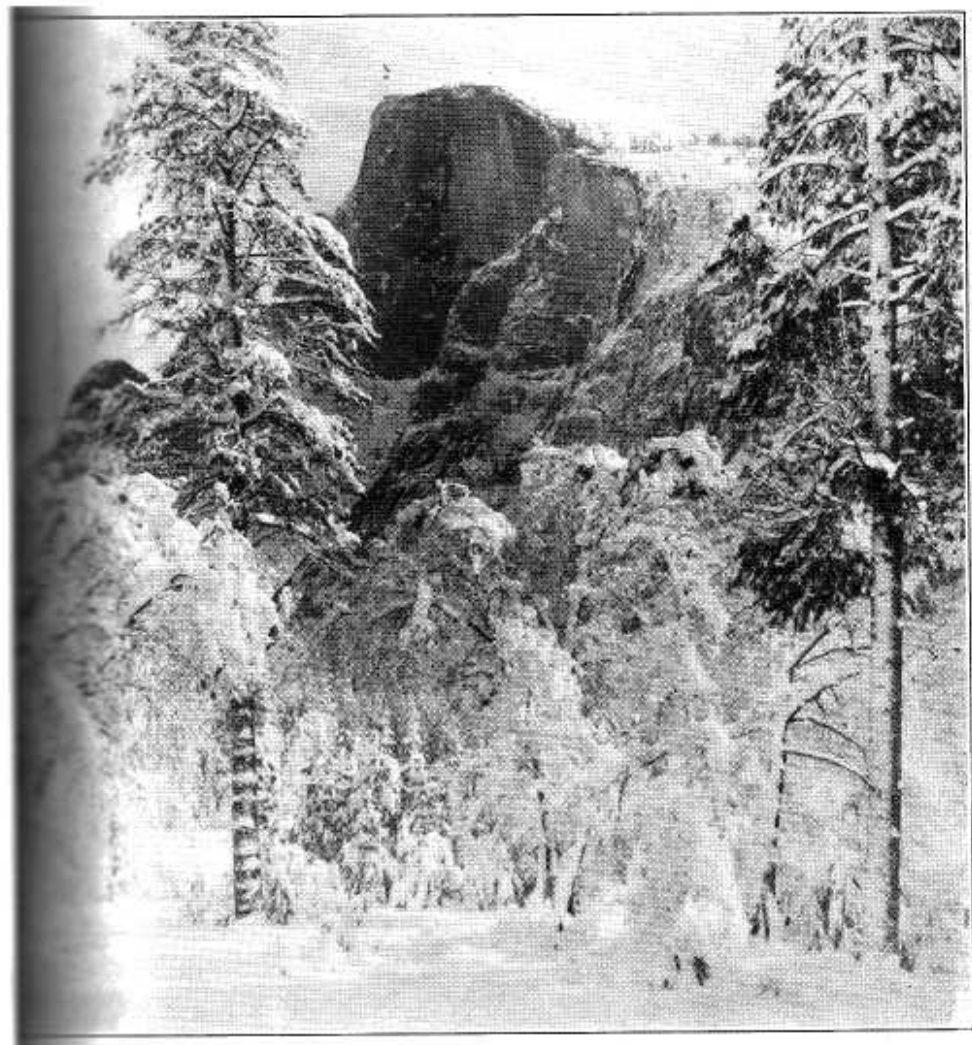


YOSEMITE NATURE NOTES



March 1937

Volume xvi

Number 3

Yosemite Nature Notes

THE PUBLICATION OF
THE YOSEMITE NATURALIST DEPARTMENT
AND THE YOSEMITE NATURAL HISTORY ASSOCIATION
Published Monthly

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Denizens of the Rotten Log

By Louise M. Ewan Yosemite Field School 1935

Almost everyone who trails the woods has been at one time or another led to the tempting business of tearing a rotten log to pieces just to see the inside or smell its fragrant decay. Most of us have jumped when *swiftly moving, black armored* beetles scurry to safety under a patch of unbroken bark and have watched the softly curling milliped "play possum" at a touch. A wet slug aslant the gills of an orange toadstool has given us pause and for a fascinated moment we have watched its slimy course. What pleasant food! Good enough to take home for our suppers too. Slugs choose such tempting things to eat—rose leaves and mushrooms. No wonder man envies them and resents their hearty appetite. A black and glistening patch of insect eggs brings regret that our schooling has neglected a more careful study of the domestic activity of the six-legged animals. And then perhaps by some good

