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Bear Quadruplets at Glacier Point

# Yosemite Nature Notes

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## CALIFORNIA WOODPECKER AND YOUNG

By Ranger-Naturalist Enid Michael

The resident California Woodpeckers of the Yosemite spend their winters in the black oak groves on the north side of the valley. In the spring some California Woodpeckers appear on the south side of the river and there is always a nesting colony in the oak grove at the edge of the Stoneman meadow. A few families are reared in the dead cottonwoods along the river, but it is seldom that California Woodpeckers choose to nest in the shadow of the great south wall. Last year however, proved an exception, for a family of three birds, two males and a female, moved into a grove of dead cottonwoods south of the Old Village and close to the wall. The two males working in shifts drilled the nesting cavity, at least I never caught the female taking a turn at the work. I did not learn what the division of labor was in the task of incubating the eggs, but all three birds were involved to a certain extent. By the middle of June the male birds were busy carrying food to the young in the nest and once the female who happened to be at the nest when a male arrived was

seen to accept a billful of food.

From the nest site to the feeding tray in front of my tent was a distance as the woodpecker flies of about a quarter of a mile. Both male woodpeckers came here regularly for food and when young came to the nest they carried away bread and suet. Bread was the favorite food; they only occasionally went off with a bill full of suet. More suet was used during cold weather. At no time did the female woodpecker visit the feeding tray and I thought that she probably stayed to guard the nest while the males foraged for food.

On July 16, 1938 the two male woodpeckers escorted a handsome male youngster into camp. The youngster did not come to the feeding tray but perched on a limb about forty feet above the ground where he waited for his escorts to bring him food. The youngster was in full plumage and in his clean new suit of bright feathers and with his brilliant red crown feathers raised in a slight roach he was really more handsome than the old birds.

The next day one old bird came

in with two male youngsters that waited safely on a perch well above the feeding tray while parent bird routed the Blue-fronted Jays from the feeding tray and procured food. So soon as the woodpecker left the tray the jays swooped down to feed and the woodpecker had to run them off each time before he could

gather a billful of food for his squalling brats. By swooping down close over the heads of the feeding jays the woodpecker always managed to drive them from the feeding tray. The jays tried the same tactics on the woodpecker, but when once the woodpecker was on the tray he refused to be bluffed.



On July 20 a female youngster came with one of the old male birds and from that date on young birds escorted by old males were frequently seen, but at no time was the old female seen at the feeding tray. She probably considered that her young were well taken care of and that her family cares were over for the season.

Young female California Woodpeckers may be recognized by the fact that the red cap extends farther down on the forehead and that the black forehead patch that is the mark of the female bird is no more than a narrow band. This black patch is entirely lacking on the forehead of the male bird.

Most species of birds when once they leave the nest never return, but this is not the case with California Woodpeckers. In stormy weather the California Woodpeckers go into the nest-hole for shelter and during the cold nights of winter the nest-hole is used as sleeping quarters by the whole family. I have seen as many as seven woodpeckers pour from the nest-hole after a cold wintery night. Just think how snug and warm would be the family group when tucked together in the nesting cavity.

### BEAR QUADRUPLETS

By Park Ranger Harry R. During

Sometime during the past winter, probably the latter part of January or the first week in February, an

unusual event of great interest to National Park visitors occurred in Yosemite National Park. A female American Black Bear (*Ursus Americanus*) gave birth to four cubs.

Several employees of the Glacier Point Hotel reported that they had seen a female bear with four cubs at the garbage pit near Glacier Point the first two days of July. Chester Fernell, the firefall man, was the first to see them and make the report. After investigating several times I was finally able to see the mother bear and four cubs on the afternoon of July 6. The cubs were in a large fir tree and the mother was standing guard at the base of the tree.

She was large and brown in color with a white spot on the chest. The four cubs were similarly marked on the chest. Two were brown in color and two black. The two black cubs seemed slightly smaller than the brown ones and the whole family appeared to be in excellent condition.

After several minutes the mother called the cubs down from the tree by making slight clicking noises with her mouth. The cubs scrambled down the tree making occasional noises which reminded me of a puppy's bark. When they reached the ground the mother took them off into the trees.

This is the first record of a female bear giving birth to quadruplets in Yosemite National Park although we do have several records of triplets.



### TREES AS ROCK BREAKERS

By Ranger-Naturalist E. L. Lucas

One is always impressed by the trees in Yosemite whose roots penetrate crevices in the rocks and persist in growth. They grow in spite of the fact that little or no soil is present. Thousands of visitors are familiar with the adverse conditions under which the gnarled and twisted Jeffrey Pine on top of Sentinel Dome continues to grow. But attention is now called to another Jeffrey Pine located near the south end of the Glacier Point Hotel, where the trail to Sentinel Dome begins.

