YOSEMITE NATURE NOTES

VOL. XVIII August 1939 No. 8

Yosemite Nature Notes

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

Published Monthly

VOL. XVIII AUGUST, 1939 NO. 8

A NEW FLOWERING PLANT FOR YOSEMITE NATIONAL PARK
PEPPERMINT CANDY STICK (Allotropa virgata T. & G.)

By Ranger-Naturalist Enid Michael

After years of botanizing in the Yosemite district it was indeed thrilling to come upon a plant that I had never before seen growing on its native heath and one that had not been previously reported from within the confines of the park. Especially thrilling because of its beauty and its unique manner of growth. Six dense spikes of bloom standing close together and arising clear and leafless from the brown leafmold. That is was a saprophytic plant related to the Snow Plant and to the Pine Drops was quite apparent. The stems stood ten inches high, the upper six inches crowded by a dense spiral whorl of small blossoms hugged close to the stem so that the floral spike measured less than an inch across. Fifty-nine blossoms was the count on an average stalk. Five white sepals formed bell-shaped blossoms, with each white bell filled to overflowing with red stamens. Ten red stamens to each white cup, the whole looking like an old-fashioned rose-bud boquet with its white, fancy frilled paper collar. The individual flower, stamens and all, measured not much more than a third of an inch. The tapered stem about the thickness of a lead pencil at the base is white, waxy and beautifully penciled with parrallel red lines so as to remind one of a peppermint candy stick.

It was interesting how we happened to find Allotropa virgata and interesting too, to find it associated with another rare and charming member of the Heath tribe. It was more than associated, it was actually parasitic on the roots of Pipsissewa (Chimophila umbellata). And it was Pipsissewa that led to the finding of Allotropa.

If Pipsissewa is peculiarly the host plant of Allotropa it is no wonder that Allotropa is rare in the Yosemite district. For ten years Mr. Michael and I were on the lookout for Pipsissewa without success and then one day when following a Pileated Woodpecker through the woods on the floor of Yosemite Valley we stumbled onto a small colony. Every year for the past ten we have visited this colony and

every year we have been pleased to note that the colony is gaining territory. June 19, 1939 when we visited the colony there were fully one hundred plants blooming. It was while wandering around in the Pipsissewa garden that we discovered the rare Allotropa.

The Pipsissewa colony where the Allotropa was found is located in a mixed forest of oak and conifer on the skirts of a talus slope where drainage is perfect and where a dense mat of leafmold covers the rocky floor. The elevation is approximately 4200 feet above sea-level.

A CULTIVATED BIG TREE

By Ranger-Naturalist Lee Haines

Many visitors to the Mariposa Grove of Big Trees ask if the Big Tree (Sequoia gigantea) can be grown as a cultivated tree in regions other than its native habitat. Some of these visitors have seen individuals of this species growing in parks and gardens in various parts of the country and are desirous of obtaining seeds with the hope of raising a Big Tree in their own yards. Since experiments carried on in Yosemite National Park have shown that only approximately eight out of every one hundred Big Tree seeds are fertile, it is doubtful whether seeds which are so enthusiastically taken from the Mariposa Grove have produced one of these much cherished trees.

Of interest to people in the eastern part of the United States, is the fact that Big Trees do not grow well in that region. Most Big Trees in that section of the country do not live to be over twenty years of age. A notable exception to this generalization was a beautiful specimen tree that has been pictured by J. C. Shirley in "The Redwoods of Coast and Sierra." This particular tree, which grew near Aurora, New York, reached an age of over eighty years. When the story of this tree was mentioned during one of the Big Tree talks at the Mariposa Grove Museum, a lady in the audience from New York State, informed the speaker that this tree was now dead. Apparently the tree had been killed by a prolonged period of sub-zero weather during the winter of 1937-1938.

SIERRA MARMOT

By R. Neill

A Sierra Marmot put in his appearance at the Wawona Tunnel Tree on the morning of June 12, 1939. According to Grinnell and Storer (Animal Life in the Yosemite, 1924) the Sierra Marmot is seldom seen below the 7,500 foot level and as the Wawona Tree is near the 6,600 foot level a little arithmetic supplies one with the fact that the marmot was some 900 feet below its habitual haunts.

As it has been reported that this marmot passes through the tunnel tree region every week or ten days it seems somewhat reasonable to believe that it may have more than one burrow, traveling over a regular route between them.

EMBRYONIC STUDIES OF THE GARTER SNAKE

By Ranger-Naturalist C. W. Schwartz

Snakes are peculiar because they produce their young in two different ways. The majority are egg-laying or oviparous while the minority produce living young which hatch from eggs retained within the body of the mother, a condition known as ovoviviparous. Mammals, also, produce living young but the embryos are nourished by the blood stream of the mother. This viviparous condition in mammals should not be confused with the ovoviviparous one in which the embryos receive no additional nourishment from the mother.

