

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
YOSEMITE NATIONAL PARK

YOSEMITE NATURE NOTES

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Yosemite Nature Guide Service

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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

ACROSS THE PARK BOUNDARY

Apparently more Yosemite bears than usual have this year misjudged the attitude of mankind outside the park limits. No less than twelve bears have furnished pelts for hunters just west of the Yosemite, and now comes an authentic report from Nevada that nine large bears have been killed in Mono County. The report states that the animals are very tame, that three of the nine permitted hunters to approach them in an open meadow, and that they are supposed to be Yosemite bears, which came over the Tioga Pass. All of this is bad news to the Yosemite Nature Guide Service.

It is one of the purported functions of any game refuge to provide an overflow of game that may supply adjoining areas with sport, but if there be one game animal above all others, whose presence in our forests invests them with the spirit of primeval wildness, that animal is the bear. There is a far greater value in his presence than the mere killing for sport or pelt. Statistics prove that bears are not stock killers. May the Bear State be the next to give black bears complete protection.

MISTLETOE IN YOSEMITE

Mistletoe has for many generations had a place in the holiday festivities, and at this season many people go into the woods in search of it. There are many kinds of mistletoe. In fact, upon almost all trees that we know here in California we have found some form of mistletoe. These parasites copy the foliage of the host tree to a considerable extent. The mistletoe occurring on an Incense Cedar has scale like leaves, while that growing on cottonwood has large, roundish leaves.

Three members of the mistletoe tribe are common in Yosemite Valley. The Oak Mistletoe (*Phoradendron villosum*) grows on all our oaks. It would be difficult to find any mature oak in the Yosemite Valley; without its crown of mistletoe.

The Incense Cedar Mistletoe (*Phoradendron libocedri*) is found on most of the old Incense Cedars. Its slender jointed branches are often deep green and hang from the cedar branch in an airy cluster, and in the autumn this cluster is exquisite with pink, pearl-like berries.

The *Phoradendrons* are light-loving plants and invariably grow near the end of the branches or near the top of the host tree.

Greenish-brown clusters are occasionally seen on the limbs of the Yellow Pines. This is usually the common Pine Mistletoe (*Arceuthobium occidentale*.) The *Arceuthobiums* do not need much light and are often found on the lower branches of the pines. Here they cause the hideous distorted mass known as the "Witches broom."

Many White Fir trees in the Yosemite have forked tops. This is usually due to a light-loving *Phoradendron* (*Phoradendron boleanum*.) It attacks the leader of the White Fir and in time kills it, and a forked top is the result.

Bluebirds, Townsend Solitaires, and Waxwings are all fond of the fruit of the mistletoe, and it is they, and especially the bluebirds, that distribute the mistletoe seed. The bird swallows the berry whole, the seed passes thru the body unharmed, and is deposited wherever the bird happens to be perched. The excrement that surrounds the seed acts as a glue and cements it to the branch or post, as the case may be. If the seed has been left upon a suitable branch of a host tree, all is well with the seed, and it soon begins life as a mistletoe plant. -- Enid Michael

ZOO BEAR PREFERENCES CAPTIVITY

Early this month the order was given that "Brownie" and "Billie," the two caged Yosemite bears, be given their liberty. For five years this pair has assured all visitors a sight of a Sierra bear. Now, with bears at every hand, it seemed best that the zoo give up "Brownie" and "Billie."

When the impounding bars were removed, "Brownie," the little female, lost no time in leaving her prison. She made great leaps for the forested talus nearby and for the first time in five years she stretched her limbs in a good high tree climb. "Brownie," by the way, was captured in a tree on that same talus slope.

But "Billie" was of quite a different opinion as to where the winter should be spent. In the cage is a den dug deep into the rocks, and there he has spent most of his hours of late. Each day a good friend brings gunny sacks full of choice kitchen leavings from which he may take his pick. For three days and nights after his untamed mate had deserted him, "Billie" stuck to his cage. And all this time the steel door stood wide open.

Once he was induced to follow the aforementioned friend to the door and actually placed his fore feet on the sill and thrust his head out into the open. One look around was enough, and he wheeled about and sought the far corner of his cage. It became a problem, this turning "Billie" loose.

Another day came, and it was decided to trap him out of his cage. A rope was fastened to the open door, and the free end was left before the opening. Beef kidneys are things the bear could not ignore. Supplied with a beef kidney his provider entered the cage and coaxed "Billie" out of a sleep. The big fellow dragged himself out of the hole, across the cage, and up to the door. As the beef kidney retreated, "Billie" followed until his shoulders were through the opening. A pull on the rope slammed the steel door at his rear, and the bear found himself locked out of his home. He sniffed about the bars, ambled over to the side nearest his beloved hole, determined the impossibility of entering, and finally walked away dejected. That evening he returned and whined like a dog, clawing at the bars. A resident near the zoo declares that "Billie" returns each night and feeds from a garbage can that stands very close to the old bear den.

KINGLETS IN THE YOSEMITE VALLEY

The winter stillness of the coniferous forest is occasionally broken by high pitched, tinkling voices coming from the tree-tops. Golden crowned Kinglets are feeding in the foliage, finding insects among the needles of fir and pine. Sometimes by odd squeakings one may bring the bird midgets down, and, as they curiously crane their necks and tip their heads the better to hear, one sees the beautiful golden or yellow crown. A Ruby-crowned Kinglet is usually with the flock, and his big eye and his larger size distinguish him from the others.