This tree demonstrates the wedge-like force of the tree roots in cracking and breaking very hard and resistant rocks such as granites. This mechanical process is observed in many cities where concrete sidewalks have been damaged. The tree has sent the tenuous extremities of its rootlets into the very small cracks, and by perennial growth has slowly wedged the rock masses apart. The trunk of the tree growing in the crevice of the rock

has in like manner split the rocks asunder.

The minute rootlets penetrating each and every crack and crevice are not only seeking a foothold, but moisture and food as well. This process brings about chemical action as mineral substances are abstracted from the rocks. The tree roots tend to conserve the moisture on the rock surface and supplies organic acids to it. This action is very slight, but given time, the rocks are weakened through decomposition and the mechanical force of tree growth becomes more effective.

We may now consider again the wedge force of tree roots, because in many instances they wedge apart pieces of massive unbroken rock. The origin of such a great force in such small roots is not clearly understood, when we just simply say that the roots grow longer and larger and thus break the rocks apart. The mechanics of the great pressure exerted by relatively small

roots is not that easily explained.

When two liquids are separated by a porous membrane, each may pass through the membrane into the other with more or less freedom. This process or force is called osmosis. Osmotic pressure is developed as the sap passes through the circulation paths. This force is



developed in plants as water in large quantities is taken in through the root hairs. The essential plant food elements consisting of nitrates, phosphates, sulphates, etc., are dissolved in this water. Carbon dioxide enters the leaves which are at the opposite ends of the plant. Osmotic phenomena in the minute root cells is responsible for part of the upward movement of the water.

This pressure in an actively growing tree in the spring may be as much as forty pounds to the square inch. So the phenomena of osmosis plays an important role not only in the growth of plants but becomes a factor in rock disintegration.

### DRAMA ALONG THE TRAILS

By Ranger-Naturalist Arthur Carihew

Frequently hikers along our Yosemite trails are little aware of the many dramas occurring within the animal kingdom in close proximity to the trails. While returning to Glacier Point from the junction of the Sentinel Dome and Four Mile trails I chanced upon three separate parties of hikers. On a stretch of trail between two of the parties my attention was drawn to a grouse clucking loudly from a Douglas Fir. Sitting quietly on a rock I tried to ascertain the cause for alarm and in a few moments saw a coyote catch a Golden-mantled Ground Squirrel, cross the trail, and trot on up the hill. The grouse quieted after the episode and made no sound while I searched around to discover possible young. None was to be seen and the grouse was sufficiently well-hidden that it was impossible to determine its sex. While off the trail a few feet another party of hikers passed, oblivious of my presence and little suspecting the stark drama that had so recently occurred.



## YOSEMITE BIRD SONGS RECORDED

By Ranger-Naturalist Lee Haines

Daylight at the Mariposa Grove of Big Trees and the feathered choir sounded from its arboreal heights. Pewees, tanagers, fox sparrows, and kinglets joined in a natural symphony that soon stimulated us to arise and seek out the avian artists who were welcoming the coming of day.

By 4:00 a.m. the sound recording truck was in order and Dr. Arthur A. Allen of Cornell University and his assistant Charles Brand were prepared to record for posterity the songs of our Yosemite birds. The morning's objective was to get the songs and calls of the Townsend Solitaire, the Red-breasted Sapsucker, the Sierra Grouse, and photographs of a nesting Black-headed Grosbeak. Stops were made at short intervals along the road in order to locate these birds but our quarry was not to be found. The songs of twelve or thirteen species of birds were heard but all of these songs had been previously recorded. Each time a different song was distinguished, Dr. Allen would interpret what the bird was "saying." The Green-tailed Towhee sounded the warning "Hot Dog! Sister, they're-comin'-our-way." The Ruby-crowned Kinglet answered back "See, see, see — where, where, where — just-lookit-me, just-lookit-me." The Western Tanager kept repeating our own feelings by exclaiming "Pretty! Pretty! Pretty! Pretty-damn-cold."

At 6:00 a.m. a Grosbeaks nest was located in the low branches of a California Hazelnut. After several moments of apparent indifference the male Grosbeak flew from the



nest to uncover a five-day-old youngster and one unhatched egg. The nest was in an accessible place and offered an exceptional chance for some good pictures. Dr. Allen decided to set up the photographic blind so that the birds would have a chance to become accustomed to it and wait for the sunlight to fall upon the nest. At 8:00 a.m. the motion picture camera was unpacked and carried to the blind. Action! Camera! Alas! there was no action and no clicking of the camera. Our stage had been deserted. Both of the parents and the baby Grosbeak were gone. The unhatched egg was found lying on the ground beneath the nest partially cracked.