chance we find just under the edge of a flap of bark, in the warm dampness, a little colony of what seems to be tiny orange beads on airy stocks. What are they? A bit farther along growing from the hard *uncovered wood* are *slender cylindrical* rosy buff structures much like toy balloons that have never been blown up. What are they? Surely they must be something very new for our eyes have never seen them before. Most of us, however, have to be led to the log and shown with great care these tiny members of our lowest plant group—the slime molds.

They do make an interesting study and any log, decaying stick, or leaf is a fair pasturage. One can find them, by looking hard, almost all the year round and they offer a new world to conquer. Like Ulysses we go in search of new adventure, but on a different kind of sea and with a different kind of guide. A spring

day will catch us on our knees peering under bark and along the under slant of a rotten limb. In summer hunting slime molds offers a cool and shady business in the dark woods or along a shadowed stream where brush has been piled by an eager spring torrent. The homeward path is taken with a light heart for tucked safely away in old pill boxes are enough specimens to give one several busy hours with book and microscope.

Slime molds are the lowest form of plant life, and in all probability belong with the fungi. They have, since their discovery, been put in many different places in the classification of the two kingdoms of life. The Zoologist claims a certain share of them for at one phase in their life history they appear to be almost animal, since in the slime stage they "crawl" about on the log. But the fruiting stage which is most important presents a picture more like the orthodox plant. After much shifting about they were finally called Myxomycetes and so have remained since Link gave them the name in 1833.

Although the myxomycetes are of no real importance to man either as a pest or aid they are objects of beauty. Their structure as seen under a microscope brings a leaping lift to the heart beat quite as much as a glimpse of Half Dome on a purple morning. Perfection and in-

tricacy are not confined to grandeur.

Along the high trails above the rim of the Valley one can find a number of different slime molds. To look for them sharpens the sight and trains the patience for seeing other things. A patch of crusty white foam on a pile of needles is sure to prove to be a *Fuligo* with its ashy contents. A brilliant patch of yellow on the bark of a red fir log displays on closer view the cup-like base which is the sign of the *Arcyria*. On a bare log that lies aslant the south slope of Plot VII in Boundary Hill Research Reserve is a delicate *Comatricha laxa* which authorities say is a rare species. It is minute, cylindrical and black—under the microscope it presents a fine net like capillitium and purplish brown minutely warted spores. *Hemitricha clavata*, common and world wide in distribution, can be found in the Boundary Hill region and along the Merced Lake trail. It is a bright yellow and appears as a group of tiny pear shaped sporangia. Others as interesting and as beautiful are waiting the eager hunter.

And so with Ulysses again I say to you:

"Push off my friends. 'Tis not too late to seek a newer world."

The rotten log has that which may make even the seasoned scientist thrill with new wonder and the beginner widen his horizon for a greater understanding of his world.



New Rodent Recorded in Yosemite

By RALPH GOLDMAN, C. C. C. Special Technical Student

A Long-tailed Harvest Mouse, (*Reithrodontomys megalotis longicaudus*) was captured July 15, 1936, on the bank of the Merced River just below Cascade Fall. This is the first time this species has been reported within the Park boundary. This animal is usually found in warm grassy regions, usually associated with the Sonoran Life Zones. Grinnell and Storer, *Animal Life of Yosemite 1923*, page 114, report that the mouse had been caught as high as El Portal, 2300 feet. The Sonoran Zone of this region extends to 3300 feet, but only a small portion of the Park lies below this elevation. The specimen caught July 15 was captured at 3500 feet, six miles east of El Portal. This is much higher than the usual association of the *Reithrodontomys*, and is well within the Park. The specimen was caught by the hind leg and was alive when the traps were inspected in the morning. The trap was a biological survey model made for small mammals and baited with oats which had been chewed into a pellet by the collector before the trap was set. The location was a sandy runway surrounded by a rather high growth of Horse Tail, Indian Hemp, and Wormwood. This specimen was a full grown female, measuring 144 millimeters over all, tail 74 millimeters, foot 15 millimeters, and ear from notch to tip 13 millimeters. This type specimen was mounted by Ranger-Naturalist

