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Autumn in Yosemite

By M. E. BEATTY Assistant Park Naturalist

Summer has come and gone, so have the large crowds of visitors Yosemite has enjoyed this year. Now all is quiet, even the waterfalls, for they are either very small or else completely dry. Yet the majestic cliffs and domes remain unchanged, silent guardians of the peaceful meadows and woods. It is the time to come and enjoy the silent wonders. Our forests seem at their best. Great cones hang from the tips of sugar pine branches; it is the season of fruit and seed. The predominating green of our great conifer forests is all the more striking, as splotches of color begin to dot the woods. The deciduous trees are donning autumnal robes as their leaves are changing from green to yellow, brown or red. The golden yellows are best represented in the quaking aspens and maples. Creek dogwood with its brilliant red leaves and stems line the valley slopes

and canyons. Black oaks are changing to yellows and browns, so we have a constantly shifting pattern of color that makes autumn in Yosemite especially attractive.

The tang in the air serves as a reminder to birds, mammals and man that winter is near. Practically all the summer visitants among the birds have already migrated, while our blue-fronted jays and woodpeckers are busy storing acorns for winter use. Bears are foraging for every available source of food supply, busily engaged in building up excess layers of fat necessary for their period of hibernation.

Those of our Indians who still follow the old customs are busy gathering their supply of acorns.

And so our Indian summer here in Yosemite is one of great interest and industry, with the wonders of nature dramatized both in color and action.



Bridal Veil Gorge: A Miniature Wilderness

By C. C. PRESNALL, Junior Park Naturalist

An answer to the contention that Yosemite National Park is suffering from too much development and civilization was recently disclosed by a trip through Bridal Veil Gorge, above the famous waterfall. This trip, made in company with Naturalists Beatty and Borell, September 11, showed that anyone who "wants to get away from it all" can easily gratify his desire for mountain solitude and unspoiled grandeur without going far beyond the rim of Yosemite Valley. Above Bridal Veil Fall, and extending back three miles to the Pohono Trail crossing, we found as free and untamed a bit of wilderness as any man could wish for. No man-made trails are there, and the dim game trails zig-zag through the dense chaparral in a most confusing manner, so that the only feasible route through the canyon is along the stream that rushes and tumbles in its depths. Feasible is an inadequate word, however. The true state of affairs is better described by one of our party who after struggling through the gorge for 12 hours, labeled it "the toughest fishing trip I've ever taken."

The topographical maps show a

uniform 15 per cent grade all the way up the canyon, but the hiker who climbs through it develops a confirmed doubt as to the veracity of all maps and map-makers. What happens to the 15 per cent grade is that Bridal Veil creek forgets to be a creek and tries to transform itself into a gigantic fish ladder. It succeeds remarkably well, but the fish don't think so. They cannot climb the 30-foot steps between the deep pools and so are doomed to remain in whatever pool the spring floods may happen to take them to, until some infrequent fisherman lifts them out into his frying pan. In the lower pools are loch leven trout, many over a foot long, and the upper pools hold both loch leven and rainbow. It is a fisherman's paradise provided he can stand the nervous strain of climbing over the water-polished precipices that separate one deep pool from the next. The stream consists of dark pools and sheer waterfalls, like a series of cups staked one above the other, so that water can spill down through the entire series.

GLACIAL STUDIES

The canyon is also a paradise for the geologist. It is perhaps the best

preserved of all the pre-glacial gluches that fed the ancient V-shaped Merced canyon from which Yosemite Valley was carved. Master joints dipping to the east and west at approximately the same angle have guided the stream to produce a very symmetrical trough. The subsequent glacial action and post-glacial stream erosion have made but little impression upon the seven kinds of granitic rocks which occur there. The region is noted for its complex assemblage of rocks that were intruded at different times. Many of these differ so markedly from each other as to be easily noted by even a casual observer, but others, notably the gabros and diorites, present so many variations as to challenge the attention of a petrologist. The ordinary hiker will, however, be more interested in such features as the numerous potholes, some very large, which are especially noteworthy along the upper part of the canyon.

