

YOSEMITE NATURE NOTES



Nevada Fall

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The Devil Postpile National Monument

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Special characteristics: High basaltic columns resembling a post-pile; beautiful Rainbow fall and cascades in the San Joaquin river; hot springs and soda springs; nearby rugged peaks of over 13,000 feet elevation.

Location: The Devil Postpile National Monument is located in eastern central California near the headwaters of the Middle Fork of the San Joaquin river close to the crest of the Sierra Nevada. The Monument covers 798½ acres or one and a quarter square miles, and is in the shape of a rectangle, one-half mile wide and two and a half miles long, the Middle fork of the San Joaquin river running throughout the length of the monument. The elevation varies from 7,000 to 8,000 feet.

History: This area was established as a National Monument by President Taft on July 6, 1911, and

was until recently administered by the Forest Service as a part of the Sierra National Forest. On August 10, 1933, it was placed under the jurisdiction of the National Park Service, and on March 24, 1934, assigned directly under the supervision of the Superintendent of Yosemite National Park.

Natural Features: While the monument was established mainly on account of the Devil Postpile itself, the area includes a number of other distinctive natural and scenic features.

The Devil Postpile, from which the monument receives its name, is situated close to the northern boundary. It is a spectacular hummock of columnar basalt about 300 yards long and 200 feet high. Glaciers, and possibly later the river, have cut back into this hummock exposing the inner portion, which consists of regular, upright, dur-

able basaltic columns. The exposed portion of these columns are as much as 50 feet in height, their bases being concealed under a large talus slope made up of broken column sections. The individual columns range from one to two feet in diameter and are in the most



part five or six sided. While the columns in the central part of the hummock are exceptionally high, straight and clean-cut, those at the southern end are remarkable for their curvature and radial arrangement.

On the top of the Postpile one gets the strikingly beautiful effect of inlaid tile or mosaic where the glaciers during the Ice Age smoothed and polished the individual column tops. Further back the basalt is completely covered with soil and pumice which sustains a sparse

growth of pine and fir. When the top soil is removed the polished column tops are exposed showing that basaltic flows once covered the whole region.

Rainbow Fall is located about two miles south of the Postpile close to the southern boundary of the Monument. Here the river makes a straight sheer plunge of about 140 feet. The lovely rainbow visible in the spray and mist at any sunlight hour accounts for the fall's name. The foaming white water outlined clearly against the high, black basalt walls makes a picture that can only be seen to be appreciated. The deep pool at the base of the fall is the favorite haunt of the Water Ouzel. Large trout live deep in the pool but are not inclined to rise for the many fishermen who try to lure them out.

Late in the season when the volume of water is less, the fall continues to retain its high-water width of around 60 feet. The water in the fall is very thin and veil-like and is, in the opinion of many, at this time prettiest. Many compare Rainbow Fall in shape and beauty to the famous Vernal Fall in Yosemite National Park.

Surrounding Region: The natural features of the monument are by no means the only attractions of the region. Situated as it is near the crest of the Sierra Nevada, it is surrounded by grand high mountain scenery on every side. Eastward is Red's Meadow, Scotcher

Lake, Mammoth Mountain and the Mammoth Lakes. To the north-west lies the rugged metamorphic ridge composed of Mt. Ritter (13,156 feet), Banner Peak, the Minarets, and which terminates in Iron mountain. Glaciers are to be seen nestling on their steep eastern slopes. At the foot of the ridge are Thousand Island Lake, Garnet Lake, and Shadow Lake. These lakes as well as the streams are well stocked with trout and offer splendid early season fishing.

How To Get There: The Devil Postpile National Monument may be reached by car during the summer season from around June 15 to October 1. The El Camino Sierra highway between Bakersfield and Lake Tahoe takes one to within eighteen miles of the monument. Mammoth Lakes postoffice is located three miles west of the highway junction and is the nearest place where hotel accommodations and food supplies may be obtained. A dirt road of fifteen miles leads from Mammoth Lakes post office into the Monument.

