DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
YOSEMITE NATIONAL PARK

YOSEMITE NATURE NOTES

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Yosemite Nature Guide Service C.P.Russell, Park Naturalist

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.

THE POHONO WITH A NATURE GUIDE !

More people each week are taking advantage of the longer field trips made by Yosemite Nature Guides. Much surprise and genuine appreciation is often expressed by members of parties and our best advertising is obtained through newly made friends. In spite of the fact that every effort is made to acquaint all visitors with the opportunities that are theirs, hundreds learn just too late or only in time to make one trip before leaving the Valley.

Schedules of the twice daily trips and the special trips may be obtained at the Yosemite Museum. Each Saturday a full day excursion to some point on the "rim" is made. To take these trips it is necessary only to provide oneself with a lunch and to be present at the scheduled time and place of starting. Saturday, June 21, thirty seven Yosemite visitors climbed the Ledge Trail to Glacier Point with two Nature Guides. The stronger hikers in the party continued to Sentinel Dome, about 1000 feet above Glacier Point. From there it was possible to learn a lesson in geology that will never be forgotten.

This week a two day trip will be made. Starting from Camp Curry at 2:00 P.M. June 27, the party will go to Glacier Point via the Ledge Trail. The night will be spent at Glacier Point Hotel and early the next morning Sentinel Dome will be visited and then the return to Yosemite made over the Pohono Trail. This

famed trail skirts the south rim of the Valley, and from numerous points most wonderful views are obtained. Throughout its length the trail leads through marvelous forests and unsurpassed wild flower gardens.

On Saturday, June 28th, a full day trip will be made to the head of Yosemite Falls, Yosemite Point, and Eagle Peak. The start will be made at 7:30 A.M. from Yosemite Lodge. Lunches should be carried.

SNOWY ISLANDS

Drifting through the balmy air, soaring aloft on every breeze, are the cotton tufted seeds of the Common Poplar (Populus trichocarpa). Like showers of lazy snowflakes they lightly make their way to the earth. In the evening and at dawn the air is filled with delicious fragrance. This is the sweet odor of the Poplars that accompanies the flying seed as a benediction. The fairy parachutes light upon the river, the seed is dropped, and the cottony tufts, drifted and eddied by the flowing water, gather at length into snowy islands.

Among the islands of Poplar plumes are other white islands. These islands float and move as the water flows beneath them but they do not drift. If one looks closely at these white masses, they are found to be made up of countless pearly flowers. Beneath the flowers is a green foundation of fern-like leaves; beneath these again are long branches extending into the water and anchored by roots to the river bed. The flower islands are the blossoms of the Water Buttercup (Ranunculus aquatilis).

The water Buttercups are firmly rooted to the river bottom, and the spring floods sweeping over their heads pull and tear at them but seldom uproot them. But as the floods pass away and the river sinks into its summer mood, the water Buttercups rise and float their islands of pearly blossoms on the quiet pools. It is not usually until late July that the river is in gentle enough mood to befriend the flower islands. This year, however, the deep serenity of summer days has come early to the Merced River, and the water Buttercups enlarge their islands day by day.

A BAND-TAILED PIGEON EGG.

While the writer was climbing the talus in Indian Canyon, he discovered the egg of a Band-tailed Pigeon on the ground. No nest was visible in the Golden cupped oaks above, and its presence there is to be explained as a mistake made by the bird. The egg is now on exhibition in the museum. In most cases, one egg would mean an imcomplete set representative of a bird, but with this species one egg is the usual complement of the nest. No wonder that so slow a breeder should have almost followed the Passenger Pigeon to extinction when subjected to heavy hunting. The future of the Band-tailed Pigeon, the only wild pigeon left in North America, now looks bright, as the bird is now protected by both federal and state law. Band-tailed Pigeons nest in the Golden-cupped oaks which grow on the talus and ledges and often feed on the floor of the Valley. Birds are nearly always to be seen near the Park Company's barns about a half mile north of Camp Curry.

NO SEQUOIA IN YOSEMITE VALLEY.

Visitors to Yosemite who are interested in the trees often ask the Nature Guides about the differences between the Big Tree (Sequoia gigantea) and the Incense Cedar (Libocedrus decurrens). While the largest specimens of the Big Tree would not be mistaken for the Incense Cedar, the Incense Cedar is oftеn mistaken for the Big Tree on account of the similarity in the bark. There is a very marked difference, however, in the branchlets of these two trees. Both have scale-like leaves, but on the Incense Cedar these are on flattened branchlets, while on the Big Tree the branchlets are cylindrical. Another marked difference in these two trees is in the cones . Those of the Incense Cedar, composed of only three scales, are urn-shaped, and about three fourths of an inch long, while those of the Big Tree have many scales and are from one to three inches in length. There are no Big Trees in Yosemite Valley except the few which have been planted here.

