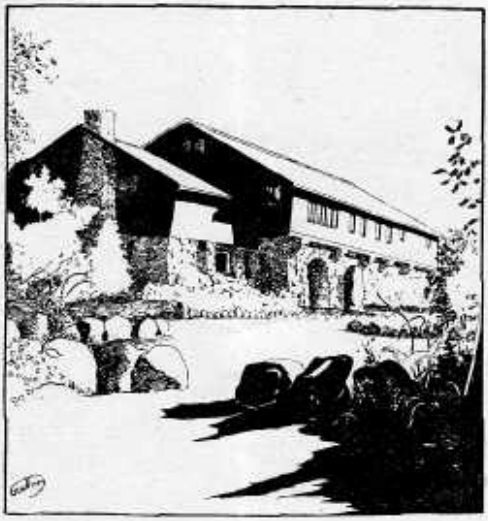
YOSEMITE NATURE NOTES



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INDIAN RANCHERIAS FOUND

By Clifford C. Presnall, Ranger - Naturalist

Among the Indians of California the use of stone mortars for grinding seeds and crushing acorns was almost universal. Although not all the tribes were using them when first discovered by white men, they must have been employed throughout the state at some prehistoric time, as indicated by discoveries of mortars in every part of California. Mortars are found in especially large numbers along the western slope of the Sierra Nevada range, in the territory formerly occupied by the Washoes, Miwoks and Yakuts. These tribes, in common with three-fourths of all the California Indians, subsisted chiefly on acorns, which were crushed, rather than ground, into meal. The mortars they used were made in bed rock, which probably accounts for the large number that are found, since new holes had to be made each time the Indians moved to a new village. Some village sites, or rancherias, apparently had been used for many years, judging by the number of mortar holes found. Such an ancient and populous rancheria must have existed at Big Meadow, near the western boundary of Yosemite National Park.

Big Meadow, at an altitude of 4400 feet, is located on the Coulterville road, where it crosses Crane Creek two and one-half miles north of the Merced river. It consists of about sixty acres of well watered meadow surrounded by granite hills through which low passes give easy access to the surrounding territory. According to local cattlemen and rangers, the meadow is on the old Mono Trail, which was used by the Miwok and Mono Indians in trading and raiding trips over the summit of the Sierra Nevada. Everything seems to indicate that Big Meadow was an important Miwok encampment, and a count of the mortar holes in the vicinity substantiated the idea.

On the twenty-seventh of April the park naturalist, C. A. Harwell, and I spent the entire day in searching out and counting the mortar holes at Big Meadow. Many of the holes had become covered with from one to four inches of

leaf mold and soil, so considerable work was necessary to expose them. Fortunately most of the mortar holes were concentrated on five small granite outcroppings.

The holes occurred in seven locations, as shown on the sketch map, each location being on a small, rocky knoll or ridge that bordered the meadow. At one location (G) there were 14 different rocks containing holes, and at three (B, C, F) there was but one mortar rock. We found three outcroppings which had but one mortar hole in each, but all the others

Mortar holes and pestle at Yosemite Big Meadow shown in photo. The true depth of the holes is obscured by water from recent rains. Note shallow hole in lower right hand corner. Sketch map shows the location of Big Meadow.

had from three to one hundred and five holes of various sizes, all closely spaced, and in some cases running into each other.

Most of the mortar rocks were nearly level with the ground; some rocks had holes three to eight feet above the ground, and two holes were found on top of a large, round rock over 20 feet above the surrounding rocks.

It was quite evident that the holes had been made over a period of many years. Many deep holes, somewhat weathered, had apparently been abandoned and shallow, smoothly worn ones started near by. On one block of granite broken from the bed rock, were five holes that were very badly weathered. The break in the rock, which was also much weathered, must have occurred after the holes had been made, since it ran directly through two of the holes, similar to that shown in photograph. In another case several deep holes were found under the low limbs of a manzanita (Arctostaphylos mariposa) six inches in diameter at the base. The branches were so low that the holes could not possibly have been used since the bush started to grow. Judging by rate of growth and diameter, the age of the manzanita was estimated at 100 years. No doubt many mortar holes are very old, since the Indians themselves have no idea of their origin, ascribing it to some supernatural agency.

The largest mortar holes were six to eight inches in width across the top, and eight to eleven and one-half inches in depth. The smallest and newest holes were mere saucer-like depressions, perhaps one-half inch deep and two inches across, worn very smooth on the bottom. Holes of all sizes occurred on the same rock without any definite system of arrangement except an occasional tendency to follow slightly curved rows. Usually the upper and more level surfaces of large rocks were occupied where a number of squaws could sit comfortably.