Apparently this type of a disappointment was all in a day's work for a noted ornithologist, for Dr. Allen packed up his camera while commenting that a Blue-fronted Jay

had probably discovered the nest during our short absence and disposed of its contents.

The result of the morning's work for Dr. Allen was a record of the songs of the Yosemite Fox Sparrow and the Hermit Thrush. Those of us who had the privilege of accom-

panying him gained an introduction to a fascinating method of bird study and the inspiring companionship of a noted scientist. We were sorry the Fourth of July holiday period was ended and that Dr. Allen had to hurry on back to his Summer School teaching assignment at Berkeley.

### TABUCE, CONSERVATIONIST

By Ranger-Naturalist Lowell Adams

One day in the summer of 1938 as I was conducting the Indian Demonstration, I noticed that the Blue-fronted Jays were busily carrying away the acorns which Ta-bu-ce had stored in the chuck-ahs. Three or four of the birds had found holes in the sides of the four-posted, thatched structures and were entering the holes, picking up an acorn apiece and flying away with them. They carried the acorns in their beaks out into the garden a few hundred feet away and hid them on the ground among the flowers. Often they picked up a leaf and laid it with surprising precision over the hidden acorn. To me it seemed a shame that the jays were thus depleting Ta-bu-ce's hard-earned stores, so I asked her if the holes should be fixed so the birds could not get in. There was a bit of scorn for my lack of understanding as Ta-bu-ce answered, "No! Let 'em alone. They're all right!" I did not venture to inquire regarding Ta-bu-ce's reasons for this leniency but was inclined to attribute it to the Indian's custom of *laissez-faire*. But the

following summer, 1939, I again broached the subject, and this time I obtained further details. Again I asked Ta-bu-ce what she thought of the jays when they took her acorns.



"Let 'em alone" she replied, "they hungry too." Now the California Indians have the belief that the jays were largely instrumental in bringing them their acorns (Cf. C. Hart Merriam, "The Dawn of the World" 1910). I wondered if this belief could account for Ta-bu-ce's attitude, (Ta-bu-ce is a Paiute, not a Digger Indian). So I asked her why she was so good to the jays. Ta-bu-ce



dropped her basketwork in her lap and looked out across Yosemite Valley as she told the following story. "Long time ago, then there not many oak trees. Then blue jay, him come and plant acorns all over, jessy everywhere. Then there lotsa oak trees for to maka acorns for people to eat." To anyone who has watched jays caching acorns, it is obvious that Ta-bu-ce is correct in her analysis. For, surely, many of the acorns hidden by the jays are never found again and thus are allowed to sprout and grow.

A few days after Ta-bu-ce told her story I visited her again. As we sat talking about her basketwork we heard the noise of workmen cutting the dead limbs from the oak trees nearby. The old Indian wanted to know what they were doing.

When I told her, she looked toward the source of the sounds and asked, "They ask blue jay? Blue jay get pretty mad!"

I believe it is true that few or no species have become extinct as a result of predation by Indians. Compare this with the history of white man predation. The Passenger Pigeon is extinct as a result of avaricious greed. The California Grizzly Bear is extinct because it was a predatory species. The Sierra Bighorn is a candidate for extinction partly because white men wanted its range for pasturing domestic sheep and cattle. It may well be that as civilized man ponders over these losses and finally arrives at a way of halting his destructive ways, that way will be Ta-bu-ce's way. "Let 'em alone. They hungry too!"

### THE SIERRA ROSY FINCH ON HALF DOME

By George A. Petrides, Field School '39

High above timberline, on snow banks or barren summits, weary climbers are cheered by a beautiful little finch adorned with a white line over its eye, pinkish wings and rump, and which walks like a lark.

Normally a height of ten or eleven thousand feet must be reached before this glacier-loving bird can be seen but, on July 4, three members of the Yosemite School of Field Natural History observed a pair of rosy finches on the summit of Half Dome (8852 ft.) where they were foraging among the scant vegetation.

One former observation only has been published for Half Dome in Yosemite Nature Notes, when Park Naturalist James E. Cole recorded a small flock on May 1, 1934. The pair sighted this year, however, occurred during the nesting season and it is quite possible that these birds may be nesting in a rock cranny of the granite dome despite the low altitude. All visitors to the summit, therefore should be on the lookout for these unusual birds and report their observations to the Park Naturalist.



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Dan Anderson