

Y O S E M I T E N A T U R E N O T E S

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This is one of a series of bulletins issued from time to time for the information of those interested in the natural history and scientific features of the park and the educational opportunities the park affords for the study of these subjects.

Utilization of these bulletins by those receiving them to the end that the information contained therein might be as extensively distributed as possible will be appreciated.

W. B. Lewis, Superintendent.

* B L U E B I R D S I N T H E Y O S E M I T E V A L L E Y

The first morning of November was a sunny one, and Western Bluebirds and Mountain Bluebirds were in the elk paddock. A flash of yellow and a cheerful chirp told of the presence of the Audubon Warbler. No flock of bluebirds seems complete without him.

The Western Bluebird, when in full plumage, is deep blue-purple, with a red breast, and can at a considerable distance be distinguished from the Mountain Bluebird, that in full plumage is a sky blue.

He comes to the Yosemite Valley when the trees are bright with autumn color and the summer birds have gone to their winter homes. He comes to look over our crop of mistletoe berries and, if the crop is good, he is likely to spend the winter.

A liking he has for the Yosemite meadows but most often he is seen in the tree-tops, feeding upon the mistletoe berries or sunning himself after a feast. The bluebird of the meadow with hovering flight, plaintive voice, and gentle ways seems to acquire a new disposition when he eats the fruit of the mistletoe. He flies nervously in and out of the mistletoe bunches; his chatter is harsh and discordant as he hastily devours the pearl-like fruit.

Several times during the winter a flock of Western Bluebirds has been

seen to tease a Cooper Hawk. Flying in the air above him, they confuse him with quick downward dives and derisive chatter.

The Mountain Bluebirds are occasionally seen in the Yosemite Valley in the spring or in the autumn on their journey to or from their summer homes in the high mountain meadows. They may stay but a day or perhaps they may play about our meadows for a week or more. Sometimes storms in the high country drive the Mountain Bluebirds into the Valley for a short stay.

Mountain Bluebirds perched about on weed stalks in a sunny meadow, that just raise them above the grass, are like blue flowers. And when they spread their wings in fluttering flight or hover over the meadow, they are a vision of loveliness. ----Enid Michael.

LESSINGIA AND BUCKWHEAT

Flowers have pronounced likes and dislikes. Certain of them, as the wild Ginger (*Asarum hartwegii*), like shade of the forest floor. Others, as the Azalea (*Rhododendron occidentale*), choose the moist bank of the river or the damp meadow. Still other plants prefer the bare stretches of gravel or sand where there is neither shade nor apparent moisture. These are no mere whims on the part of plants but needs urgent to the degree that when denied them the plant eventually dies.

There are several plants in the Yosemite that demand the hot gravel flat. *Lessingia* (*Lessingia leptocalda*) and Buckwheat (*Eriogonum virgatum*) are two of them and they bloom for six months or more in the Yosemite Valley. At the height of their season, which falls during August, these plants lend to wide areas the delicate colors of their myriad flowers; they brighten the dusty roadside and create vast areas of loveliness, areas that without them would be barren. And late in the year when most plants have cast their seed and withered, these plants continue to flower and break the monotony of wide colorless places with charming groups of plants in full bloom. ---Enid Michael.

GLACIAL POLISH

What Yosemite high-country hiker could fail to be impressed with the glassy granite surfaces found everywhere along the stream courses east of the Valley? Even the native Indians found this natural wonder too much for their stolid disposition, and John Muir relates how he was approached by a native who questioned, "What make 'um the rock so smooth at Tenaya?"

The rock-carving of the high-country appears more recent and better preserved than do the erosional features of the Yosemite Valley and the canyons lower down. To the tourist who has also visited Rainier National Park and examined the polished rocks of that region of mighty glaciers, it must seem that Sierra glaciers melted but yesterday. For the granite of the old glacier paths of the Sierras in the summit region exhibit the same smooth, glassy polish; indeed, for the most part it is a smoother, more mirror-like polish than the rocks of Rainier, are capable of taking.

