhead comes a dry, wheezy drone. It must be a flycatcher, for the bird is perched on the outside of the tree to get a clear view. Yes, it darts off for an insect, snaps his mandibles together as though he meant business, and returns to his perch in true style. But it takes a little imagination to believe that he is saying, "Pewee". We certainly know Mr. Jay even if he has put on a blue front for he has his crest, noise, and distrust. Look behind us! While we are gazing about, someone is stealing our butter. His large beak gives him away. He is a Blackheaded Grosbeak. I wonder if the butter made his song clearer than his eastern cousin. The Western Tanager has caught a cold and sings like the Scarlet Tanager of the East, but how different with his yellow colors. Here comes a camp visitor that makes us feel at home, - the Western Robin. We now know how the Pilgrim exiles felt when they saw the robin. Quite different from their English robin, but being a home loving people they said, "Why! Here is robin red breast." And so he has been called ever since, not because of the color of his breast for it is not red, but because he was a friendly bird that reminded them of home. The Western Robin is smaller than the New England Robin but just as "homely". Is that why we all love him? And thus it goes. As we take to the trail, we find birds that "remind us" like the Russet-backed Thrush, and the Band Tailed Pigeon, and then we find others that are real old friends like the Chipping Sparrow with his red cap and dry chips, or the Yellow Warbler seeking the willow banks. We have taken so much space talking about birds and there is so much to say, - well, we will have to let the flowers go until next week.

### TELLING YOSEMITE'S STORY

#### No. 7 - The Great Steps in the Canyon of the Merced.

Had man been present to explore the Merced Canyon before the advent of the glaciers, he would have climbed through a rugged, V-shaped gorge 2000 feet deep. Proceeding up the canyon, he would have encountered rough cascade after cascade. We have already considered the effect of the ice river on the original V-shaped cross section, and this article will deal with the effect on the longitudinal profile.

As the tremendous volume of ice ground over the steeper stretches of the canyon, it struck with greatest force at the foot of each declivity. The result was that the unevenness of the profile was accentuated. In places the underlying granite was vertically cracked, and the glacier plucking out slabs of granite built great vertical steps. At the base of each such declivity a basin was formed.

In this day of out-door recreation thousands annually leave Yosemite Valley at Happy Isles and climb the good trail which follows the Merced Canyon. The first great step encountered is the one over which the Merced plunges 317 feet to give us beautiful Vernal Falls. Above Vernal Falls is a flat tread in the gigantic stairway, and on this tread is seen the first typical glaciated basin or TARN. It is a beautiful example of ice carving; a smooth lined, rock-rimmed cup gouged out of solid granite. We know it as Emerald Pool, an appropriate name for it forms a part of the stream course, and in its limited circumference the turbulent waters pause momentarily to reflect the colors of its forested surroundings. Within the pool the swirling Merced is quieted sufficiently to provide harbor for hundreds of Rainbow Trout, but because of its relation to the stream course there is little opportunity for river sediment to pervade its clear depths.

Not far above Emerald Pool the climber comes to a second step more gigantic than the first. Its perpendicular walls are 594 feet high, and leaping from the lip at its crest the Merced thunders upon the granite below. This second step gives us Nevada Falls. On the tread above is a park-like flat, a miniature Yosemite Valley. Like the Yosemite Valley, this higher section of the stairway was once a tarn, a lovely lake set deep in granite. But here again the river sands invaded the basin and formed three miles of plain through which the stream meanders.

From Little Yosemite to the very head of the Merced system is a succession of steps and treads, falls, cascades, and tarns. Some of the one-time tarns are sandy flats and some are yet brilliant gems of the High Country. All of them are in some stage of filling. Merced Lake, deserving of the devotion of a poet and a publicity man, is beautifully set in polished granite. At its eastern end the river is building its delta, which will some day obliterate the lake. Three miles above is another treasure of the people who know - Washburn Lake. The life of every tarn in the system is limited.

Were we to diagram the longitudinal profile of the Merced Canyon from its head on Mount Lyell to a point below Yosemite Valley, the diagram would resemble a crudely drawn stairway in longitudinal section.



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Dan Anderson