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Yosemite's Biggest Year

By M. E. BEATTY Assistant Park Naturalist

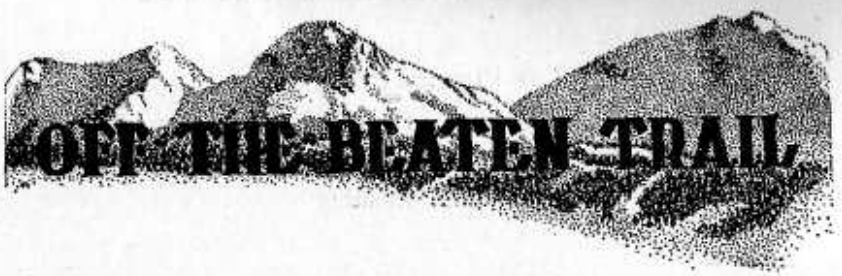
Now that official travel figures to Yosemite have been announced by Supt. C. G. Thomson for the year ending October 1, 1932, it will be interesting to see what part our naturalist division has played in contacting these visitors.

The total number of visitors to the park was 498,289, or nearly half a million, the greatest number in the history of the park. The contacts made by the naturalist division total close to 700,000 people for the same period. At first glance, these figures seem impossible, but when you stop to consider that the average visitor stays from three days to a week in the park and in that time undoubtedly attends several lectures or goes with a naturalist on several trips or hikes, one can readily see how the number of contacts could be more.

THREE DIVISIONS

These contacts are divided into three classes – museum visitors, field trips and lectures. The combined number of visitors to the Yosemite Museum and the branch museums at Glacier Point and the Mariposa Grove was 340,000. We conducted 900 field trips with an attendance of 38,000. These field trips included auto caravans, nature walks, all-day hikes, junior nature school, six-day hikes in the High Sierra and special walks and trips. Our staff gave 2800 lectures during the year to approximately 325,000 people. These lectures consisted of our regular geology, reptile and Indian talks at the museum, bear lectures at the nightly bear show, illustrated talks at the different camps and hotels and our nature matinees.

A comparison of the number of park visitors and naturalist contacts for 1932 to those of 1931 shows that although the number of park visitors increased only by 36,000 the naturalist contacts increased 150,000. Our naturalist staff was the same in number for the two years. This is quite gratifying to the educational staff for the yearly increase of contacts, which has been greater every year, since the very beginning of this type of service was initiated in Yosemite in 1920, shows that more and more people are taking advantage of this free government service to become better acquainted with the natural history of our parks and to learn more of the wonders of the out-of-doors.



Timberline Notes

By C. C. PRESNALL Junior Park Naturalist

During the week of October 9-16, while measuring glaciers on the eastern border of Yosemite National Park in company with Bert Harwell, park naturalist, we had a welcome opportunity to make observations of life at timberline. Rosy finches were by far the most common form of life, appearing in large flocks at every glacier and snow field we visited. The largest flocks were seen on Kuna glacier, at 12,400 feet elevation, where over a hundred circled close around my head for several minutes, then settled close by to feed on insects frozen in the ice.

Both insects and seeds were eaten, but we could not determine the relative proportions of each. The snow-covered glacier was in places thickly sprinkled with small seeds and minute insects blown from no one knows where, and the movements of the birds were so rapid that it was difficult to tell the amount of each kind of food eaten. On one occasion we saw two Leucosticte pursuing a butterfly (probably Eurymus eurytheme), and we often saw the wings of this species scattered about, as though a Leucosticte had discarded them when eating the body.

On the Koip glacier, while eating lunch on the edge of a crevasse at about 11,700 feet elevation, I saw a flock of 40 or 50 Leucosticte chasing a sharp-shinned hawk. The hawk was leaving the country as quickly as possible, not attempting any resistance against the finches.

Mammals were scarce around the glaciers, Alpine chipmunks and conies being the only ones seen. On both Conness and Kuna glaciers the chipmunks were playing around among boulders resting on the ice as much as 500 feet back from the front of the glacier. This observation was made as high as 11,900 feet above the sea.

