YOSEMITE NATURE NOTES

THE LONE PINE ON SUMMIT OF SENTINEL DOME

JANUARY, 1932

Volume XI Number 1

Yosemite Nature Notes

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

Volume XI January 1932 Number 1

Glaciers of the Sierra Nevada

RANGER NATURALIST CARL SHARSMITH

There are probably over a dozen perpetual ice fields in the Sierra Nevada that can with propriety be called glaciers. They exist on a number of the major peaks, on their north or northeast sides, extending in widely scattered localities from south to north along the range, centering about Black Kaweah, Mount Brewer, North Palisade, Mounts Darwin, Ritter, Humphreys, Lyell, Dana and Conness.

While all are very small in comparison to glaciers in other mountains, they nevertheless display all the features and functions characteristic of glaciers elsewhere. All of them have moraines, all are more or less crevassed, and all display some motion as is evidenced by the turbid waters which issue from them. A few of them occupy cirque-basins whose floors are of a gentle grade but most lie at a steep pitch and are popularly called "hanging glaciers." None of them are of the "valley" type such as is typical of the Alps or of Mount Rainier. They are usually broader than long, the smaller ones often giving the impression of being broad snow fields rather than fulfilling the popular conception of "rivers of ice." But that they are glaciers the abundant and fresh moraines, crevassed surfaces and motion—even if but a small part of an inch a day—testify at once.

SNOW FEEDERS LACKING

Curiously enough, none of the Sierra glaciers has extensive snow fields acting as "feeders" above it. It is usually thought that for a glacier to be and to persist at all, a feeding snow field or neve is necessary. Apparently, as their broad surfaces would seem to indicate, our Sierra glaciers are both neve and glacier combined. At any rate, all of them are equipped with a well defined and typical bergschrund characteristic of glaciers. This is the mountaineer's and geologist's term for the uppermost and largest crevasse, and is supposed to be the dividing line between the neve and the glacier proper. The extent of ice and snow above the bergschrund in our mountains (Sierra) is very small, however; mostly it is confined to mere tongues of ice extending upward in the gullies toward the summit of the mountain.

Beside the glaciers there are scores of smaller ice-bodies and ice filled gullies and couloirs that cannot be classified as glaciers at all. Many of the more steeply inclined ones have a motion of a fraction of an inch a day. Such ice bodies seem to be a peculiarity of the Sierra region and are worthy of further study.

PALISADE IS THE LARGEST

Largest of our Sierra glaciers is the Palisade Glacier, which lies in a wide amphitheater on the northeast side of North Palisade, the farthest north of our 14,000-foot peaks, and which drains as well the neighboring slopes of Mts. Sill and Winchell and Agassiz Needle. This region is about 50 miles in a direct line to the southeast of Mt. Lyell, where lies the largest glacier within the bounds of Yosemite Park.

Although but about half the size of the Lyell Glacier, the Conness Glacier is the most active of any in the park, and probably the most active in the Sierra. Certainly it is the most noisy, as Norman Clyde, the well-known mountaineer, testified during a recent climb. Scarcely a half-hour goes by during the day that one does not hear the rumble and crash of falling rocks either from the cliffs flanking the glacier on three sides, or from the moraines themselves. The moraines are particularly loose to walk upon, while the cliffs are being disintegrated in a rapid fashion by the constant sapping of the ice under them, aided by the well-developed joint planes which form blocks of rock easily quarried.

NUMEROUS BREAKS ON CONNESS

The crevasses of the Conness Glacier are large and abundant, particularly below and to the right of the summit. They scarcely exist at all on the Lyell Glacier, which in itself is indicative of the lessened activity of the latter. The Conness bergschrund is practically impassable in most places even if climbers be properly equipped for ice work. Here and there beneath the summit one can peer down this largest crevasse at least 100 feet. Farther out in this ice-filled amphitheater are numerous crevasses with sides vertical, or nearly so, often deeper than the bergschrund itself.