Several points of interest are found along this road, such as the Earthquake Fault, a rent in the ground resulting from the Inyo earthquake in 1872. The bottom of this split is generally always packed with snow. At Minaret Summit one gets a splendid view of the Ritter range including the renowned Minarets and their small glaciers.

Several trails serve the region. From the north, the John Muir trail starting at Tuolumne Meadows in Yosemite National Park, leads to the Monument via Donahue Pass, a distance of 35 miles.

From the west, a dirt road from Bass Lake to Soldier Pass (25 miles) connects with the Forest Service trail to the Monument (18 miles).

From the east, a trail starts at the Mammoth Lakes and reaches the Monument by way of Mammoth Pass, an easy trip of only six miles.

Camping Facilities: A public campground is provided at Soda Springs meadow, the road terminus. A National Park Service ranger is stationed here during the summer months. At the lower end of the meadow is the Soda Spring, which furnishes carbonated soda water of an excellent quality. Nearby is the "old swimming hole," a deep pool in the river which offers good swimming and bathing.

Other excellent camp sites are maintained by the Forest Service adjacent to the Monument. Hot springs and free public bath houses are to be found at Red's Meadows. Saddle horses and pack outfits may be rented at Pumice Flat, another campground, two miles from Monument headquarters.

Further information may be had by writing to the Superintendent, Yosemite National Park.

Walking Nature Rovers

(Ranger Naturalist James E. Cole)

Yosemite National Park has been known for many years as a "hiking park." Figures recently compiled indicate that members of naturalist-led hiking parties and nature study groups walked a distance equivalent to practically three times around the world, during the summer of 1934. Most of this mileage was on trails near Yosemite Valley. Trips to Half Dome, Eagle Peak, Little Yosemite, and Glacier Point were as popular as ever and as much traveled. In addition several new hikes were tried out with gratifying results.

Two naturalist parties hiked the beautiful Pohono Trail. The groups met at Camp Curry, climbed the Ledge Trail in the afternoon, and next day covered the Pohono Trail after an overnight stop at Glacier Point Hotel. There were two trips to the brow of El Capitan, the plan of the second seemed to be the better liked. A bus transported the group from the Valley to Gentry on the Big Oak Flat Road from whence they hiked to El Capitan, Eagle Peak, and the floor of the Valley by way of Yosemite Falls Trail. A novel and interesting program of "exploration hikes" was introduced by the naturalist department. On several occasions groups of people met different naturalists and started out for destinations unknown to all but the leader.

If numbers indicate success, the moonlight hike to Glacier Point was the most popular. Between two and three hundred people climbed up the Ledge in the afternoon, stayed for the campfire program and Firefall at Glacier Point and then returned on the Four Mile Trail by moonlight. Another overnight trip was tried during early September. Sufficient horses were hired to pack food and sleeping bags beyond the upper end of Little Yosemite Valley where bare camp was established. The next day the party climbed Mt. Clark, 11,503 feet and then returned to camp. On the following day the trip back to the Valley was made. The expenses of horses and packer amounted to less than two dollars per person.

At Tuolumne Meadows the naturalists led hiking parties to fifteen different mountain peaks, including Mt. Lyell, 13,020 feet, the highest in the park. The hike to Mt. Conness and Mt. Lyell involved climbing in a roped party over living, active glaciers.

During June, July and August, 1934, the Yosemite naturalists led study groups over approximately 3,300 miles of trail. The distance walked by the members of the parties and the naturalists amounts to nearly 70,000 miles. These figures, it seems, would suggest that the type of tourist who vacations in

Yosemite National Park is "trailing and maintaining trails is minded." It is also an indication well spent. that the money expended in build- * * *

Reptiles and Amphibians of the Yosemite Creek Research Reserve

By H. David Michener, Field School, 1933

Between July 14 and July 18, 1933, the Yosemite Field School camped in the Yosemite Creek Reserve, north of Yosemite Valley. Our purpose was to make a preliminary study of the flora and fauna of this reserve, and I was particularly interested in the reptilian and amphibian fauna. The part of the Reserve which we studied is at a fairly high elevation (8000 to 9000 feet) consequently the reptiles and amphibians found there are, for the most part, different from those found on the floor of Yosemite Valley.