A rare Alpine willow, Salix nivalis, was observed by Park Naturalist Bert Harwell. It has been only a year since this willow was found in the Yosemite region by Dr. C. R Ball and a party from the University of California, who found it growing on Mount Dana below the glacier. We relocated it at that place, and Mr. Harwell also observed it near Parker Pass, where it had been seen the previous year by members of the Sierra Club party. A more complete account of this rare species will appear in a later issue.

The Role of Insects

By RANGER EMIL ERNST

With the public becoming more interested every day in the enormous losses being sustained by the western yellow and sugar pine stands in the West and of Yosemite National Park, a resume of the causes of these losses may be timely to the readers of "Yosemite Nature Notes." In all normal forests increase in growth is offset by losses occasioned by drought, fire, lightning, wind, fungi, insects and man. Man is the most destructive when he starts to be destructive as is evidenced in logged-over areas. Losses from fire are very spectacular and are immediately apparent. Thus a great deal of public interest and support has been attracted to our fire control program. Insects such as pine beetles are insidious and are far more destructive than fire. They work all the time even during the warmer periods of winter.

THEY HAVE THEIR ROLE

It is not to be assumed that these insects are always on the destructive side since they have their place also in the grand scheme of nature. It is their role to dispose of the older and decadent members of the forest community acting such in the same manner as scavengers. Some are entirely beneficial and at the present time we are not concerned with them. Others hover between being beneficial and being useful. We are not concerned with them either until they so increase that they become detrimental to the community in which they live. Still others, those with which we are primarily concerned at the present time, are normally detrimental to their community. Even these normally detrimental insects are left alone until the losses being sustained from them become unreasonable. Such is now the case with members of the bark beetle genus, Dendroctonus.

The name Dendroctonus means killer of trees. They are rightly named as the usual result of the work of members of this genus is the death of the part and in many cases the whole of the tree infested. Insects have always been with us and shall always be with us. It is nothing new that they have caused untold damage. Epidemics of injurious insects have come and gone, yet apparently the natural community seems to go on in the same old way. The immediate result may be and more than likely has been in the past that a temporary phase of plant succession takes place. This temporary phase of plant succession may be one of many temporary phases before the original one returns embracing in many instances a period of hundreds of years. There is for all areas of lands a phase in plant succession that happens to be the climax or final phase for that area. This climax phase or type can be temporary or it may be permanent.

CONTROL METHODS GAIN

The truly forested areas such as we find in the magnificent western yellow and sugar pine stands of this park are considered as being permanent climax phases for the lands on which they exist. All nature has striven for untold years to attain this, its ideal. It is a fortunate thing that these climax phases in our forest stands are rarely so radically changed and that they are

able to stand very heavy inroads of fire, fungi, insects and other destructive forces. Normal losses from all sources, including insects, very seldom have a marked influence on the composition of these climax plant succession phases, but all abnormal or epidemic losses from fire, fungi and insects should be watched and controlled if at all possible. Yosemite is guarding very carefully against these epidemics. Knowing the habits of these pine beetles, we are developing methods of control that are showing good results.

BIRD NOTES FOR SEPTEMBER

By Enid Michael, Ranger Naturalist

Fifty-two species of birds were seen during the month, which number is well below the September average. However, regarding number of species, September is a very uncertain month, as the records show 76 species as the high number and 48 as the low number. For example, during the first week of last September, 55 species of birds were seen, while this year during the same period only 35 species were seen. For this wide variation in the number of species I have no explanation to offer. The waves of warblers that passed through the valley last year were utterly lacking this year. But why? For the first time in 13 years the Sacramento towhees were missing from the September report. Again why?

We have learned to expect the kinglets during the last week of September; this year both ruby crowned and golden-crowned were missing. One might think that fair weather had induced these birds to linger above the rim of the valley, but two days spent at Glacier Point during the last week of the month failed to disclose a single kinglet.

Tracks of the great blue heron were found in the mud about Mirror lake, but we were not so fortunate as to actually see this bird.

A heavy crop of rhamnus berries was appreciated by evening gros beaks and bandtailed pigeons and, early in the month, black-headed grosbeak and western tanager took a share of this fruit.

Once again there is a slight crop of acorns. The Chrysolepis oaks are almost fruitless and only the Kellogg oaks on the north side of the valley are in fruit, a few individuals among these oaks bear a heavy crop, but, for the most part, the crop is light. However, the crop is probably sufficient to carry the California woodpeckers through the winter.