Mr. F. E. Matthes of the U. S. Geological Survey attributes this marked difference in freshness of the ice marks in the Yosemite high-country and lower country to the divisions of the ice age into two or more epochs - a succession of glacial extensions, separated by intervals of milder climate. With each period of low temperatures there was a steady creeping of great ice

tongues from the summits down through the canyons to valleys of the lower levels. Then with the change to warmer climate there came the steady recession of the rivers of ice, until they drew back to the crests from which they started. Such a condition of affairs resulted in the summit region's undergoing continual ice erosion, while the lower canyons were acted upon for but a fraction of the time. Then, too, it is a fact that the last ice epoch is not yet ended. At the present time many lingering remnants of the once mighty glaciers may be found on the shaded sides of the Sierra peaks. The ice has been slowly receding for thousands of years. The granite surfaces of the lower canyons were uncovered long before the high-country was freed from its ice mantle. Consequently, weathering has exerted its decomposing influence upon the lower glacial polish for a much longer period than in the summit region. Within the Yosemite Valley, where the most wonderful grosser features of ice carving are seen, none of the finer glacial polish has persisted. A little above the Valley, in the Little Yosemite, small patches of the mirror-like surface may still be found on the harder parts of the granite. Still higher, as at Merced and Tenaya Lakes, great areas, acres in extent, are just beginning to yield to ravages of the weather. Above these places, in shaded cirques at the very crest, the granite is yet bount by eternal ice, and the friction of the moving mass is today adding to the gloss of the surface below.

THE OWLS AND THE MICE OF THE YOSEMITE

The autumn days have come, and the melodious chorus of the Pacific Horned Owls is heard at night in the Yosemite forest. Sometimes the evening stillness is broken by the sharp barking voice of the Spotted Owl. The Pigmy Owl is diurnal, and his song is heard in the morning as he takes his sun bath while perched in the top of some tall pine.

Why are the owls heard so often at this season and so seldom at other times? Because this is the hunting season for the owls in the Yosemite Valley.. Mice of at least three species congregate here during the autumn and prepare to spend the winter with the few villagers, and these mice that plague the Yosemite resident furnish sport and "beefsteak" for the owls.

At this season many owls come down from the forests above the rim and perhaps some come up from the valleys below the Yosemite to join the fall hunting parties. The Owl, then, is a friend of man, and his voice should be music to the ears of those who know the torment of a hungry horde of mice. And there are mice enough for all and to spare. ----Enid Michael.

ALDERS UNRESPONSIVE TO FROST

Conspicuous among the deciduous trees is the White Alder, which to date (November 12) has stubbornly retained its leafy cover. Nor has it changed the hue of its summer dress one whit. Along stream banks it endures unchanged, while on either side neighboring willows bleach sickly yellow and become ragged, as the lifeless leaves are shed, and Creek Dogwoods take on gorgeous reds and quickly become naked brush. In moist woods the green alders stand amid golden leafed maples, variegated black oaks, deep-hued Western Dogwoods, and the naked black Cottonwoods, which have carpeted the forest floor with their creamy yellow leaves.

Eventually the Alders will shed their foliage, but no gaudy coloring

will precede the falling. Alders retain their leaves long and then drop them while they are still green. When the leaves have been shed, tiny black cone-like bodies will be seen on the naked limbs. These are female flowers which have developed into cone-like fruiting bodies. Near them may be seen other small green bodies which are unmaturred female flowers. The male flowers are found on the same branch. At present they are green cylindrical bodies about two inches long. The flowers open in mid-winter when the male flowers will be $4\frac{1}{2}$ to 5 inches long.

MALLARDS IN YOSEMITE

For several weeks past a small flock of Mallard Ducks have made the Yosemite Valley their home. One handsome male is invariably accompanied by three faithful females, while another male claims a single female. Frequently the pair is seen with the other group, but it is quite apparent that they consider themselves independent, for when they are flushed the pair always separates from the others. At mid-day or afternoon they may be found on the quiet waters of Mirror Lake. During the forenoon hours, while the sun is yet below the south wall of the Valley, they may be found feeding in the grassy coves along the Merced.

During the spring months the swampy meadows of Yosemite may shelter one or more females and young of this well-known species of duck. These broods, of course, remain through most of the summer.

