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Half Dome from Mirror Lake

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CONDUCTING AN INSECT WALK

By Ranger-Naturalist C. Ahrens

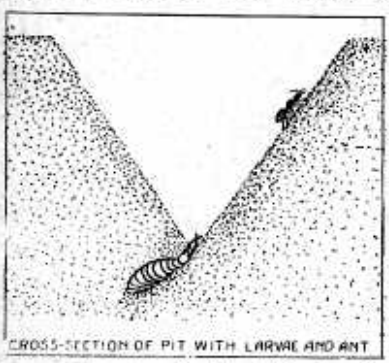
When we remember that of the 500,000 described species of animals of the world, 400,000 are insects, and that this large group is constantly challenging man's supremacy on the earth, then we should expect an interest in the class, Insecta. This is what the naturalist staff thought when it decided to add insect walks to the other activities on the Yosemite naturalist program.

There were fifteen members on the first scheduled Insect Walk in 1938 that started up the trail from Mirror Lake on the afternoon of July 2, and the six-legged denizens of the park seemed eager to be interviewed. The group had barely started when someone discovered a "spring-tail." Then another noticed the galls in the oaks, and we had a discussion of the different insects and mites that disfigure the leaves and branches of many of our plants. On an azalea we disturbed a number of rose-beetles that were eating great holes in the fragrant blossoms, and on the same shrub we found a colony of aphids. These discoveries led to a discussion of insects that have chewing and those that have sucking mouth parts, of the amazing life-cycle of the aphids, of their symbiotic relation with ants, and of the difference in the plan of attack that one would employ in an attempt to eradicate a chewing or sucking insect. The four commonest butterflies on wing in the park at this time were seen, (California sister, mourning cloak, yellow western swallowtail, monarch) and their life histories were discussed. The differences between the dragonfly and the damselfly were noted, and the erroneous idea that these insects are poisonous was dispelled. A great number of doodle-bug traps were found along the sandy trail, and the group became so doodle-bug minded for a while that I was afraid further advance up the trail would be impossible.

At one of the felled pines we considered the attempt made by the foresters to control the beetles injurious to our trees. We rolled over a stone (later replaced) which disclosed a fine ants' nest with several castes of individual and pupae cases. Everyone in the group had seen these white cases before, but

had considered then ant eggs. The lady-bird beetles were swarming, and under an elderberry shrub we found a mass that would have filled a good-sized bucket. Six species were found in a small handfull. Upon an examination of a dying willow near the lake, we found the branches covered with oyster-shell scale which most of the group hadn't seen before. From beneath some bark, someone pulled a white-lined hawk-moth, and its beak, coiled like a watch-spring, was as long as its body. A number of aquatic insects, like the water-striders and the diving beetles, were investigated. We studied the stink-bug (Pentatomidae) and learned that although all bugs (Hemiptera) are insects, all insects are not bugs.

The afternoon passed swiftly, and everyone agreed that although some insects are annoying and harmful, all are intricately fashioned and many exquisitely beautiful. When the role of the insect was



CROSS-SECTION OF PIT WITH LARVAE AND ANT

better understood, after this two hour discussion and study of them, all my party agreed that the Park Service should be encouraged to make Insect Walks a regular part of our naturalist program.

THE SIERRA HOUND'S TONGUE
(Cynoglossum occidentale Gray)

By Ranger-Naturalist Enid Michael

The Sierra Hound's Tongue is a robust plant that rises early in spring from a sturdy perennial root, and grows to a height of eight to sixteen inches. The stout stem is very leafy and the moderately slender leaves are up to seven inches long near the base and are gradually shortened up the stem to the terminal flower cluster. The whole plant is coated with harsh hairs, especially on the stems and the backs of the leaves. As the plant comes up in the early spring with such a flourish one might expect a handsome bloom similar to the Western Hound's Tongue. One is surprised, then, at the small five petaled flowers of brownish-rose, whose flower tubes are hidden in the grey calyx with the petals reaching above only about one eight of an inch. There are many flowers in the head-like clusters. The corollas quickly drop off and roundish nutlets, covered with prickles, develop in their places.