A typical representative of the ovoviviparous group is the Pacific Garter Snake (Thamnophis sirtalis infernalis, Blainville). On June 14, 1939, a medium sized female of this species (56 cm.) was brought into the Museum and placed in one of the reptile exhibition cages. From the swollen appearance she seemed pregnant. On June 27 this snake was found dead and in the same cage five small coiled embryos still attached to yolk sacs were found dead in the water. Perhaps she died as a result of these premature births.

A post-mortem was made which included an examination of the uterus. Twenty-five additional embryos, all at the same stage of development, were found there. All were dead. Each one was arranged in a coil, approximately 10 mm. in diameter, composed of four or five loops. The head was outside and the tail in the center of the coil. The mouth was fully formed and easily opened, the eyes were large vesicles with prominent black iris and white lenses and the brain bulged on the top of the head. Both scales and ventral plates were formed and eas ily seen with the aid of a hand lens. Each embryo was situated on the surface of the yolk and was surrounded by the yolk-sac membrane. When uncoiled the largest one measured 93 mm. in length and the smallest 60 mm. Although the majority were coiled, those in the posterior third of the uterus were straightened out. This seemed strange because the embryos of the garter snake are usually born still coiled and the young snakes break out of the membrane and crawl off.

The breeding potential of this species is very high as evidenced by the large number of young a single female may have (as many as 80, Van Denburgh). This may be one of the reasons why the garter snake is a very common reptile.

NATURE NOTELET

Little Donna Alexander, daughter of the Postmaster of Yosemite, at the age of 3, received a white hen for Easter. One day a ranger passing by noticed the hen and asked, "Donna, don't you know you aren't supposed to have chickens in the park?" Donna was silent a moment, slightly non-plussed. Then she looked up and said "Don't you know an eagle when you see one."

YOSEMITE ANIMALS

PHOTOGRAPHING SMALL MAMMALS

By Ranger-Naturalist C. W. Schwartz

Glacier Point is an ideal place to photograph small mammals. The California Ground Squirrel, Golden-mantled Ground Squirrel and Tahoe Chipmunk are all plentiful and have been partially tamed by the many tourists who feed them salted peanuts and other foods. Before actually taking a picture it is well to study these animals to decide what action to record. Light and background should be studied. For record shots it is better to have sunlight directly on the animal, but for unusual pictorial ones backlighting may be used effectively. With reference to the background a plain one such as a granite rock or screen of manzanita is preferred since uniform color does not detract from the main figure.

These little mammals move so quickly it is almost impossible to focus on them and then take a picture. I devised a scheme whereby this difficulty could be avoided. I placed a peanut on the chosen spot, focused on it, and then when the animal came for it I had everything ready for the picture and waited for the pose I wanted. Sometimes it took many animals and many nuts before conditions were ideal for my picture, but it was worth

while waiting because the results were satisfying. I always used a shutter speed of 1/200 of a second or faster in order to be ready for

action, for example if the animal is eating, running, nervous, breathing rapidly or the wind is blowing its fur.

It is interesting to note that while all three species are living under the same conditions, they vary in tameness. The California Ground Squirrel is by far the tamest, the Golden-mantled Ground Squirrel is next, while the Tahoe Chipmunk is much wilder. This made it possible to photograph them in this order, since the tamest will hold still the longest, and permit the best picture. Thus it takes more patience to get a good picture of the Tahoe than either of the other two.

SIERRA CHICKAREE EATS YOUNG BLUE-FRONTED JAYS

By Ranger-Naturalist Lowell Adams

This spring a pair of Blue-fronted Jays (Cyanocitta stelleri frontalis) built a nest about eight feet up in a small white fir at the west end of the Museum. The eggs were laid and incubated according to schedule. Soon small birds could be heard clamoring for attention as the parents carried food to the nest. On May 22, about a week after they had hatched, I heard a big commotion at the nest and, as the adult birds continued their raucous calling for several minutes, I went to investigate. There I found a Sierra Chickaree (Sciurus douglasii albolimbatus Allen) hunched up on one side of the jays' nest rapidly eating the nestlings.

While the rodent was pursuing its carnivorous way, the parent jays were hopping from limb to limb within twelve inches of the nest scolding loudly. Occasionally they withdrew a short distance and viewed the scene in silence then returned in an attempt to drive the chickaree away. But the chickaree seemed to pay no attention to them, even when they came close. Finally the chickaree climbed down to the ground, dodging the jays with great agility as they swooped down at it, and left the scene.

After the chickaree left the nest I climbed up to investigate the destruction and found the remains of one nestling. Others may have been eaten but I could not be sure of this. The head and anterior part of the remaining nestling had been eaten. The rest of the body lay on a limb of the tree beside the nest. Before leaving the nest the chickaree could be seen picking up several mouthfuls of feathers from the nest. These feathers were about half unfurled from their capsules. The chickaree did not eat them but dropped them back into the nest after working them about in its mouth a few seconds. The reason for this latter activity is not clear.