TELLING YOSEMITE'S STORY

No. 5- Characters of Glacial Erosion.

In No. 4 of this series of notes on Yosemite Geology it was explained that moving ice transformed the original V shape canyon of the Merced to a U shaped one. In the Yosemite Valley we find it difficult to identify the rounded bottom of the trough that we have recognized as typical of glacial action. There is here a variation that demands special explanation. The floor of the Valley is flat rather than concave. A future article will deal with this apparent anomaly. As we stand at Mirror Lake, however, and look into Tenaya Canyon, we at once recognize the U shape cross section of the gorge. Our first characteristic of glacial action we will accept as the gouging out of this U shape trough bottom.

The longitudinal profile of this stream course also experienced a change as a result of ice action. The original stream bed of the Merced did not maintain an even gradient from its headwaters to the foot hills but neither did it possess the alternating gigantic steps and treads which we now encounter as we travel up the canyon. For mechanical reasons, quite apparent, the ice eroded most vigorously at the foot of the steeper stretches in the stream cut canyon. The result was that the original unevenness of the longitudinal profile was accentuated and a great series of declevities or steps were formed. At the foot of each of such abrupt descents the impact of ice against the rock was greater than elsewhere, and basins were hollowed out of the solid rock. Such glacial basins are known as TARNS and with the melting of the ice they formed rock-rimmed lakes.

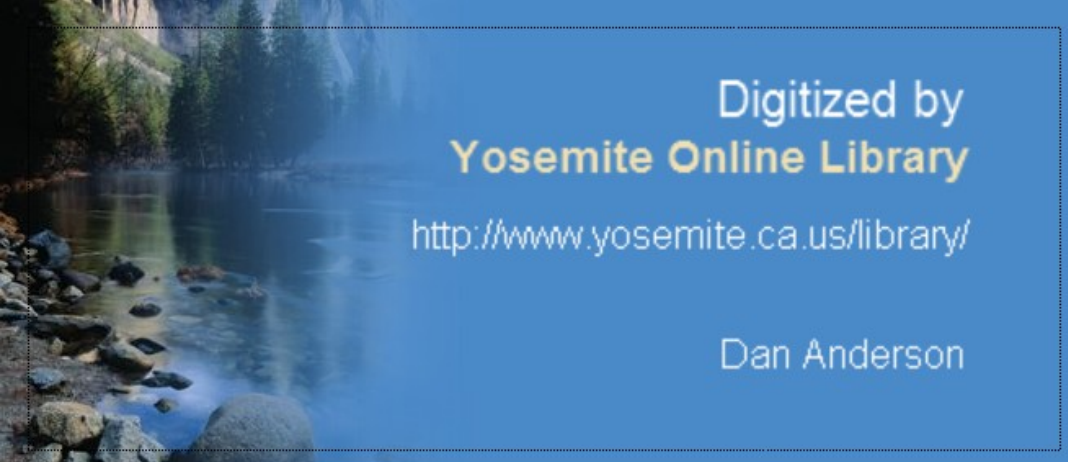
As we trace the path of the glacier back to the Valley heads on the mountain tops, we find another character of ice modeling. Here where the upper end of the ice mass was in contact with the cliffs of the mountain summits, a plucking and tapping action took place. Great blocks from the rock walls were seized upon by the ice, torn away from the cliff, and embedded in the slowly flowing mass. This continued through the time that the glaciers held sway and resulted in great amphitheatres or CIRQUES being eaten into the mountain tops.

We may reasonably ask "What has become of the great quantities of materials picked up or pushed along by the ice?" The debris of course formed a part of the river of ice. Where boulders protruded from the mass and came in contact with the sides or bottom of the containing gorge, they added much to the cutting

powers of the glacier. Even yet great areas of smooth, glassy GLACIER POLISH may be seen in the higher parts of the canyons. The friction of the heavy mass of ice and rock, scoured, "sandpapered", and grooved the underlying granite. At length when the glacier reached a point where the melting equalled the forward movement, the load of debris which it was carrying was dumped across the front of the disappearing ice tongue. Such an accumulation of glacial debris is called a MORAINE.

In brief the characters of glaciation that we may recognize in Yosemite are:

1. A Canyon U shape in cross section.
2. A canyon "stepped" in longitudinal profile.
3. The occurrence of tarns or basins at the foot of each step.
4. Mountain tops eaten away to form cirques or amphitheatres.
5. Highly polished granite surfaces in the path of the ice.
6. Moraines or ridges of glacial debris thrown up by ice action.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