In the Yosemite district the Sierra Hound's Tongue grows on dry rocky slopes in the coniferous forest at altitudes of five and six thousand feet.

The Hound's Tongue blooms during May and early June and then during July and August the delicate Blue Lappulas come into flower. These lappulas resemble the beautiful Western Hound's Tongue of lower altitudes and many of the people who see the Blue Lappulas mistake them for the blue Hound's Tongue.

YOSEMITE TREES

THE LINGERING DEATH OF A BIG TREE

By Ranger-Naturalist Lee Haines

The most common finish for the Big Tree (Sequoia gigantea) is death by falling. They seem not to know how to die standing. Even after these giants fall and have thus severed the roots that supply them with one of their life-essentials, water, signs of lingering life are apparent for several years. At 7:00 a.m. on April 7, 1935, two days after a wind storm, the two hundred thirty-three foot Utah tree fell through the calm air of the Mariposa Grove to the forest floor. Twelve hundred days later its fallen trunk still waved a small banner of green foliage as a last sign of its life processes.

Since the base of the Utah tree had been badly burned on the up-hill side, it is believed that the tree had become slightly off-balance during the wind storm. After two days the strain on the shallow, wide-spreading roots reached the breaking point and permitted the huge tree to fall in the direction of its weakened side.

Having fallen on a relatively smooth slope, covered by a depth of six feet of well packed snow, the tree did not break and fracture to the extent characteristic of most fallen Sequoias. Only two transverse breaks are noticeable in the two hundred thirty-three foot fallen trunk. The first occurred one hundred sixty feet above the base and the second thirty feet farther up the trunk. There is no indication of any longitudinal fractures in this down tree. Perhaps this freedom from fractures has enabled the Utah to show signs of life three years after it had "officially" died.

One hundred thirty-two feet above the completely severed roots of this tree there hangs from the side of its massive trunk a small limb which still bears green foliage. This living branch is seven feet in length and one and three-quarters inches in basal diameter. It bears five branchlets which together form a foliage cluster which is two feet in length. Not only has this branch remained

alive twelve hundred days without any "apparent means of support" but it has also shown signs of growth. Today there is a young lateral, foliage bud growing four feet from the base of the branch. The bud has developed during the spring and summer of this year and is now one-half inch long.

Since every living, self-sustaining, green plant must have water, mineral salts, carbon-dioxide, and sunlight it is of interest to speculate as to how this small branch obtains these necessities. The carbon-dioxide is taken from the surrounding atmosphere through the minute stomata or pores in the small scale-like leaves. The water and mineral salts must be withdrawn from the now functionless sapwood of the one hundred sixty foot section of the trunk. Just how the water and mineral salts are able to move from the trunk into the living branch is a mystery, but once given these elements it is understandable how the branch is able to manufacture its own food and continue to live.

The fallen Utah tree, then offers us a lesson in the secrets of the Big Trees—the unique members of the plant world which are slow in growth, strong in resistance, ponderous in size, unrivaled in age, and lingering in death.

PINUS ATTENUATA IN YOSEMITE NATIONAL PARK

by Charles Michael

During the summer of 1909, while on the Sierra Club Outing, I first saw a specimen of Pinus monophylla within the boundary of Yosemite National Park. In the company of Mr. Gleason I was coming down to the Tuolumne River from the slopes of Rancheria Mountain when on the wall of Piute Canyon a lone individual was found. (On subsequent trips down Tuolomne Canyon several other individuals were found growing on the north canyon wall above Pate Valley. These pines were probably introduced into the Tuolumne Canyon by Indians coming over from the east side of the Sierra.)

John Muir was on the 1909 Sierra Club trip when we showed him a sample of the monophylla he told of another pine that had wandered far from its native habitat. In this case it was a lone individual of the species attenuata that he had found growing in the Merced Canyon just within the borders of the park.

When Mrs. Michael and I came to live in Yosemite Valley in the spring of 1920 we made up our minds to find the lone Knobcone Pine. We searched the district about the park entrance, but failed to find the tree. However, we did find two fine old pines of this species growing not far from the El Portal Railroad Station. We talked to Ranger Ansel Hall about our find. It seems that he too had been looking for the tree. Anyway the mystery of the

missing Knobcone Pine was solved when we learned that in John Muir's day Yosemite National Park included more territory and that these trees were then well within the park boundary.