Besides being the most active, the Conness glacier is certainly about the most accessible glacier in Yosemite Park, being less than 12 miles from the Tuolumne Meadows ranger station. Nine of those miles can be traversed by automobile, driving by way of Tioga Pass to Saddlebag lake, from where it is but a climb of two or three hours to the glacier. The climber is rewarded by fascinating, first-hand information in glacial structure and action, and the relation of these features to mountain carving is obvious to even the casual observer.

Feeding Habits of the Woodpeckers in the Yosemite Valley

Enid Michael

RED-NAPED SAPSUCKER (Sphyrapicus varius nuchalis)—The Red-Naped Sapsucker is a rare winter visitant to the Yosemite Valley and we have not often had the opportunity to study his feeding habits. On the first occasion we happened to encounter this bird we had a close-up view of him. He was working on the main trunk of a sapling Incense Cedar flicking off scales of bark in search of bark lice, with which the tree was infested.

The second time we came upon the red-naped sapsucker he was drilling holes in the bark of an apple tree in precisely the same manner as do the red-breasted sapsuckers. A red-breasted sapsucker happened to be working in the same tree which gave us the chance to compare the work of the two birds.

The following notes were written in the field on the morning of December 13, 1927, when at the mouth of Indian canyon we discovered our third red-naped sapsucker at work. Today the red-naped one was foraging in an incense cedar. He worked in true sapsucker fashion, drilling holes through the bark into the cambium layer. The general plan of the drilling was similar to that of the red-breasted sapsucker when working on an apple tree—that is, horizontal cuttings in parallel rows one above the other. Each horizontal row would contain a number of drillings, but seldom if ever did the holes completely girdle the tree. The cedar tree at the height (about fifteen feet above the ground) where the sapsucker began his work, was about fifteen inches in diameter. The bark was at least a half inch thick and in order to get into the sap-wood the holes were necessarily much larger than holes drilled for the same purpose in a thin-barked apple tree. The bottom row of holes was at least twelve feet below the highest row of holes, and I should say the rows between the upper and lower drillings averaged six inches apart. Under ordinary circumstances the red-naped sapsucker may visit each row of holes systematically, but if this is the case we disturbed his system today, for when we approached he scampered up the tree. When we sat down and waited quietly he scampered down the tree exploring the holes as he came. In coming down the tree trunk the usual mode of woodpecker locomotion was reversed and he hitched down the tree as easily and as skillfully as most woodpeckers go up a tree. We spent an hour with this sapsucker and not once did we hear him utter a sound.

December 15 we were back again at the cedar tree. The sapsucker was not present and so we climbed the tree to make an examination of his work. His operations had been much more extensive than we first supposed. The pits averaged thirty to the foot and they were spread over a distance of thirty feet. Many of the holes were of some previous years' cutting and were choked with dry pitch. Only

about one hole in a hundred was oozing fresh pitch. Where the bark was thin the holes were almost round and about the diameter of a lead pencil. Where the bark was thicker the holes were oblong, the greater width running across the trunk. These oblong holes were sometimes as much as a half-inch across. The cedars do not slough their bark as do the pines and the evidence of sapsucker work will remain for perhaps twenty years. We know certain cedars bearing scars of sapsucker work that have shown but slight change in eight years.

Later in the morning we caught sight of the sapsucker working in a different manner. The forest where he was working was a mixed forest where he had a choice of oak, pine, Douglas fir, or cedar, and always did he choose the cedar; moving over a hundred yards of territory and exploring six different cedars. In some of the cedars he worked along the smaller branches, prying off the scales of bark in the manner of the white-headed woodpecker. This sapsucker worked more quietly than most kinds of woodpeckers. When drilling the ear might catch the sound of gently drummed thuds and thus attract one's attention to the bird, but if the bird were working among the smaller branches it would likely be the rain of flickering bark scales that would attract the attention.

