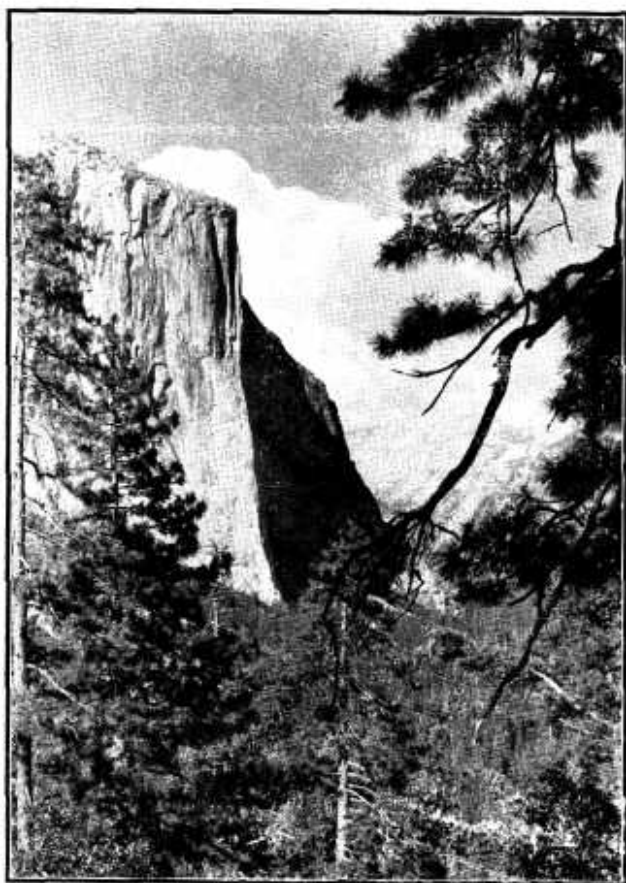


# YOSEMITE NATURE NOTES

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# Yosemite Nature Notes

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THE YOSEMITE NATURALIST DEPARTMENT  
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## NESTING OF TOWNSEND'S SOLITAIRE IN YOSEMITE NATIONAL PARK

By Ranger-Naturalist Enid Michael

Road and trail cuts that leave exposed ragged granite walls furnish ideal nesting sites for the Townsend's Solitaire, and these birds are quick to take advantage of the situation. Along the road between Chinquapin and Glacier Point there are many cuts that leave rough walls to the liking of the solitaire, and four pairs of these birds are known to have nested along this stretch of road during the 1941 season. A niche for the nest under an overhanging shelf to afford protection from wind and weather just suits the solitaire.

To discover the nest of a solitaire drive slowly along the above highway, and try to spot the bird, which is often perching on the spike of a tall, dead tree. After having sighted the solitaire, look about for the ragged wall and the proper nesting site in the same vicinity. If time permits, get out of your car, and sit down in a comfortable position to wait for the bird to disclose its nest. The solitaires are clever birds, and one bird of the pair may attract attention while the other one slips in or out of the nest. However, the pa-

tient watcher will eventually locate the center of attraction on the part of the birds, and then by playing the old game of "hot and cold" the nest is likely to be disclosed by the anxious parents.

Along the Glacier Point Road where the roadway has been blasted out through concentric layers of granite, there may be dozens of ideal nesting sites in the distance of one hundred yards, but since each pair of solitaires will claim much adjacent territory to the nest, it is not likely that pairs will nest within a half-mile of one another. For this reason there are not enough nesting sites along the highway to accommodate all of the solitaires; consequently, some are forced to go back to such natural nesting sites as were used before the coming of the highways. An uprooted tree with earth clinging to a mass of rootlets may offer an acceptable nesting site for the solitaire, or perhaps the birds may nest on the ground at the base of a tree where the nest may be fairly well hidden from view.

On July 20, 1941, an unusual nest of the Townsend's Solitaire came to

our attention. Mr. Michael and I were wandering through a rather dense fir forest off from the old Big Oak Flat Road at an elevation of about 6300 feet. While at rather a low elevation for *Abies magnifica*, this was the dominant tree. As in any Red Fir forest there was little underbrush and a good deal of fallen timber. In such a situation there were many places where a solitaire might hide away its nest. As we moved through the forest, we caught sight of a solitaire, and as solitaires are not numerous in the Yosemite National Park, we stopped to observe the bird. Soon a second solitaire appeared, and we moved forward for a better look. The birds became nervous, and one of them began squealing its alarm note. The note sounds very much like the noise of a gate swinging gently on a rusty hinge. Of course, we at once suspected a nest, and sat down to watch. Soon one of the birds flew to the ground, and disappeared behind a log. When we looked up, the second bird was gone. We were not fooled by the first bird. We were in no hurry, and it was pleasant sitting in the shade for the day was hot. Chickadees and kinglets were foraging in the branches overhead; an Audubon's warbler was plucking insects from the air, and a Hermit Thrush was singing his ethereal song.