A DAYTIME STAR

By Ranger-Naturalist Joe Burgess

The unusual is always of interest and Yosemite furnishes many things unusual. It was probably owing to the unusual height of the sheer perpendicular cliff which formed the canyon wall, that made a star visible in the daytime.

On an organized hike to Little Yosemite on August 15, my party stopped to discuss a fruiting elderberry. It was 9:15 a. m. The small tree was situated at the foot of the cliff probably 2000 feet high on the bridle path to Nevada Fall. Later the writer was pointing out the ocean spray shrub high up on the walls when a young lady asked what the bright light might be up in the sky and pointed out the star which was plainly seen by the entire party. The star, probably Venus, had been seen several times before under similar circumstances.

YOSEMITE ANIMALS

California Gray Squirrels

By M. E. BEATTY Assistant Park Naturalist

On the afternoon of October 21, while returning from Tuolumne Meadows, C. C. Presnall and the writer observed two California gray squirrels (Sciurus griseus griseus) in the vicinity of Aspen Valley. While gray squirrels are occasionally seen in Yosemite Valley, they are not common there and they are still less common elsewhere in the park. This scarcity is due to an epidemic of scabies which practically exterminated the species in the park during the winter of 1921-22. Previous to this they were probably our commonest squirrel. According to a census taken in 1914 by Grinnell and Storer they were estimated as numbering more than 4000 in Yosemite Valley and the lower slopes adjacent.

An interesting feature connected with the dying off of the gray squirrels was the fact that their territory was soon taken over by the red squirrel or Sierra chickaree (Sciurus douglasii albolimbatus.) The chickaree is a common resident of the Canadian and Hudsonian zones whereas the gray squirrel belongs to Upper Sonoran and the Transition Zone, occasionally their territories overlap, but they are never found together in large numbers. So the chickaree has really encroached on the territory rightfully belonging to the gray squirrel and has by unmolested increase obtained a strong foothold.

CAN THEY REGAIN GROUND?

It has always been an interesting question whether the gray squirrels would ever be able to increase sufficiently to reclaim their old territory and drive out the chickarees.

A good many of the gray squirrel observations the past year in Yosemite Valley have been of dead specimens along the highways, where they evidently had been struck by cars. A possible explanation of the large number of these accidents is suggested by our observation in Aspen Valley. One of the gray squirrls observed there darted out into the road ahead of our car but instead of continuing across the road, it shifted its course and ran ahead of the car It seemed quite undecided as to the best direction and continued shifting, first to the right for a few feet and then to the left. This continued for nearly a hundred feet before our car slowed down sufficiently to al-

low the squirrel to escape. It would have been impossible not to run the little fellow down had we not been driving at a slow rate of speed. Undoubtedly, a good many are accidently killed in this manner and might, in part, account of their slow increase. We do know that they are slowly increasing in numbers as more are noticed each year gradually working into the lower end of the valley. From the number killed by cars every year in the vicinity of El Capitan it is quite likely that there is a nesting colony established there, with sufficient breeding to replace the accident toll.

At any rate, if the California gray squirrel is to ever increase sufficiently to drive out the chickaree and regain its lost territory, it will have to first become "car wise."

* * *

ALBINO DEER

By Ranger Bill Reymann

On the morning of October 17 I was up early cooking breakfast out at the Chinquapin ranger station I went out after water at 5:30 a. m and saw a freak buck come in to the feeding pan that we keep for our flock of seven pet deer.

This buck was a deer I would judge two years old. He had two points and weighed about 120 pounds. His face and head were snow white; neck and belly, white. Balance of body same as any other deer, excepting big white dots around on body and white eyes.

I called Fire Guards Russell and Stewart, so they also saw him. I didn't notice the white eyes but Russell did.