A total of 616 holes were counted within a radius of a quarter of a mile. It is quite probable that other holes remained undiscovered under accumulated soil, or in thickets of young pines and underbrush. Strangely enough, we found only one pestle, a small, poor specimen. No doubt many have been picked up in past years, since Big Meadow has long been the summer headquarters of a cattle ranch. Obsidian chips were very plentiful, especially at F and G. We had little time for hunting arrow heads, but did find one perfect point and several broken ones.

TREE SWALLOWS OF YOSEMITE

By C. A. Harwell, Park Naturalist

On a bird observation trip April 20 to Big Meadow, just west of Yosemite valley on the old Coulterville road, Ranger Naturalist Presnall and I identified twenty species. It was interesting to note that a number of summer visitants were present at this location, 500 feet higher than the floor of Yosemite valley, which are not expected in the valley for a week or more, some of which are rare visitors to the floor

of the valley. Meadowlarks were there in full song; several calliope hummingbirds (Stellula calliope) were busy about the willows, one male demonstrating to us his towering mating flight, while a flock of about twelve white crowned sparrows (Zonotrichia leucophrys) leucophrys) kept just ahead of us as we walked through the thicket of willows along Crane creek. They were evidently on their spring migration to their spring nesting grounds in Hudsonian Zone. Tree swallows (Iridoprocne bicolor) had evidently just arrived. We noted five of these handsome swallows, perching in or nesting near a dead oak tree at the north edge of the meadow. Their very white underparts and steely blue-black backs made them easily distinguishable from the other five species of swallows to be found in the Yosemite section. Three of the birds were evidently males, and their courting songs and antics were interesting to observe. The birds were concentrating their attention on a deserted woodpecker hole about 20 feet from the ground in the trunk of this oak tree, and also on a prospective nest cavity at the top of a fireblackened pine stub at the bank of the small stream nearby.

This tree swallow is general over North America, nesting as far north as trees extend in Canada. In many sections they take kindly to bird boxes. Never more than one or two pair, however, have been observed nesting on the floor of the Yosemite valley during any one season.

A pair of western bluebirds (Sialia mexicana occidentalis) also rare for the region at this season of the year, seemed determined that the cavity in the oak tree would make a wonderful place for a bluebird's nest. They flew several times to examine the hole and repeatedly protested against the swallows even perching in their tree, by flying in a determined manner directly toward the offending swallow. In every case the swallow would retreat without show of protest, but once in air on happy wing, seemed soon to forget and the next minute would be back on some gray limb of the dead oak twittering as happily as before.

We will keep this location under observation to note which of these species, if either of them, uses this nest site.

Though the western bluebird is a common nester in other parts of the State in Transition zone, here in our Yosemite region they seem to be confined to the lower foothill regions during summer, only to be observed in Yosemite valley during winter months. My last observation of a bluebird on the floor of the valley was March 22 of this year, when a single male was noted.

THE CALLIOPE HUMMING-BIRD

By Enid Michael, Ranger - Naturalist

The more one learns about birds, the more one marvels. I was really thrilled the other morning when I stepped out of the house and found the male calliope humming-bird resting on his favorite perch in the ceanothus bush. This feathered mite, no larger than my little finger, the smallest North American bird, had been to Mexico and back

since I had seen him late last fall. Now the marvelous thing, the thrilling feature of this meeting with the calliope is that every spring for the last seven years, spring after spring, a male calliope humming-bird has come to the same perch in a certain ceanothus thicket near my home. Naturally I look upon him as the same bird come home to spend the summer in the land of his birth. How well he must know that route from his home in the Yosemite to that far land where he spends his winters.

Now this calliope of the certain ceanothus patch is always the first or among the first, to arrive at the summer nesting grounds. Unlike many of the small birds, the calliope hummers do not arrive in the Yosemite according to a calendar schedule but time their arrival to coincide with the blooming of the manzanitas. The blooming of the manzanitas varies as the weather conditions vary from winter to winter, hence the arrival of the calliope hummers in the valley is irregular. Over a period of 10 years in the Yosemite valley, the first spring record for the calliope has ranged from March 2 to May 9.

A DIAMOND OF TANNIN

By J. B. Herschler, Ranger

One sunny Sunday morning in the summer of 1929, a number of visitors in the Mariposa Grove of Big Trees were gathered at the base of the Grizzly Giant, gazing, as ever, in reverence and admiration at this king of plant life, when a spark of unusual interest attracted their attention. So unusual did it seem that the question was asked, "Is that a spark of fire by the base of the tree?" Walking closer, we watched it and it seemed to glow and burn in the morning sunshine, and yet it surely could not be a burning spark Soon it seemed to dance and sway in the morning breeze, then swing and dance again, grow iridescent and send out exquisite rays of color, the most noticeable being a deep, rich ruby light.