Williamson Sapsucker (Sphyrapicus thyroideus thyroideus)

The Williamson sapsucker is a rare winter vistant to the Yosemite Valley and the few that have come to our notice have nearly all been females. At the mouth of Indian Canyon on the morning of December 17, 1927, we had an opportunity to study the feeding habits of one of these females. She went about her foraging in a deliberate and systematic manner. In the hour that we had her under observation she worked over but a half-dozen branches. The food that she particularly sought was hidden under the scale-like dead bark of the lesser branches. The tree was an old incense cedar. The same sort of food that she was seeking is much sought by other woodpeckers of this district, particularly by the white-headed woodpecker.

The Williamson sapsucker has the agility of a chickadee and is able to swing about in any position even among the smaller branches. Her tail has the appearance of a two-tined fork, and the very stiff tail feathers are a great aid to her locomotion when working along the under side of a branch. When working among smaller branches the stiff and pointed tail feathers almost take the place of a third foot. The white-headed woodpecker uses his bill as a wedge to pry off scales of bark. This sapsucker pulls the scales of bark off with a deft jerk, and with a toss of the head the chips are flipped aside. The Williamson starts working in the outer branches and gradually moves toward the main trunk, ripping off all lose bark on the way, overlooking no chance for food. The white-headed woodpecker while seeking the same sort of food is erratic in his movements, flitting from branch to branch as though prospecting for heavy pay dirt.

From our observations of the Williamson sapsucker in foraging it would rather seem that they prefer to work along the under side of the branches, but it may not be that they especially enjoy this position but that they find it more profitable, as other woodpeckers are likely to pass up the under side of the branches.

The solitary representative of the Williamson tribe that we occasionally come upon during the winter months are silent birds; never have we heard these lone birds utter a sound. And, strangely enough, we have never found them feeding in sapsucker fashion. In our experience they forage much in the manner of the white-headed woodpeckers, and over precisely the same sort of territory.

On one occasion we found a female Williamson sapsucker working on the main trunk of a great yellow pine. Now, most woodpeckers when working on one of these trees will use their bills as a wedge to pry off flakes of bark. Not so this Williamson; her method was to drill through the bark and never to deliberately scale off flakes. Another striking difference in her method of feeding was that she spent much time in a given spot and did not scamper up the tree flaking off chips as most woodpeckers do. When tapping her bill-beat was very rapid, like the steady beat of an air-drill. And while the tapping went on, in unison, there came a harmonious vibration at the tips of the closed wings. We watched this sapsucker for a half hour and she did not move more than a foot, nor did she in all this time utter a single note. Finally we gave up hope of having a closer view. Three hours later it so happened that we were again in the neighborhood, and going to the tree we found the sapsucker just where we had left her. Of course, there was no way of knowing what the bird had been doing while we were away, but it is reasonable to suppose that she had not left the tree. Scattered on the mat of pine needles at the base of the three were many broken flakes of bark which had freshly come down. These chips were interesting for they were different; other woodpeckers do not shatter the bark scales as these were shattered, to our knowledge. On examination these chips bore evidence of having recently harbored insect life in a larval form. The larvae in almost every case had been scraped away, leaving an outline of sticky substance. In two cases we found larvae still embedded in their forms, having been overlooked or inadvertently dropped by the sapsucker.

In summer the range of the Williamson sapsucker corresponds with that of the red-breasted sapsucker and we are wondering if the Williamson sapsucker has not been held responsible for sap-pits that were really the work of the red-breasted saysucker.

"DO SIERRA CREEPERS ENTER BUILDINGS?"

Ranger-Naturalist A. E. Borell

The creeper is a small brownish, wren-like, bird with slender curved bill which works its way up the trunks of trees as it searches out insects from crevices and holes in the bark.

Most of us think of them as birds of the deep forest, usually far away from the noise of civilization and would be surprised to see one inside a building.