RICH IN FLORA

Wherever a little soil has collected between the rocks there has appeared an abundant and varied display of flowers and foliage. All along the gorge are refreshing banks of cool green five-finger ferns, the finest I have ever seen; and late in the summer whole canyon sides are gorgeous with the scarlet of California fuschias, the deeper red of mountain ash berries, and the yellow of ripening dogbane. The monotony of manzanita and live oak along the upper slopes is broken by quaking aspens growing in long strips where springs come trickling down to the creek. High

on either side are pines and firs, seeming like sentinels guarding the wild splendor of the canyon from the contaminating influence of the trails, roads and camps, which press so closely about it.

ANIMAL LIFE

In spite of its proximity to hotels and gasoline stations, it remains free and untouched, in a place where the wild things still hold undisputed sway. Golden eagles rule the air, soaring above the crags that hem in the canyon below, where black bears are the monarchs. Bears are imperfectly known to the millions who visit zoos, and the thousands who annually see the bears feed at garbage dumps in the National Parks have some slight acquaintance with bruin, but to become intimately acquainted with *Ursus americanus* is an experience reserved for the few who penetrate such wilderness spots as the Bridal Veil gorge. On this drowsy Sunday in mid-September I watched a bear on Bridal Veil creek for 15 minutes and then tracked him for 45 minutes. In that hour I learned more about a bear's way of life than I had learned in a month's observation of scores of bears living unnaturally in Yosemite Valley.

No. Yosemite is not yet spoiled by too much development; not when a man can find primeval wilderness within two hours of the valley; so near that he can stand on the edge of this wilderness and look down over Bridal Veil Fall into civilization, and look the opposite way toward a sublime vista of crags, forests and waterfalls that beckon him on the adventure and exploration.





Nature Garden a New Feature of Yosemite Museum

Ranger-Naturalist Enid Michael

Throughout the spring and summer months visitors to Yosemite have expressed surprise and pleasure at the change in the area directly back of the Yosemite Museum of Natural History. This area is a part of the alluvial fan spread at the mouth of Indian Canyon. It is in the warmest section of the valley and there are present here, in the native flora, many plants from the Sonoran Zone, or foothill section, such as buckthorn (*Ceanothus divaricatus*), squaw bush (*Rhus trilobata*) and Mariposa manzanita (*Arctostaphylos mariposa*). It was a hot dusty area, previous to this year, where the native herbs were trodden to chaff under the foot of summer tourist travel.

Now, in early September, there is an abundant wild flower bloom in this area. The section, comprising two acres, has been fenced, flagstone walks have been laid and an ancient spring has been brought to life. The overflow from this cold clear spring supplies the area with a running stream and pools. Added to this, many faucets with hose attachment have been installed. These improvements fitted the area

to become a wild flower garden. The planting of this garden was begun last April. The wild bloom, at first feeble, has become stronger day by day. About the first of August it was most charming. And now, although several of the showy species have gone to seed, the garden presents a fresh and cheerful face. Most pleasing now is the wide spread bloom of native cover.

LESSINGIA ATTRACTS

Every day many visitors ask what the feathery lavender flowered plant is that spreads an airy veil over the garden. They ask for seed and say that the feathery sprays would be charming in bouquets. *Lessingia* is the name of this plant, given in honor of Lessing, a German scientist. Accompanying *lessingia* are decorative sprays of blooming *Eriogonum*s or Buckwheats. And at the feet of these plants the creeping lotus (*Hosackia decumbens*) spreads a carpet of grey-green flowered with gold.

Among the showy flowers are the farewell-to-spring (*Godetia vibinea* and *G. viminea* var. *incerta*). The variety "incerta" is Yosemite Val-

ley's own godetia. The godetias sleep at night and only when the sun becomes warm do they open their cups of flame.

NIGHT BLOOMERS

The evening primrose (*Oenothera Hookeri*) belong to the same plant family as godetia, yet they do not open their great golden flowers till the sun hides his face behind the cliff. These lovely flowers remain open during the night and close in the morning at the first touch of the sun. These plants bloom up their tall stalks and leave a trail of jar-like seed pods behind. Many of the plants in the garden have opened their last bud. By cutting off these seeded stalks I have stimulated the evening primroses to new effort. Clusters of eager new flower buds crowd the leaf axils, and in a few days the second evening primrose bloom will be in full swing. Drop round in the evening to see the golden flowers open.