While the Golden-crowned Kinglets go in flocks and confine their feeding almost entirely to the conifers, the Ruby-crowned Kinglet never flocks with his kind. He either travels alone or with small birds of different species. He visits all sorts of trees and is as likely to be found in a broad-leaved as in a conifer.

Most of the kinglets leave the valley in the spring and seek the higher levels to nest, but a few individuals remain to nest in the valley.

In the great forests along the Pohono Trail in June and July, the kinglets' songs are frequently heard. The Golden-crown's song has the same intervals as one of the Chickadee's songs but it is pitched so high that many ears do not hear it. The Ruby-crowned Kinglet's song, on the other hand, is a joyous, rollicking melody that rings thru the wood and catches the ear of all passers-by. The little Ruby-crowned, pouring out his sparkling song because his heart swells with love, opens the feathers of his crown and displays the hidden ruby. It flashes out like a brilliant light and often appears larger than the bird's head. --
Epid Michael

MOUNTAIN DOGWOOD. THE "HORNY" WOOD

When the scientist named this well-known tree (*Cornus Nuttallii*,) he thought of the extreme hardness of the wood and applied the Latin term "Cornus," meaning horn. When Audubon, the bird lover described the species of *Cornus* common to the Sierras and the entire Pacific slope, he named it after Nuttall, the naturalist. No doubt the common name applied by the common man was the first in use. That common name was dogwood (Daggen--to pierce) or dagger wood, applied because it was used in the making of butchers' skewers. Through a long period of use by those not understanding this allusion, the name has come to be dogwood.

There are at least two seasons when the Mountain Dogwood arrests every Yosemite visitor's attention. In the months of May and June its great masses of creamy white blossoms create a magnificence among the sombre conifers, under which the tree is pleased to grow. In November it produces a glorious blaze, as every leaf turns bright orange or deep scarlet. Hardly less unique is it at the present writing (December 6) as it stands naked in the dark glades, the twigs holding out beautiful clusters of inviting orange and scarlet fruits. These fruits, oval and half an inch long, have a berry-like appearance, but examination shows them to contain pits or stones.

The few birds remaining in the valley find these fruits a ready food supply. A few minutes observation at Fern Springs showed robins, jays, and a pair of flickers feeding in the same tree. A Hermit Thrush was seen to pick up a fruit from the ground, and in spite of its comparatively great size the morsel was bolted entire. A Chickaree, driven from his feast at the end of a log, left dogwood fruits and fragments of dogwood fruits, telltale evidence of his choice of a December lunch. One of these little plums was used in baiting a mouse trap. The trap later contained a Gambel's White Footed Mouse.

CRACKED GRANITE

No doubt the reader is somewhat at a loss as to what to expect under the caption "Cracked Granite." A geologist would use the term "Jointed Granite" and he would mean granite broken by natural partings or cracks. Yosemite owes its very characteristics to cracks in the granite, and for that reason this article finds a place in Yosemite Nature Notes.

Each day when geology lectures are given at the Yosemite museum, visitors ask, "Why are Yosemite's walls so vertical?" and briefly the reply can be, "Because the granite was vertically jointed."

Water and ice erosion alone do not explain all Yosemite features. As one views the nine foot bas relief model of the Yosemite in the Yosemite Museum, certain facts are impressed, if the observer be thoughtful. Predominating is the thought that the valley is a great straight walled chasm, floored with a level expanse of forest and meadow and in general extending east and west. As a lecturer explains that the chasm was once occupied by a great river of ice that plucked and gouged its rocky bounds in its irresistible forward movement, the thought comes that such force would of course excavate a vertical walled trough, extending in the direction of the ice movement, i. e., from east to west. That the rim of the gorge should extend straight east and west seems a foregone conclusion.

But when the actual trend of Yosemite cliffs is noted, it is discovered that the great chasm is not a straight trough and that the cliffs do not all have the same trend, but that there is an amazing diversity in the relation of one cliff to another. Many of the cliffs run in northeast-southwest directions; others, at right angles to these -- northwest-southeast. Some few run north-south; others, east-west. Most surprising of all is the fact that the valley flares out to a comparatively great width in two places, while between these two places is seen a choking contraction.

Why did not the mighty glacier cut a straight lined canyon?

The granitic rocks of the Sierras were formed by the cooling of an igneous substance once buried deep within the earth. As this material hardened, cracks or joints formed in it. As a rule, the rocks of any mountain range are traversed by such cracks, several systems of joints crossing one another and spaced at fairly regular intervals. But in the Sierra there is no regularity; the spacings between joints may be but a few inches or they may be several thousand feet. In places there are no joints at all. Likewise, there is no regularity of arrangement. The joints may be parallel or they may run at every conceivable angle one to another.

The natural forces that carved the marvelous Yosemite were governed by these cracks in the granite. Where the joints were numerous, the rock was crumbly and readily yielded to the ravages of water and ice. In such places erosion progressed rapidly, and at last all crumbled rock was carried away. Where the joints were entirely wanting, even the great power of moving ice accomplished little, and the massive granite stood but little changed until the ice gave up the struggle.

Thus it is seen that the great carver, ice, did not act unregulated under its impelling gravitation, but that it was forced to excavate in places and to leave other places but little changed. In the January number of Yosemite Nature Notes attention will be directed to certain Yosemite features that demonstrate how rock jointing has influenced glacial carving.



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