The Research Reserve is an area set aside for use in carrying on research in natural history. It covers about twenty-five square miles, extending from the north rim of Yosemite Valley to the Tioga road, and lying west of Yosemite Creek. Our camp was located at the northeast corner of the Reserve, on the Tioga road about midway between White Wolf and Yosemite Creek, and at an elevation of about 8200 feet. The part of the reserve which we explored was within about three miles of camp, and lay in typical Canadian Life Zone, except for a

very small area on the highest hill, which seems to belong to the Hudsonian Life Zone.

Reptiles were, for the most part, conspicuous by their absence. On the floor of Yosemite Valley, and even up to an elevation of 7,000 feet it is common to hear rustling of leaves and see a lizard dash into a thicket of snowbush beside the trail. At 8000 feet, however, this was very uncommon. Most of us saw no lizards. I saw two, but was unable to catch and examine them. I am quite sure however, that they were Mountain Lizards (*Sceloporus graciosus gracillius*).

We found only two specimens of the Mountain Garter Snake, *Thamnophis ordinoides elegans* (Baird and Girard), although we explored several streams and meadows.

I know of no records of it from the floor of Yosemite Valley, but it is sometimes very common in the Canadian Life Zone, and is probably found at higher elevations than any other reptile in the Sierra.

Our most interesting find was a small Rubber Boa (*Charina bottae bottae*), which was found near

camp. This is an unusually high elevation for this species, as its usual range is in or near the Transition Zone. It is found on the floor of Yosemite Valley. Mr. Joseph S. Dixon of the Wildlife Division of the Park Service, who supervised the work done on the Reserve, tells me that he knows of no records of capture of this snake at an elevation as great as 8200 feet.



Rubber Snake

There are several other reptiles which are likely to be found in this region, though we did not find them. Among these are the Tenaya Blue-bellied Lizard (*Sceloporus occidentalis taylori*) and the Sierra Alligator Lizard (*Gerrhonotus pal-*

meri). The latter is quite different from the San Diego Alligator Lizard of the lower elevations, which is common in Yosemite Valley. The Sierra Alligator Lizard is occasionally found in the Valley floor, but it is most common above the Valley, in the Canadian Zone.

The Pacific Rattlesnake (*Crotalus oreganus*) is also found at high elevations, though rarely. I saw two of them at about 9400 feet near Florence Lake (Fresno County, forty miles south of Yosemite), and I have been told of their occurrence at elevations above 10,000 feet.

Among the Amphibians there were only three species which we expected to find. All three were plentiful. The Sierra Yellow-legged Frogs (*Rana boylei sierrae*) were very common near water. When walking near a stream, we would often hear several of them jump, one by one, into the water and see them swim away to take refuge under the rocks or leaves.

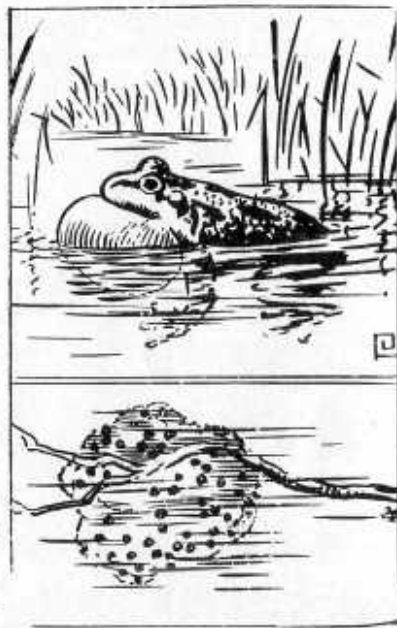
In the fairly dry areas, there were no frogs, but we found several specimens of the Yosemite Toad (*Bufo canorus*). This species is not found in Yosemite Valley but it is common in the Canadian and Hudsonian Life Zones. We found several individuals near camp, and one small one in the mouth of a gopher hole in the dry soil on top of "Research Ridge" (8600 feet elevation).