G. P. Ashcraft and is the sixty-ninth kind of mammal recorded within the Yosemite Park boundary. It is number 648 in the Museum mammal research collection.

COYOTE APPETITES

By Ranger Lon Garrison

Rapid action in eating is indicated for our coyotes by the following incident. At 9:15 a. m. on the morning of November 10, 1936, a BPR crew reported to me that about five minutes earlier, while unloading a tool box about a mile down the road, they had heard coyotes yapping, and had seen four of them around a freshly killed, and as yet still intact deer. At 9:40 I located the carcass and found that the animal was almost completely devoured. The head and neck were there as was the hide, but the insides were all gone, all the meat was chewed off the leg bones, and one hind leg bone was disarticulated at the hip, the meat was all chewed off the ribs and spine, and the hide completely stripped from the skeleton except at the neck. From the head and size of the skeleton, it appeared to be a yearling doe—estimated weight, 100 pounds. Estimated weight of remains after hefting them, 25 pounds. Seventy-five pounds of meat eaten by an undetermined number of coyotes—not less than four—in 30 minutes.

The Superintendent's Page

By Superintendent C. G. Thomson

POTENTIAL ENERGIES

These zero nights of winter, the park landscape, under the chill glow of brilliant stars, seems utterly devoid of life. The streams are frozen, silent; under several feet of whitest snow the frost has crept deep into the soil; the exposed granites look like chilled steel . . . So there is a profound satisfaction, to us humans, in the knowledge of the infinite varieties of life maintaining existence beneath the mantle of cold, against the early coming of warmth that will transform tonight's utter silence to a full orchestration of bird, insect, mammalian clamor. Still as it is tonight, there are vast forces exerting the mysteries of mere existence . . . In the soil untold billions of bacteria merely hold in suspense their unbelievable forces; larvae, cunningly deposited, are latent with untold millions of lives, soon to waken and develop into countless unique forms; in shapeless protoplasmic bodies, too small to distinguish with the naked eye, there are contained energies soon to burst into beautiful living things of infinite beauty and rainbow colors; the hibernators sleep their long weeks, soon to energize like run-down clocks, freshly wound by the advent of spring. In infinite variety this cold and motionless landscape contains living energies too vast for human mind to know or understand, though one lived a thousand stu-

dious years. And beneath this snowload there exists a total of living energies sufficient,—let any one guess—to light the city of San Francisco, could it be harnessed.

TYPEMAP NEARS COMPLETION

A Yosemite typemap, showing types of timber and undergrowth throughout the park, is being completed this winter. To date opinions as to transitions of forest types have been entirely conjectural, based upon the uncertain memories of 'old-timers,' none of whom agree. Some believe that lodgepole is being replaced with hemlock; some believe that reproduction of sugar pine is not sufficient to maintain that species; there are other conjectures about the results of type competitions. As the years pass, this typemap will be of great value in determining trends in the forest, losses of meadows by encroachment of trees, and in many similar ways; and, of course, in helping plan forest fire campaigns.

EXOTIC ANIMAL CONTROL

This winter we have had to hunt and destroy cats in the valley. How do they get into the park? Those who picture domestic cats as purring pets would be shocked to see their reversion to ancestral type—slinking, wild-eyed, furtive, nocturnal; and destructive of bird and other small wildlife.