PARK VISITORS

July, 1939 - 127,809

ALPINES BLOOM EARLY

By Ranger-Naturalist Enid Michael

The Yosemite Museum Wildflower Garden is situated in one of the warmest sections of the valley. The garden is at an elevation of 4000 feet above sea-level and is an interesting place for there are species of flowering plants from elevations between 2000 feet and 13,000 feet.

Red Heather (*Phyllodoce breweri*)

Strange to say, one little Erigeron compositus plant that came from an altitude of 13,000 feet blooms merrily in the month of May while in its natural habitat it does not bloom until mid-July and may still be found blooming as late as mid-September. At the same time Lupinus stiversii and Lupinus albifrons, which are seemingly most at home in the foot-hills at elevations up to 2000 feet, delay their blooming period so as to bloom along with plants from the high mountains. In the garden, seeing the behavior of plants from high elevations and from low elevations, one is inclined to the conclusion that weather is the most important influence in the blooming season of wild flowers.

Usually the Yosemite Wildflower Garden does not reach the peak of its bloom until well along in the month of June, but even so, at the end of the first week in May this year there were many plants in flower as it had been a very light winter. For instance, among the early bloomers were three species of lupines, four species of ceanothus, two species of nemophila, white violets, shooting stars, knotweed, paint brush, buttercups and mountain lady-slipper. Along with these early bloomers were several species of ferns that were just be-

ginning to unfurl their fronds.

Among the plants from the higher sections of the park that bloomed early in the garden were Bryanthus, Caltha, Potentilla gordonii, P. fruticosa, and Antennaria dioica. Also Geranium richardsoni appears very happy at a 4000-foot elevation.

A BIG SURPRISE

By Ranger-Naturalist Enid Michael

On the morning of May 30, 1939 my friend Fitz came into camp and invited me to go for a ride. He asked me if I had ever been up the new road that is now under construction. The answer was: No. This being a holiday, said Fitz, there will be no one working on the road, let us go on a tour of inspection.

The new road leads out of the valley along the warm south facing wall and there were many flowers blooming in the open spaces between the Chrysolepis oaks. Lupines and the red milkweed were especially grand. Then came the surprise. The plant was three feet tall with a dozen flowering stems rising from a base of large fern-like leaves. The basal leaves were a foot long and much divided. There were a few leaves, smaller leaves, scattered half way up the flowering stems. Both leaves and stems were powdered with a delicate bloom. Scattered alternately for a foot or more along the upper flowering stems were groups of golden yellow blossoms. The individual blossoms were about three quarters of an inch long and shaped as a winged urn.

At first glance I took the handsome plant to be a stranger within the confines of Yosemite National Park and truly it was a stranger, for Golden Ear-drops (Dicentra chrysantha) had never been reported from the park.

Dicentra chrysantha is widely distributed, occurring in the dry foothills of both the Sierra Nevada and the Coast Ranges, but nowhere is it common. In past years I have seen individual plants raising their golden blossoms above the chaparral at the top of the Briceburg grade, which location is a good many miles from the park boundary.

In the Jepson Manual of Flowering Plants of California there are listed five species of Dicentra, four of which may be now claimed for Yosemite National Park.

THE COWBIRD IN YOSEMITE

By Ranger-Naturalist Enid Michael

So far as my records show, the Dwarf Cowbird (Molothrus ater obscurus) did not appear in Yosemite Valley until the spring of 1935. That year eggs of the Cowbird were found in a Cassin Vireo nest and in the nest of a Black-throated Gray Warbler. In the fall of the year a young Cowbird was seen in the company of a number of Red-winged Blackbirds on the shore of Mirror Lake.

Since the spring of 1935 there has been a slow but steady increase in the number of Cowbirds in the valley until now in the spring of 1939 the high pitched whistled note is not uncommon among the bird voices of the district.

To my notion the Cowbird is really not much of a songster, but surely he cannot be ruled out for not trying. Seemingly he would like to imitate the gurgling notes of the Red-winged Blackbird. He swells out his feathers, raises his shoulders, throws back his head and then if lucky he manages to squeeze out a few rather pretty chuckled notes, to be followed by a thin, high pitched whistle. Sometimes the chuckled notes do not come and then the whistled "schee e e et" is rather well drawn out and distinctive.

The Cowbird habit of fostering its young off onto some other bird to rear is, perhaps just a little too nearly human to be greatly admired, but yet, one must admit that the bird is clever. Just think of the skill and the patience required to find the nest of the victim and then the cleverness necessary to be at the right nest at the right time. And then Lady Cowbird must slip into the nest, deposit her egg and then make her getaway without being seen by the rightful owner.

Some ladies employ a nurse to take care of their off-spring, others less fortunate may send their children to kindergarten and Sunday School to get rid of them for a few hours, but the Cowbird goes them one better and avoids all responsibility by simply turning her child over to the loving foster parent, who devotes all of her time (her own young having been kicked out of the nest) to bringing up a lusty young Cowbird.

And then when the young Cowbird is grown up he deserts his foster parent and goes back to those of his kind. Having known nothing of his real mother he sometimes makes a mistake and joins a happy throng of wandering blackbirds to go adventuring.