After perhaps fifteen minutes the solitaires had apparently forgotten our presence; they had given up their deceptive movements, and were going about their business of gath-

ering food for their young in a normal manner. Both birds with food in their bills were now disappearing from view behind a group of tree trunks not far from where we sat. Coming in from different directions and converging at this certain spot, they practically pointed out the nesting site. We walked around the tree trunks. There was no place on the ground where a nest could be hidden away, but on looking up we discovered on the top of a great Red Fir stump about six feet above the ground a few more moss-covered twigs than would have naturally fallen in one spot. A boost from Mr. Michael and I looked into the nest. It was lined with wisps of dark moss, and in the cup, huddled together, were four tiny birds covered with dark, fuzzy feathers that blended well with the moss.

There was no protecting shelf above this nest; it was not tucked away in a crevice, but the dense foliage of the tall, surrounding firs furnished adequate shelter from summer thunder showers.

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### A RARE PLANT

By Ranger-Naturalist Lee Haines

A very rare plant was discovered by former Park Naturalist C. A. Harwell in Yosemite Valley on March 3, 1940. Although this plant cannot produce seeds or make its own food, it is capable of providing us with a fascinating story.

*Pseudopithyella minuscula* (Boud. & Torrent) Seaver, is a cup-fungi of

the order Pezizales which looks like a minute toadstool. As is the case with other fungi, *Pseudopithyella* is unable to manufacture its own food, and must obtain its nourishment by another means. This new plant was found growing on the dead foliage of an Incense Cedar (*Libocedrus decurrens*) near Fern Springs. Its plant body consists of two parts: the growing or vegetative, and the fruiting or reproductive. The vegetative body of the plant is made up of a mass of hyphae, which grow among the cells in the leaves of the Incense Cedar and absorb from these cells the food necessary for the production of the ascospore or visible portion of the fungi. The ascospore functions as the reproductive organ, and produces numerous spores, which on maturity are literally shot out of a closed sac just as a cork is shot from a pop-gun. These spores perform the same function for the fungi that seeds perform for our flowering plants, although they are far less viable. The ascospore of *Pseudopithyella* is made up of a short, slender stalk which is topped by a tiny scarlet disk. The entire visible part of the plant is less than one-eighth of an inch in height and about one-sixteenth of an inch in diameter, resembling in size a very short common pin.

Perhaps this diminutive size is responsible for the fact that *Pseudopithyella* has only been found at two other localities in North America, San Mateo County, California, and in Bermuda. The type specimen of this plant was collected in Portugal,

and it is known to occur in other parts of Europe on the decaying foliage of Cedar. Perchance this plant arose in the Bermuda Islands from spores that were carried on materials shipped to the islands from Europe, but how it jumped from Bermuda to Yosemite Valley must remain a mystery.

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### NATURE NOTELET

By Museum Assistant E. K. Wolfe

On the morning of August 13, 1941, in Camp 19, the writer heard a loud rustling in an azalea thicket at the base of a large Ponderosa Pine. Suddenly, a chickaree ran up the tree in pursuit of an adult weasel. About 15 feet from the ground both animals stopped and the weasel turned around to face the squirrel. Although not appearing to be greatly frightened, the carnivore made no attempt to attack the chickaree, and seemed to be concerned only with making its escape. After several seconds, during which the animals faced each other without moving, the weasel dashed around the chickaree and down the tree. The squirrel in turn actually attempted to bite the weasel as it passed, and then followed it down into the azalea thicket. I waited for several minutes, but the animals did not reappear.

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### TRAVEL RECORD

Visitors to Yosemite National Park during the travel year ending September 30, 1941, totalled 594,062, a gain of 17.2 percent over the previous year.



## YOSEMITE ANIMALS

### A TIMID BEAR TAKES A DIP

By Elizabeth H. Godfrey, Museum Secretary

About 7 p. m., on July 22, while picnicking on the beach at Rocky Point, we were interested to observe some 100 yards down the river on the opposite bank a good-size, yellowish-brown bear, moving into the river for a cool dip. As most of the Yosemite bears are black or cinnamon brown, this blonde-like member of the American Black Bear species particularly attracted our attention. For several moments the bear stood in one spot in the river with the water covering all but the line of its back and the head. The two small boys who were with us immediately discontinued their wiener roasting, and ran along the bank to get a better view of the bather. When the bear noticed their rapid approach, it immediately turned, and climbed somewhat reluctantly but not hurriedly out of its bath, and sauntered off into the tall, lush grass of the meadow.