A HOUSE GUEST

At our official home our Lares and Penates include a friendly chickaree that lives, winters, in the attic. All winter he has stayed in the house, because the snow has been deep, and so soft that he would founder in it. One day last week there was a thaw, then a quick freeze, creating a thin crust—and he spent a busy afternoon outside, exploring all the trees in his regular summer beat. Searching summer food caches? These cold nights we forgive the little rascal for the woolen things he purloined, late in the fall, for his winter nest over our bedroom.

A NATURAL CHECK

During the abnormally cold days and nights of the past winter Nature was exercising one of her balancing devices; insect infestation of our trees undoubtedly will be greatly lessened next summer, by winter kill of encysted insect larvae.

SNOW SURVEY RESULTS

Contrary to general conception, Sierra snowfall is not progressively heavier as altitude increases. Years of measurement by winter ranger patrols reveal that the range of heaviest snowfall is between the 7200 and 8600 contours. At both higher and lower elevations the snow blanket is much lighter.

HOW COLD IS GRANITE

What is the temperature range within the masses of such great granite bulks as El Capitan: Half Dome? There may be considerable range in temperature, between the sun glare of August and the subzero nights of January at altitudes above the clouds. We are going to experiment by imbedding maximum-minimum automatic registering thermometers as deeply as practicable. Also, we are going to see how closely the engineers and physicists can estimate the expansions and contractions of such great masses under these extremes of temperature. Enormous forces must be exerted.

A CHALLENGE

What is the greatest sheer perpendicular drop in California? The straight upper face of Half Dome? Or what? We are trying to ascertain; and would appreciate nominations.

SEASONAL NOTES

Park travel for January, 1937 - 14,047, - an increase of eight per cent over January, 1936.

Valley Temperatures - January
High, 43 degrees on January 17;
Low, 5 degrees below zero on January 21 (new low record).

Canvas-back, New Duck for Yosemite

By Walter and Kathleen Fitzpatrick

Shortly before noon on the twenty-fifth of September, 1936, while we were walking along the widest, and perhaps most attractive stretch of the Merced River—locally known as the Camp 16 Pool—we saw in the distance Exhibit A. Its very apparent determination not to be observed was immediately convincing that we had seen a duck; never a common sight in the Yosemite. Said duck put every difficulty at its disposal to keep us mystified by keeping under cover of the bank diagonally opposite at a distance of several hundred feet. Once focused under the glasses, however, it became apparent that our friend was not, as had been anticipated, a Cinnamon Teal, but rather seemed to resemble a Canvas-back, a rarity of rarities. This naturally was exciting, but to the disgust of all concerned—except the duck—we were unable to gain as much as an inch in order to verify our suspicions.

Upon returning after lunch, our hero was rediscovered several hundred yards farther down stream where the river had narrowed to its normal fall threadbareness. By now Mr. Duck had apparently concluded that, while undoubtedly queer, we were equally harmless, and so went blithely paddling and diving among a patch of water buttermilks. All his shyness of the morning had disappeared, and we

were permitted to approach as closely as we would, to a distance of not more than twenty feet, thus allowing us to observe with leisure and in detail and to confirm our earlier impression that we had indeed seen a male Canvas-back Duck (*Nyroca valisineria*).

Not the least satisfaction derived from all this was in having, as it were, "scooped" our best friend and mentor, Mr. Charles W. Michael, by having at last observed a species of bird in the Yosemite not already duly recorded by him. Thus a new species is added to the Yosemite check list.

Just over a month later, on October 29, another duck was located, this time on Mirror Lake. This one put no difficulties in our way, but rather seemed willing to cooperate. Being privileged to approach very closely, we were able quickly to decide that our Yosemite guest was a female Ruddy Duck. Being a lady, she no doubt felt coy. In any event she modestly kept her spiny tail out of evidence save when diving—an unusual but not disconcerting detail. On this occasion she was feeding vigorously in prolonged dives, staying rather longer under than atop the surface of the lake. Due, however, to the "reduced circumstances" of Mirror Lake in October, we had no fears that she would reappear at any great distance.

On the following morning the lady was still present and had meanwhile seemingly sated her appetite. At least she was very quiet and lay with bill cozily tucked under wing. Modesty, too, had been cast to the winds and her caudal appendage was jauntily tilted up at the orthodox rakish angle.