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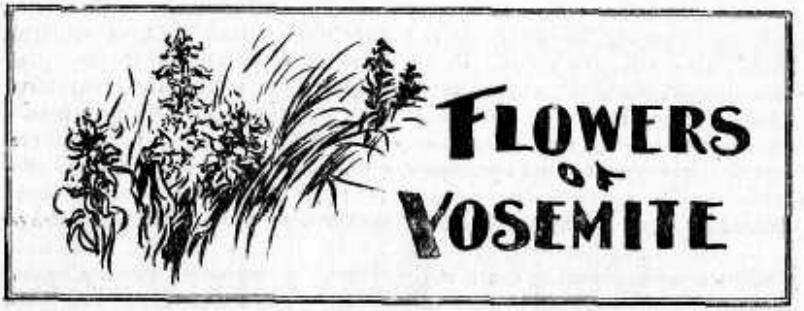

Orchids of Mariposa Grove

By RANGER NATURALIST HERBERT A. ANDERSON

For those visitors to Mariposa Grove of Big Trees who will take the time for exploration, many beautiful off-trail flower surprises await. Among the rare flowers of the deeper woods are the orchids, of which seven species have been enjoyed during June and July, within a quarter-mile from the overnight camp near the entrance to the grove.

The Sierra rein-orchis, Habenaria leucostachys, from late June until August, is found along the streams and meadows throughout the region. A spear of showy white flowers in a dense or open spike of four to eight inches long at the top of a 10 to 30-inch stem attracts attention near the water's edge. The

lower stem resembles a lily stalk with green parallel veined leaves.

The green rein-orchis, H. sparsiflora, is a more slender neighbor with a less showy spike of greenish flowers, sparsely distributed along the slender stem.

Habenaria unalaschensis is a smaller green flowered orchid with basal leaves dry at blossom season, with its slender stalk seldom over 12 inches in height, in our location, unlike the former rein-orchis species it occurs in drier, more open pine and fir forest areas.

A CHOICE SPECIMEN

The lady's slipper, Cypripedium montanum is our rare orchid find of this season. We found but one specimen beside Big Trees creek in full bloom, June 29. The flowers with their white lips, were in perfect condition for a week when the Dutch shoe-shaped lips began to brown and shrivel and the seeds to swell in the green fruit bodies. This beautiful orchid thrives in the damp shade in soil rich in humus.

Near the lay's slipper, rare white bodied phantom orchis, Cephalanthera austinae, stalks with from four to nine inches of slender grace crept, as in hiding, from the mold of past seasons to blossom under the screen of brake ferns, away from the light which is unnecessary to the plant since it obtains its food entirely through its mycorhezal rootlets.

Two coral-roots, Corallorhiza maculata and C. striata are found widely distributed through the open Sequoia and pine forests in late June. These yellowish and pinkish brown stalks likewise are saprophytic obtaining their food from the decay of the soil. The flowers are borne in terminal racemes on stems seldom over a foot high. The leaves are reduced to scales.

In addition to these seven orchids, found only when we take the time to seek them out, there are lilies of rare beauty, lusty snow plants, pine drops and more than a hundred other species of wild flowers which find shelter in the majestic silence of the Big Trees of Mariposa Grove.

YOSEMITE TREES

Mariposa Grove Reproduction

By Herbert A. Anderson, Ranger Naturalist

During July the 1932 crop of Sequoia gigantea trees are sprouting. The pines, firs and Incense cedars have been above ground with their young seedling needles for six weeks, but the first seedlings of Sequoia gigantea were noticed July 29. The tiny seedlings are less than an inch above the ground with a whorl of four to six cotyledons in those observed. The young leaves are all of needle form and seldom over half an inch in length in this early stage. It is not until later that the leaves of the tip appear in the awl-like scale form. This is also true of the baby seedling of the Incense cedar, which has two long opposite cotyledons and an upright stalk covered with needles, followed after a week or two by scales on the tip of the twig. Because of the blue-green color of the first year cedar, it is often mistaken for the seedling of the Sequoia.

FAVORED BY MOISTURE

These Big Trees produce millions of seeds annually and they may sprout in any moist location near the parent trees, but it is interesting that all successful young growth of the past few years occurs in the damper low places, often in streamside locations, such as near the small streamlet just north and south of the museum, where the ancestral trees were perhaps excluded by the greater amount of water in centuries past. Near the Wawona Tree and the old lodge site, where old giants of from 1500 to 2000 years are still thriving on drier slopes and knolls, such young trees as remain are in very unthrifty condition and without a change toward a damper climate will likely lose the battle before many more summers have passed.

At least in Mariposa Grove these observations seem to indicate that during the lifetime of the standing older generation of Big Trees there has been a definite change of climate in the region which is resulting in a lessening of the area of the grove, although there is ample reproduction to keep up the number of the species.