The two Knobcone Pines at El Portal are growing at an elevation of about 2000 feet. A few years ago Park Forester Ernst discovered a lone Knobcone Pine on the slope below the tunnel on the Wawona-Yosemite Highway. This tree is growing at an elevation of about 4000 feet.

In the spring of 1935 John Augsbury discovered a lone Knobcone Pine growing at an elevation of 6000 feet on the Deer Camp road a half mile or so from the Wawona-Yosemite Highway. This tree is a typical Pinus attenuata with sparse gray foliage and whorls of cones along the branches.

Several young trees of this species have been found growing on the Davis Cut-off road a hundred yards north of the Coulterville road. This location is within the park at 5000 feet altitude.

BIG TREE CONES

By Ranger-Naturalist A. Carthew

Most of the visitors to the Mariposa Grove, although much impressed with the Big Trees (Sequoia gigantea), are frankly unimpressed with the Big Tree cones. Their relatively small size, especially in comparison with the huge Sugar Pine (Pinus lambertiana) cones possibly accounts for their lack of popularity. It is just as well, however, as no Sequoia material is permitted to leave the grove and cones are easily carried away. The lack of appreciation shown by the ordinary visitor is not true of the real nature lover who has a great fondness for the Big Tree cones. Their unique and genuine beauty and the potential strength and life which they represent are sources of inspiration to those who can truly appreciate them.

The Sierra Chickaree (Sciurus douglasii albolimbatus) does not overlook the Big Tree cone as a source of food. Occasionally cones are found on the ground that show the squirrel workings. Their toughness and the tiny size of the seeds would seemingly make their harvest rather a poor paying proposition and it is doubtful if the Big Tree cones constitute a source of food comparable with the more easily obtained and meatier pine nuts.

NATURE NOTELET

By Ranger-Naturalist A. Carthew

A Tahoe Chipmunk (Eutamias speciosus feater, Allen) was observed feeding on acorns of the Huckleberry Oak, (Quercus vaccinifolia, Kell.) on the ridge below the Glacier Point hotel on August 2. Acorns were not mentioned as a source of food of this animal in "Animal Life of Yosemite" by Grinnell and Storer.

LATE NESTINGS OF THE WATER OUZEL

By Ranger-Naturalist W. G. Heil

Conditions in Yosemite this year have brought about a late season for our waterfalls and flowers. In addition, the nesting season of some birds seems to be later than usual. At least in the case of the Water Ouzel or American Dipper (Cinclus mexicanus unicolor Bonaparte) this appears to be true.

On May 25 a nest of the Ouzel was found on Tenaya Creek near Iron Spring. The four young left the nest June 28.

A nest of these birds was observed near the bridge below Bridalveil Fall still active on July 17. One of the young birds was out of the nest while the other two were still being fed in the nest by the parent birds. On the afternoon of July 18, an examination of the nest showed that it had been deserted while nearby, a small group of broken immature Ouzel feathers showed that one of the young birds had probably fallen victim to a weasel. The other two birds, most likely, successfully left the nest and were with the parent birds.

A nesting of a later date was observed on Snow Creek, just a short distance below the base of the fall. The nest that this pair of birds had been using for the past several years had been washed from the rock evidently by the flood waters of last December. In fact the large sheltering boulder under which it had been placed had been considerably disturbed by the flood. However, a new nest had been built about twenty feet below the previous location, well concealed and hidden in a recess beneath two large boulders. This nest was found on the twenty-first of July and was active at that time. The three young birds could just be seen in the opening of the moss built nest after the parent bird had fed them. Another trip to this area showed that the parents were still feeding the young on July 26, which was the last known time that the birds were seen in the nest.

Two interesting things were noted regarding this nest and the parent birds. One was that the position of the nest was such that the water would have covered its location in June when the birds must have constructed it. This means that this was evidently a first nesting for this pair this summer. Another interesting thing was that the parent birds did not pay much attention to anyone

who was near them or near the nest. While watching the nest from a distance of only a few feet, both of the parent birds came in and fed the young. They also flew out immediately in search of more food for the young withou giving us any apparent notice.