NEW BIRD RECORD

By GEORGE ZENTMYER
Field School '35

Constituting what is believed to be a new record for the Park, a Western Gull (*Larus occidentalis*) was observed by Mr. Edward Fleisher and other members of a seven-day hiking party at Fletcher Lake on the morning of July 23, 1936.

Mr. Fleisher is an authority on birds and professor of zoology at Brooklyn College, N. Y. Upon his calling our attention to the gull we easily distinguished the differences between this Western Gull and the California Gull which is quite often seen as a migrant at High Sierra lakes.

To make the determination even easier, as we watched the Western Gull through our glasses a California Gull swooped down to rest on a nearby rock, so that a direct comparison of the two different species could be made.

In describing the Western Gull, Mr. Fleisher comments: "I identified it by its dark mantle seen in good light and by its purplish pink feet, quite different from the greenish

feet of the California Gull. I knew that the occurrence was accidental and scrutinized the bird most carefully. The mantle was quite dark, almost like that of the Black-backed Gull . . . Possibly the bird was the dark-backed southern subspecies of the Western Gull. Before coming to Yosemite last summer Mr. Fleisher spent considerable time studying the Western Gull near San Diego, where the species occurs in great abundance.

The California Gull has been reported quite commonly as a summer migrant at various localities throughout Yosemite National Park and the High Sierra. The species nests regularly at Mono Lake. This is believed to be the first reported occurrence of the Western Gull in this locality, however.

COOPER HAWK NESTING IN YOSEMITE

C. A. Harwell, Park Naturalist

On July 3, 1936, I found a nestling Cooper Hawk (*Accipiter cooperi*) lying on a mossy rock under a large Douglas Fir just above Inspiration Point, elevation 5,600 feet. Though I didn't locate the nest, indications were that it had but recently fallen to its death. The specimen was put up by Museum Preparator, James E. Cole as our number 452. It was sent to Dr. Grinnell at the University of California for identification. Dr. Grinnell commented "This looks like a pretty high record, altitudinally, for this species to be nesting at the latitude of Yosemite."

FLICKER FEATHER HEADBAND

C. A. Harwell, Park Naturalist

Chris Brown (Chief Lemee) recently brought in a Flicker Feather Headband (ta-ma-ki-la) which he had obtained from an old Indian of Coarse Gold. We purchased it for the Museum. Some of the details of construction are of interest. This dance ornament is twenty-six inches long and six and one-half inches wide. Eighty-four tail feathers and three hundred and twenty-eight wing feathers of the Red-shafted Flicker are used in its construction.



There are ten feathers in each flicker's tail, only six of which are usable in this type of band because the two outer feathers are one-sided and the two central ones are black-shafted which would spoil the color pattern desired. Each flicker wing contains seventeen primary feathers, the outer one of which is discarded because too short, so the tails of fourteen of these woodpeckers had to be secured and the wings of eleven for this one headband.

The salmon pink shafts of the primaries are cut into two and one-half inch lengths, now with a knife, but as Lemee says, "Them days ago burn it with a stick." These are laid side by side and sewed with milkweed-fiber thread waxed with pitch to form an elongated mat. The tail feathers are inserted along the sides to form a brown and black border.

Beads are used to attach string to hold the ornament across the forehead of the dancer. These strings are tied back of the head.

The entire headband weighs three-quarters of an ounce. Being so light the two loose ends flap in breeze or because of motion of the wearer and give the appearance of bird wings.

These ornaments are now rarely made so this forms a valuable addition to our Miwok materials.

* * *

THE UNUSUAL IN YOSEMITE

According to a recent visitor to Mariposa Grove, the numerous holes in the bark of the Sequoia gigantea are not really woodpecker holes as commonly supposed. His theory is much more simple. In their youth, he explains, these trees were attacked by borers. These holes are now simply the emergence holes, stretched by the normal growth of the tree!

- L. G.

* * *



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Dan Anderson