The Pacific Tree Frog (*Hyla regilla*) was the most common amphibian. Unlike most animals, it is common in streams and meadows everywhere from the San Joaquin Valley up to an elevation of ten or eleven thousand feet. We found it commonly in the wet meadows of the Reserve. We were also surprised to find it in very dry areas such as the top of "Research Ridge," which was probably a quarter of a mile from water. This is very interesting, for it is difficult to see how these small frogs can live in such a dry place without suffering from desiccation. I found a probable answer to this, however, when I found one of these frogs in the mouth of a rodent burrow. It will be remembered that I also found a Yosemite Toad in a rodent burrow.

This suggests that they go into these holes, which are very numerous, to spend the hot part of the day. These burrows are cool, and the coolness reduces the evaporation from the skin of the frog, thus preventing desiccation. How long these frogs can live on this dry soil without going to water is, of course, an open question. It is possible that the rains are frequent enough so that they do not need anything but rain water.

I also noticed that specimens from these dry areas were much larger than those commonly found along streams and in the meadows. Measurements of their length, how-

ever, agree with measurements given by Storer for adults of this species in his "Synopsis of the Amphibia of California." Storer also speaks in this paper of finding adults of this species in dry locations. Is it possible that the smaller individuals are young and that the adults do not remain near the water after spawning?



Pacific Tree Frog (*Hyla regilla*)
Vocal pouch and egg mass

The highest hill on the research reserve has a small glacial cirque on the north side, at an elevation of about 9000 feet. This is mostly bare and rocky, but among the few plants growing in the little meadow behind the terminal moraine, there are several indicators for the Hud-

sonian and one for the Arctic-alpine Life one. Apparently there is some chance that the Mount Lyell Salamander (*Eurycea platycephala*) lives in the cirque. Two of us spent two hours one morning turning over stones in an effort to find some, but we found none. We decided, however, that the chance of finding them by this method is very small, as the rocks are piled several feet deep in many places. During the night or in a rain the salamanders (if any) would be much more likely to come out where they could be seen. A search for them at that time might produce better results. Any additions to the knowledge of this little-known salamander will be very interesting. It has only been collected at a few localities—all at very high elevations, and all in the Yosemite National Park—and its range is very imperfectly known.

RIBBON FALLS

(By Reynold E. Carlson)

The early season visitor to Yosemite has an opportunity to see many of the minor falls of the park that are not observed by the summer visitor. One of the most interesting of these is Ribbon Fall. Here the lip of the falls is 3,050 feet above the valley floor. The fall itself is 1,612 feet high; but it does not make the sheer drop that upper Yosemite Falls does, being constrained in a narrow, sheer-walled recess.

There is no trail to the base of Ribbon Fall and probably only a few people each year make their way into the dark opening at its base. This is, however, a tremendously interesting trip. Even in July there is a small amount of water coming over the fall; and the falling spray, the dark gorge, and the interesting cross-valley view into the basin of Bridalveil creek amply repays the visitor for the difficult climb.

It would be interesting to know the full geological story of this waterfall. The cracks in the granite on each side of the recess tell the story of the reason for the cliff face over which the fall comes but does not explain the process that has resulted in the deep backward cut of the recess itself. Very probably a small glacierette in the hanging valley of Ribbon Creek plucked out the layers and is largely responsible for the deep cut.

The climb to the base of the fall should be made by starting up the gravel fan of Ribbon Creek. Then, a few hundred yards up the creek bed, the climber should leave the stream and ascend the ridge just to the left. Just before reaching the base of the cliffs the climber should angle to the right. This is the most difficult part of the climb, being through brush and over large fallen boulders.

It was my pleasure to conduct an exploring hike over this route this past July. The party of forty voted it well worth while.



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Dan Anderson