THE SLENDER-BILLED NUTHATCH

One day in November a musical ratchet was heard coming from a tall yellow pine. Two nuthatches were discovered working on the under side of a pine branch and by their snow white cheeks and throats, as well as by their call-notes, we knew them to be Slender-billed Nuthatches. We learned this call-note in the great red fir forests above the Valley - a clear, sweet call that breaks in upon the silence of the forest. A ringing note repeated very rapidly several times - a musical ratchet. This note is quite unlike the call of either the Red-breasted or Figy Nuthatch.

Nuthatches are the only birds found in the Sierras that go up or down a tree trunk with equal ease. Their habit of going down the tree trunks gives them an advantage in their search for food as they look into crevices missed by the birds that go only up.

The Slender-billed Nuthatch has an extremely elastic neck and when working up a tree trunk he often bends his head backward till his throat is visible. He turns his head with equal dexterity in every direction.

This is the first time in four year's study of the birds of the Yosemite Valley that this charming white-faced nuthatch has been seen. He probably came to the Valley from his haunts above the "rim" to share in the abundant crop of pine nuts, which are a favorite feed of the nuthatch. He stores them away in the cracks in the bark of trees or in other crevices.

----Enid Michael.

A CROW VISITS THE YOSEMITE TWICE EACH YEAR

Daily bird surveys during the past four years in the Yosemite Valley

have brought out many interesting facts. A study of the charts of daily records emphasize the peculiarities of bird migration.

In this regard the Western Crow occupies a prominent position. The records show that a single crow was noted October 22, 1920; November 3, 1921; October 21, 1922; and October 22, 1923. This single bird was the only crow noted during the fall of the year. Some years he stayed but a day, other years he stayed two, and never was his stay in the Valley more than three days.

The spring records are as follows; March 30, 1921; March 28, 1922; and April 11, 1923. During the spring migration a group of several crows may pass through the Valley, but in the fall it is one lone bird that uses the Valley route in returning.

From the above record it would appear that the crow is a transient, merely using the Valley as a migratory route between its summer and winter quarters. It would hardly seem reasonable that some crow would happen to appear in the Valley at such coincident dates. Rather would it seem that some wise old crow with a liking for this particular route makes the round trip year after year. Speculation leads to the theory that this crow winters in the San Joaquin Valley, or at some point to the west, and that each spring he makes the trip across the crest of the Sierra to spend the summer months on the shores of Mono Lake. ----Enid Michael.

STRETCHING THEIR BELTS

At this season one of the native animals of the National Park finds himself persecuted rather than protected. Mountain Coyotes range the upper regions of the Park and yearly take toll in game birds, fawns, and much other wild life that it is desirable to preserve. Quite often are their slinking forms seen, just for a moment, as they cross some high-country trail. Occasionally the remains of a "kill" is found.

Now they are more numerous on the floor of the Valley, and daily their dog-like tracks may be seen in the mud of the Merced or in open sandy places. Recently one was observed boldly stalking two fawns in the Bridalveil Meadows.

No animal is more wily and harder to trap. That the park rangers are skilled in foiling the witty is proved by the fact that many are taken. Some well-meaning friends of the park system have urged that even Coyotes be permitted to live their natural lives of unrestricted killing. If such a thing were done, saddleroads would be made upon the deer that we are proud to harbor. There is little danger, indeed, of reducing the coyote population to a point where his existence as a member of the Yosemite fauna is endangered. The years of experience of the Biological Survey have shown that with persistent and systematic warfare against him, he is not to be exterminated.

SALAMANDERS OF THE MOUNTAINS

The presence of "Waterdogs" in the Yosemite has been reported several times by workmen who have seen them in the road at Fern Springs. Search for these amphibians failed to bring a specimen to light. On November 19 two specimens of the Pacific Newt were found by the Park Naturalist just below the power plant dam. They were on the surface of a drying muddy spot

and were badly stiffened by the cold, but both proved to be much alive when given an opportunity to warm up.

A high mountain form of salamander is known to occur on Mount Lyell within the Park. This species is known as the Lyell Salamander. But two specimens of this animal have been found. They were taken in the glacial cirque just below the existing Lyell Glacier.



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