For this reason the following observation seems worthy of note. On August 15 and every day during the following week a creeper was watched as it foraged over the inside walls of a rather open outhouse at the Mariposa Grove of Big Trees. The building was constructed of poles, split shingles and sawed lumber and the bird seemed to "hitch" its way over one type of footing as readily as the other. The creeper was tame and permit-

ted observation at close range on several occasions. It would begin at the floor, work its way to the top of the wall, then hanging partly upside down, continue its way along the underside of the roof. Upon reaching the apex of the roof it would drop to the floor and repeat the performance, looking carefully into each crack and crevice. Several times it was seen to capture and eat moths about half an inch in length. Each time the wings were discarded. On one occasion it chased a spider into a crevice. Unwilling to lose its prey it spent three or four minutes trying to dislodge the spider. In doing this it pecked at the edge of the opening much as a woodpecker would.

This further illustrates the fact that wild creatures do not have set rules of conduct. We are continually recording unusual actions for our various species of birds and mammals which helps to make the study of wild life the more interesting.

THE INDUSTRIOUS ANT

Ranger-Naturalist Joe Burgess

King Solomon might not have been a ranger-naturalist, but he was evidently a keen observer of nature. When he wrote "Go to the ant, thou sluggard: consider her ways and be wise" (Proverbs 6-6) he might have been writing about the large, black carpenter ants. (Camponotus levigatus). These ants were working industriously on a live young sugar pine (P. ambertiana), evidently making a storehouse for themselves, and judging by the amount of sawdust at the base of the tree, the house was of no mean size. It was this pile of sawdust which first attracted the attention of the writer near the lodge at the Mariposa Grove of Big Trees. The most interesting feature was the highly perfected system of co-operation with which the ants carried on the work. While a number on the inside did the boring, others carried the small chips to the opening and dropped them off. The number of chips brought out averaged about 18 to the minute, the same ants evidently doing the carrying; one big ant, with a peculiar mark, reappearing at intervals. As the chips fell, they dropped onto a lower ledge where other workers again carried them and dropped them to the ground.

A small wedge placed in the hole of the exit temporarily tied up operations. It was finally removed by reinforcements which were sent to pull from the outside, while others pushed from within.

JAMES V. LLOYD TRANSFERRED TO GRAND CANYON.

On January 20, Mr. and Mrs. Lloyd left Yosemite to journey to Grand Canyon National Park where Mr. Lloyd has been appointed Assistant to Superintendent Tillotson.

Jimmy has always been a booster for our Naturalist progam and the Museum staff wishes him the best of success.

Mr. Lloyd came to Yosemite in 1916 as Ranger and later served as staff photographer, publicity man and for the past year as Assistant to the Superintendent.

Field Naturalist Dr. Carl P. Russell and Mrs. Russell visited Yosemite this month. Dr. Russell came to help us with library problems.

Yosemite Lodge Entertains an Unusual Guest

C. C. PRESNALL, Junior Park Naturalist.

Yosemite Lodge, which prides itself on the care and attention bestowed upon its guests, was hard put to it on December 8, to provide suitable accomodations for an unexpected visitor, seeking shelter from the snowstorm. A bell boy discovered the guest sitting on the porch, brought him in to the desk clerk and since neither could understand his language, they had to put him in a storage room and telephoned for a Naturalist.

Answering the phone, I was mystified to hear this, "We have caught a kind of duck. Would you like to identify it? Well it's not a duck, exactly—but come down and see it for yourself."

Business of hurrying to the lodge, eagerly questioning the desk clerk, and peering cautiously into the storage room.

There in the middle of the floor sat an American Eared Grebe! If ever a bird was out of its element, this one was. No wonder the bell boy thought it was crippled, since it could only flounder about when approached. Grebes' legs are set far back for fast swimming, and are practically useless for walking—so useless that they cannot take off in flight except from a steep slope, against a strong headwind, or from the water. This little wayfarer at the lodge was so uncomfortable and helpless, that the hostess was quite concerned for its welfare. I suggested an ice-cold bath, so we put it in a paper sack and took it to an open pool in the Merced river, where a few ducks and a coot had taken up winter residence.