A still later nesting record was observed on Tenaya Creek several miles above Mirror Lake inside the Box Gorge. Here Ranger-Naturalist Lowell Adams and hiking party discovered baby ouzels still being fed in the nest on August 1.

SIERRA NEVADA CHICKAREE EATS BLACK-HEADED GROSBEAKS' EGGS

By Ranger-Naturalist Lowell Adams

On June 1, 1938, one-quarter of a mile east of the bear feeding area, about three o'clock in the afternoon while listening to birds I was attracted by the clear-cut "tset" alarm note of two Black-headed Grosbeaks. As I moved nearer their locality I saw the male giving his call interspersed

with snatches of song. As I came closer he flew away. Then the female was seen as she also gave her call monotonously every three to five seconds. About three feet from her was the nest and crouching over it was a chickaree. When first observed and for ten or fifteen minutes thereafter the chickaree was motionless—an apparent "freezing" attempt to avoid detection by the observer. Then, as I sat quietly, watching, the chickaree lowered its head into the nest and appeared to be eating. When I moved, the chickaree again froze for about three minutes and then reached into the nest again. Meanwhile the female perched within four to seven feet calling monotonously. The male returned once while the chickaree was eating but after a minute of uttering his call note he again flew away. The chickaree, apparently finished with its activities at the nest, looked about as if it wished to leave but feared to move because of the observer. Once it licked its lips, dabbed into the nest again and then moved back toward the trunk where it sat on a limb and licked its fore paws. It finally climbed down the trunk about one foot but, seeming to fear the observer, climbed out on a limb to where it could get across another tree on the opposite side. The female grosbeak meanwhile had fallen silent and, as I walked around to watch the chickaree, she flew away into a cedar tree.

I climbed the tree to the nest and found two half shells licked clean—conclusive evidence of chickaree predation on grosbeak eggs. In a small oak near the one in which the nest was located the bedraggled

remnants of another (grosbeaks?) nest were found. Perhaps this was the second nest of the same pair that had been robbed by the same chickaree.

PINE MARTEN AT BRIDALVEIL CAMPGROUND

By Ranger Lon Garrison

During the summer of 1937, several campers at Bridalveil Creek reported to me that there was an unusually large brown squirrel around that had the strange habit of feeding out of the garbage can. While I was listening to this report one day, the "squirrel" ran past and proved to be a pine marten. I saw it around the campground several times after that, and it was a very friendly little fellow, being given to scampering about ten feet up the trunk of a tree, and then looking around at me with its head showing on one side of the trunk and its tail tip visible on the other. In this position — somewhat better than even terms as far as height was concerned — and with the pointed, elfin face, fringed with whiskers, it looked altogether too childlike in its curiosity to have the true gangster spirit of the weasel family. The animal seemed to be absolutely unafraid, treating me with no deference. It accorded me the honor of equal rank, neither attacking nor running away, and simply detoured me as an animate obstacle when I was in the way.

The garbage can feeding technique was rather unusual. The lid had to be off for the marten to eat, and then instead of hopping down into the can as a coon does, the marten would spraddle out on top, clasping the rim firmly with both hind feet and one front foot, reaching down in with its head and the other front paw. At brief intervals it would pull up and survey the surrounding landscape for possible enemies and then dive in again. The one time I saw its foot slip, dropping the animal in the can, it hurriedly leaped out, managing to make even this awkward movement seem grace, and then thoroughly inspected the nearby area, presumably looking for the villain that shoved it in. Failing to discover the culprit, the marten soon hopped back on the can rim and again started diving for scraps.

PATROL NOTES

By Ranger Hildreth

At about 6:30 A.M. Tuesday May 17, I again observed our coyote friend hunting in Stoneman Meadow. I watched him for nearly a half hour but he did not make a kill during that time. Once he evidently had a mouse or gopher located and stood in a beautiful point with right foreleg raised for nearly five minutes. He was within fifty feet of me at the time and I could see his leg muscles quiver as he tensed them to make his spring.