About fifteen minutes later the bear again entered the picture. We saw it walking along the bank opposite our picnic spot. Some twenty yards ahead of the bear stood a fisherman, who was so intent on his

hook and line that he was quite unaware of what was coming toward him. We waited expectantly to see what would happen when bear and fisherman met at close range. The bear, however, was the first to spot the fisherman. For a moment it



stood still in its tracks as though deliberating, and then like an arrow darted off into the meadow—apparently not at all anxious to make the acquaintance of a fisherman. Still the man fished on—wholly oblivious to the fact that his presence had frightened a bear.

Since the feeding of bears by park visitors has been prohibited in Yosemite National Park, most of the "beggar" bears have been trapped and transported to other locations in the park. As a result, bears are not so frequently seen on the floor of Yo-

osemite Valley as in recent years. They are allowed to remain on the valley floor only so long as they "hustle" for their own natural food, and do not resort to plundering the provisions of campers, or lingering lazily along the highways waiting for "hand-outs."

### RATTLESNAKE SWALLOWS WILLOW WOODPECKER

By Ranger-Naturalist Lloyd P. Parratt

On the afternoon of July 8, 1941, Mr. Charles Michael, who is a well-known authority on the birds of Yosemite National Park, observed a Pacific Rattlesnake in front of his cabin near the road at Government Camp 19, in the act of swallowing a Willow Woodpecker. The raucous screaming of Blue-fronted Jays attracted his attention. As the jays were clustered in a circle with their bills pointed down, Mr. Michael knew a rattlesnake was the cause of their alarm before actually seeing it, since the jays behave in a definite manner for each particular enemy.

When first seen, the snake had swallowed only the head of the bird, so the wings and tail feathers provided positive identification that the victim was a Willow Woodpecker. After being discovered, the snake finished the job of swallowing the bird in about five minutes, which is very fast time, even though the mature Willow Woodpecker is smaller than a robin. The bird did not make a very large bulge in the snake's stomach, as was observed by the writer when the snake was collected

and deposited in one of the live exhibit cases on the rear porch of the museum.

We can only speculate on how the rattlesnake ever caught a Willow Woodpecker, which spends most of its time foraging on soft barked trees, such as willows, cottonwoods, and the apple trees in the Lamon orchards. The bird is not abundant in Yosemite, and is a close relative of the Eastern Downy Woodpecker. Perhaps it had been injured by an automobile, as the incident occurred at the roadside.

Although there was originally a large population of rattlesnakes in Yosemite Valley, they have been pretty well eliminated by the hand of man, and are now seldom seen except in July and August, when they work their way down to the valley floor in search of water. Their food consists largely of rodents, such as chipmunks and ground squirrels, but woodpeckers are an unusual item on the bill of fare.

Blue-fronted Jays are noted for their marked interest in events that happen about them, and are usually the first to make discovery and out-



cry when there is any mischief afoot. This is almost invariably true when any predators, such as owls, weasels, and rattlesnakes come upon the scene. It was, therefore, interesting to note their typical behavior on such an occasion as this. During the

nesting season, their curiosity is heightened—self-preservation being the important factor—but later in the season they retain a strong social sympathy, which leads them to congregate about any objects or sounds which arouse their curiosity.

### LIFE ZONES IN THE HETCH HETCHY REGION

By J. Dan Webster, Field School 1941

In general the biological character of the Swamp Lake Research Reserve area, which is on the north side of the Tuolumne Valley below the Hetch Hetchy Dam, is a mixture of boreal and austral; i. e., it is true Transition Zone with much Ponderosa Pine, the outstanding indicator of that zone. There are, however, large areas on the upper slopes of the Tuolumne Canyon which the writer believes to be truly Upper Sonoran. As a matter of fact, J. C. Shirley ("Vegetation of Hetch Hetchy Region," Yosemite Nature Notes Vol. XVIII No. 3, p. 22, 1939) has already noted that in this valley Upper Sonoran vegetation in several places extends to 5,000 feet. On July 8, 1941, the hot slopes on the north side of the Tuolumne were visited briefly, and on July 10, the writer in company with Mr. Herrold Asmussen, a member of the Field School, skirted the upper rim of the steep slopes at an elevation of a little more than 4,000 feet.