The crowd at the foot of the tree increased and stood fascinated as they watched this sparkle of dazzling brightness while it played and swung at the base of this aged monarch. In answer to the above question, I surmised that a drop of tannic fluid, resinous-like in action, which is excreted frequently from the fire scars of the Big Trees, had dropped upon a spider web and was swinging to and fro in the breeze. Interest of the crowd became so great that I ventured inside "The Sacred Circle," an area around the base of the tree in which no one is supposed to enter, to learn the real cause.

Instead of its being a spider web, a thin thread of the tannic fluid had been swayed by the morning breeze. The flowing end had caught on an adjacent part of the tree and it was the reflection of the sun on this delicate thread of sequoia pitch which created the glowing brightness in the morning sun. As the thread swayed, the dazzling reflection would glide up and down upon it, creating this phenomenan of unusual beauty.

Slowly the sun shifted and as it

did the light on the tiny cord faded, leaving the "Grizzly" in gigantic grandeur to reclaim the attention of its admirers.

BIRD SURVEY AT EL PORTAL MARCH 31, 1930

By Enid Michael, Ranger-Naturalist

On March 31, 1930, a trip was made down the Merced canyon in order that a survey might be made of bird life on the lower fringes of the park. During the month of April many summer nesting birds arrive in the valley and it was thought that a check made at this time might throw some light on the migratory movements of these birds. It was considered advisable to spend the day in the territory continguous to the lower boundary of the park. The district covered lies at an elevation approximately 2000 feet lower than the floor of the valley It is typical upper Sonoran zone country, whereas the floor of the Yosemite valley lies in the Transition zone.

During the day 28 different species of birds were noted, however, the survey proved disappointing inasmuch as the calliope hummingbird was the only special that we could fairly consider as having intercepted on its way to the valley.

In the following paragraphs will be found a brief summary of the species noted and comments on their status in Yosemite valley and at El Portal in which neighborhood this survey was made.

Valley quail—A single flock containing ten birds was seen in a brushy flat near the river. These birds are resident at El Portal, but are very rare visitants to the valley.

Western red-tailed hawk—A lone individual was noted, and this was the only hawk seen during the day. Although the red-tailed hawk is rather commonly noted from El Portal to timberline, it is for some reason a rare visitor to the floor of Yosemite Valley.

Hairy woodpecker—A lone individual noted. The hairy is probably more at home in the transition zone. A resident bird in the valley.

California woodpecker—Noted several times during the day. A resident bird both at El Portal and in the valley.

Red-shafted flicker—Noted several times during the day. Resident both at El Portal and in the valley. At this season of the year more numerous in the valley than at El Portal.

White-throated swift—A flock of 40 birds seen sailing along the rocky bluffs 500 feet above the river. These birds are summer nesters both in the valley and at El Portal. They are among the very first summer visitants to arrive and they have been noted in Yosemite Valley as early as February 24. Usually arrive in the valley by the middle of March.

Calliope hummingbird—Not seen during the morning, but during the afternoon three male birds were noted and it is possible that these birds arrived during the day. Probably do not nest much below an elevation of 4000 feet; more common nesting birds at higher elevations. As summer visitants to the Yosemite Valley they are exceptionally irregular in their arrival here. The early record for arrival in the valley is March 2, 1924. The late arrival record is May 9, 1922.

Say Phoebe—A single bird noted. Rare visitors to this district, but strangely enough a lone bird often puts in his appearance in Yosemite

Valley during the month of March. Once noted in February, twice in April.

Black Phoebe—A common bird along the river about El Portal, where it is resident. Does not nest in the Yosemite Valley, but stragglers are likely to be seen any time from late sepring until late fall.

Blue-fronted jay—Noted several times during the day. Resident in the valley and probably resident in slight numbers at El Portal.

California jay—Although resident at El Portal, this bird was only twice noted during the day. Stragglers occasionally find their way into the Yosemite Valley during the late summer. Individuals have been noted at elevations above 10,000 feet during the month of September.

Red-winger blackbird—A few individuals found associated with Brewster blackbirds. These birds are summer visitants to Yosemite Valley and are always among the first spring arrivals. Arrive in the valley anywhere from February 20 until the middle of March.

Brewer blackbird — A scattered flock noted in meadow land just below El Portal. Summer vistants both to El Portal and Yosemite Valley. Arrival in the Yosemite approximately coincides with the arrival of the red-wings. The only species of bird that has showed any great increase in numbers in the Yosemite Valley during the last ten years.