After liberating the grebe, the hostess and I stood on the river bank awhile, watching the little diver express his great delight at returning to his native element. He first swam rapidly for a half dozen yards, then "stood on his hind legs" and waved his wings for joy. The next few minutes were spent in grave inspection of his benefactors. He showed no fear, nor did he swim away, just swam about looking at us steadily, occasionally preening his rumpled plumage or uttering a low sharp note. Finally, after waving his wings a few more times, he dived and reappeared beneath an overhanging bush. We left him contentedly examining his new home, the hostess elated to know she could provide for even the most unusual guest, and I, happy in the acquisition of more bird lore.

* * *

Are Freak Antlers Inherited?

C. C. Presnall Junior Park Naturalist

"Old Horny," the famous three-antlered deer of Yosemite, that died in March, 1928, was recalled to mind on November 1, of this year, by the death of another three-antlered buck. On both bucks the third antler grew from the nasal bones about four inches above the nose. This is perhaps the most rare of all freak antler formations, since in most cases the extra antler grows directly between the other two.

The two freak bucks of Yosemite were so nearly alike as to suggest

that one might be a descendant of the other. Both bore the extra horn in exactly the same place, and in both cases it had two prongs, but "Old Horny's" freak antler was over four times as large as that of this hypothetical offspring, whose third antler was barely one-half inch long. This may be accounted for by the fact that "Old Horny" died at an advanced age, while the buck recently found dead was not over four years old, judging by his antlers—three points and a brow tine on each side.

"Old Horny" was considered very remarkable because, among other things, his third antler was grown under velvet, hardened, and shed exactly as though it had been normal. The extra antler on the younger buck behaved in the same way, according to J. N. Garbarino, who had observed the animal for several years. Other observers who had seen it at various times during the last three years were unable to say whether or not the extra antler was ever shed, since they had observed it only during the autumn when all antlers were present. The deer was first noticed in 1927, when it was a spike buck. "Old Horny" died the following winter, thus proving that a direct relationship between the two would have been possible, but we have no way of knowing definitely whether or not "Old Horny" was the sire of the younger buck. The striking similarity of the two freaks suggests the possibility of the inheritance of supernumerary antlers.

The death of the young buck prevents any further observations on the development of the freak, but thanks to Ranger Aiken, who found the carcass, we have been able to preserve the skull in the Yosemite Museum alongside that of "Old Horny."

A RARE OWL COLLECTION

By C. C. PRESNALL,
Junior Park Naturalist

A specimen of an owl, rare to Yosemite, the Southern California Screech Owl, was recently acquired by the Yosemite Museum through the thoughtfulness of Ranger Emil Ernst, who picked the owl up near El Capitan on November 3, after it had flown against his car. So far as known, this is the third screech owl specimen ever taken in Yosemite valley, although his characteristic note has been heard by several persons at various times. Park Naturalist Harwell and I both heard one in the New Village a few nights previous to the taking of this specimen. Charles Michael reports that he has never seen a live one, but that two dead ones were picked up during the winter months of previous years. Grinnell and Storer, in "Animal Life in Yosemite," record having seen and heard one near Yosemite Falls Trail on November 20, 1915. The specimen brought in by Mr. Ernst was encountered at 5:30 in the morning, one half mile east of El Capitan.

VARIED THRUSHS NOTED

Varied thrushes are appearing in Yosemite this fall in larger numbers, and at an earlier date than usual. These beautiful winter visitants have been recently reported by several of the Rangers from various parts of the park, whereas they are usually seen only by a few careful observers. They often arrive about Thanksgiving time, but this year they were first noted on October 17.