Between 4,000 and 4,700 feet on these granite-boulder south-facing slopes the predominant woody plants were noted to be Digger Pine,

Sticky Manzanita, Mountain Mahogany, and Poison Oak. There were, however, occasional islands of Black Oak, and one patch, at about 4,200 feet, of Jeffrey Pine. Through this hot area, two Whip-tailed Lizards, four Merriam Chipmunks, a brood of young Sparrow Hawks, two Anna's Hummingbirds, two Ash-throated Flycatchers, numerous California Jays, two Wren-tits, several large flocks of Bush-tits, a single Titmouse, two Bewick's Wrens, several Canyon Wrens, two Rock Wrens, one Western Bluebird, and several Green-backed Goldfinches testified to the Upper Sonoran majority. A hen Mountain Quail with her brood, one or two Blue-fronted Jays, a Creeper, a few Mountain Chickadees, a family of Cassin's Vireos, and a Hermit Warbler were seen in the Black Oak islands, however.

In conclusion, it may be stated that in contrast to almost all the rest of the area of Yosemite National Park, large portions of the northern slopes of the Tuolumne Canyon are definitely Upper Sonoran in character.



### A NEW LOCALITY FOR THE YOSEMITE LEWISIA

By Harold L. Lint, Field School 1941

During the pack trip into the southern portion of the park, the Field School Class of 1941 discovered a *Lewisia* on Horse Ridge, which was identified by Dr. Herbert L. Mason, one of the instructors of the school, as *Lewisia yosemitana* Jep. The discovery was made July 22. Two days later, on July 24, some more specimens of this same species were found on Buena Vista Peak.

The plants were found in a coarse granite sand in both places. The slopes faced to the east and the south. On Horse Ridge, they were found at an altitude of about 8500 feet, while at Buena Vista Peak, the altitude was nearly 9700 feet.

*Lewisia yosemitana* has seldom been collected. This is probably due to the fact that it grows at higher altitudes than most flowers, and in out

of the way places. In 1891, a plant was collected "somewhere about Yosemite Valley" by Mrs. W. F. Dodd. The specimens were sent to Mrs. Katherine Brandegee, who named it *Lewisia redeviva* var. *yosemitana*. In 1911, members of the Sierra Club, including Dr. Willis Linn Jepson, found a *Lewisia* on the top of Mt. Watkins and again on the top of El Capitan. Dr. Jepson named it *Lewisia yosemitana*, and commented that it was perhaps the same as the *Lewisia redeviva* var. *yosemitana* named by Mrs. Brandegee. Since that time, so far as I am aware, it has seldom been collected, and the discovery of it by the 1941 Field School on Horse Ridge and Buena Vista Peak probably marks the most southerly point that it has yet been reported.

### THE INSECTIVOROUS HABITS OF THE SUNDEW

By Gerhard Bakker, Field School 1941

While observing Roundleaf Sundew on one of the floating islands of Swamp Lake, many entrapped insects in various stages of decompo-

sition were noted. In order to make a continuous study of the insectivorous activities, one large plant was marked and a live fly was placed in



the center of a leaf. The struggling insect was soon securely entrapped by the sticky-tipped hairs on the upper surface of the leaf. In a few minutes those hairs adhering to the insect slowly began to bend, drawing the insect down to the cupped surface of the leaf.

Twenty-four hours later the plant was revisited. All the remaining leaf hairs were found flexed inwards, pressing the partly digested fly tightly into the center of the leaf, which was now filled with a thick fluid.

The plant was again observed the third day. The fluid in the leaf and the digested fly were becoming dry, and the leaf hairs were shriveled to half their former length.

On the fourth day the leaf was completely dead. The remains of the fly had dropped out and the leaf stalk had flexed, allowing the brown colored leaf to drop into the damp leaf mould and become a part of it.

### FAIRY SHRIMP

By Gerhard Bakker, Field School '41

The transparent Fairy Shrimp (*Streptocephalus sealii*) is the most graceful and attractive inhabitant of the numerous fresh water pools in the Yosemite region. Nearly all the smaller ponds teem with these curious crustaceans which are unique in

that they swim about in an upside down position. While feeding, they glide slowly through the water, constantly undulating their numerous thoracic appendages, thereby causing a stream of water to pass by their mouths. Minute organisms such as algae and protozoa are screened out and devoured during this process. When disturbed, the fairy shrimps lash their tail-like abdomens and quickly dart away, hiding from view in the thick aquatic vegetation.



Sexual dimorphism occurs in this species; the male has a pair of large grotesquely shaped antennae, and the female has an elongate brood pouch filled with eggs. These eggs are capable of resisting prolonged desiccation, for many of the small pools dry up completely during the hot summer months. After the winter rains have again filled the pools, the dried eggs absorb the water, and hatch into minute free swimming larvae. Before the summer heat has again dried the pools, they have grown into the adult stages, mated, and produced quantities of eggs in order to assure the continuation of the species.



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Dan Anderson