California purple finch — Singing birds heard on several occasions. Winters at El Portal but nests at higher elevations. A few pairs nest in the valley every summer and stragglers are likely to be seen during the winter.

California linnet— Common resident bird at El Portal. Only one record of this bird in the Yosemite Valley during the last ten years.

Green-backed goldfinch — Individuals noted several times during the day. Nests at El Portal and possibly resident. Late arrivals in Yosemite Valley; usually coming in after the nesting season, but they have been known to nest here.

English sparrow—Common around the buildings at El Portal, but not otherwise noted during the day. Male birds have been noted in the valley during the spring months. No nesting records for the valley.

Western lark sparrow—A single individual noted. Rare both at El Portal and in the valley. Stragglers, however, are not unusual in the valley during April.

White-crowned sparrow—A company of eight birds noted. Small groups of these birds loaf their way through, the Yosemite Valley during April. A pair has been known to nest in Yosemite Valley on four different occasions.

Spurred towhee—Noted a number of times during the day. A few resident pairs in the valley, also resident at El Portal.

Brown towhee—Pairs often noted during the day. A common resident bird at El Portal, but for some strange reason they never wander up the few canyon miles to the floor of the valley.

Sierra Junco—Noted more often than any other bird during the day. Probably on their way into the mountains, as they prefer nesting at higher elevations. Sierra juncos are found in the valley all the year around, but they are strictly resident birds, as those that nest here in the summer are not the same individuals that represent the tribe during the winter months.

Water ouzel—Birds twice noted along the river below the park line. One pair already nesting. Nest from El Portal to almost timberline. Occasionally pairs winter in the Yosemite, but most ouzels drop down the vanyon to winter.

Bewick wren—Singing birds twice noted during the day. Resident at El Portal. Seldom seen on the floor of the valley. One nesting record for the valley.

Plain titmouse—Once noted during the day. Resident at El Portal and strange as it may seem, they are only noted in the valley during the winter months. In this case it is a bird of lower elevations moving up mountain to winter.

California bushtit—Noted often. A

common resident bird at El Portal. Have been known to nest in the valley, but are mostly noted here during the fall months when there is an up-mountain movement of birds that nested lower.

Western gnathatcher—Frequently noted during the day. Common resident birds at El Portal. Rare birds in the valley; a single pair nested here in 1924. However, in the post-nesting season these birds are not uncommon brushy slopes at higher elevations than the valley floor.

Western robin—A loose flock of 30 or 40 birds seen in open meadow land below El Portal. Individuals occasionally elsewhere. Nests from El Portal to timberline. Taking the whole park over, the robin is the most common nesting bird. Not resident birds, but individuals may be found in the valley during every month of the year.

WATER OUZEL

By C. H. Oneal, Ranger-Naturalist

The water ouzel is wren-like in structure but one of the most daring of divers. Born of ancestors from the air it nevertheless lives constantly in or near water. While often seen it is always a mystery. Even though devoid of webs it is one of the greatest of underwater swimmers. Its short, stout wings drive it through the swiftest of mountain torrents. After a plunge it bobs to the surface, flies to a bordering rock, flits the water from its wings and body and devours its catch of food.

The nest of growing moss is ever green, watered by the spray of cataracts. Oftentimes it is located behind a water-fall. No water is too cold or torrent too swift for this hardy mountaineer.

Watch him closely as he sits for a moment almost invisible against a slate gray granite cliff, see the lightning-like flash of his nictitating membrane or third eyelid. Does it furnish protection for the eye when he is swimming under water?

A year ago a pair of ouzels had their nest on a beam under the old Clark bridge. Dozens of people would daily sit and watch the feeding process. Out both parents would dash, soon to return with larvae to be deposited in the upturned mouths of their hungry brood. Trip after trip was made until it would seem as if the young would burst.

A few weeks ago a nature guide party sat gazing at the beauties of the water-wheel falls below Glen Aulin. A flash of gray color disappeared in the rushing cascade, up it bobbed almost instantly with food in its mouth. Springing to a rock it shook itself free from water and ate its catch. Dipping up and down for a few seconds like a gymnast, it dived once more into the torrent. As it half swam, half walked, the thin sheet of water swirled over it. It seemed as if the onward rush of water would over-power and crush so small a bird. But no! Up it came as gay and care free as ever, eagerly on the lookout for more food.

Ever on the alert, dipping up and down, dashing here and there in the water, neither intruding his presence nor afraid, he never fails to attract attention. His energy, cheerfulness and industry inspire all who chance to view him.

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