Other attractive flowers are the orange red cardinal mimulus, the pink mimulus (*M. lewisii*), Yosemite aster, goldenrod, Indian paint brush (*Castilleja montana*), golden yarrow (*Eriophyllum confertiflorum*), blue bugle (*Pentstemon laevis*). The greatest show is put on by the native sunflowers. Their open smiling faces attract bird and butterfly.

This wild flower garden is less than five months old. Nevertheless within its confines over a hundred native flowering plants have bloomed. The Department of the Interior hopes to maintain the garden through the years, each year assembling more native species and striving for a more pleasing display. It is our aim to naturalize a representative group of plants from Yosemite National Park, so that the

visitor to Yosemite may find the wild flowering plants of the valley floor and the wild flowers from trailside and roadside and meadow of middle altitudes and on to the higher sections of the park.

A WOMAN'S FINE GIFT

This museum garden was put on its feet and maintained through its first season, that will end with the coming of next winter's snows, by the generous gift of \$4000 of Miss Marjorie Montgomery Ward. During the season many others have kindly contributed in one way and another. One presented a cloud sprinkler, another attractive plant labels. Today a flower lover is about to present a bench of native granite. Resting here in the shade, the visitor may admire the bright flowers as he breathes the perfumed air. And the wild birds, that each day now appear in greater numbers in the garden, will keep him company.

FISHING FOR BIRDS

By Cope Jensen, Ranger-Naturalist

Last July the auto caravan party I was guiding observed a jay caught in a strange way at Valley View. I was pointing out the white alders that grow so rankly there and mentioning the hazzard they present to trout fishermen who frequently entangle leaders and hooks in the branches. While looking downstream I was much surprised to see a blue-fronted jay hanging in midair apparently without support. Upon investigation we found a very queer substantiation of my story concerning fishermen.

Someone had been fishing along the bank of the river and had

caught a six-foot leader in the branches of a tall alder. The lower hook, baited with an angleworm, was dangling in the air and had a live jay firmly hooked in the mouth. As I approached with the party from the caravan, the jay attempted to fly; then folding his wings at rest he swung as a pendulum. I found a long pole, succeeded in loosening the leader from the tree, and the bird flew downstream with the leader and hooks still attached. Hoping to free him from his strange burden we at-

tempted to catch him, but after maneuvering for several minutes the jay emerged from a thicket freed of the leader by his own efforts.

Many ornithologists infer that cosmopolitan birds appear to have the most "sense," and the crow family, which includes the jays, belongs in such a group. Man's attempt to fool a fish with a gut leader seems to work as well for even the wiser birds. Considering the supposed good sense of cosmopolitan birds, who was the "poor fish" in this case?

A Song of the Blue-Front

By FRANK J. FAHA

Field School, 1932

While standing in front of the Yosemite Museum I heard a very soft, musical song coming from within the foliage of a large black oak. I immediately stepped closer and endeavored to locate its source. After a careful search only a Blue-fronted jay was to be seen. A bit of speculation, however, told me that this beautiful song could not come from the throat of a jay. We are all accustomed to hearing a coarse blatant squawking or a series of harsh staccato notes issuing from this bird. The name itself suggests to us a noisy, saucy, individual and one is not disappointed in this variety.

However, as I saw this blue-front hopping about with great agility in the tree, I continued to hear these soft notes. Finally, the jay came out of the tree and foraged on the ground. Then only did I know that the noisy jay was the author of his whisper song. It was given so very low, and without

apparent effort, that one could scarcely see the throbbing of the throat. The jay continued to hop and search around for several minutes and during this interval he



was always in song. Apparently this soft vocal expression is a message of some sort, possibly a love song, to the mate.

SKYLAND

By C. C. PRESNALL Junior Park Naturalist

(Editor's Note: This article is a sugar-coated introduction to the ecology of the top of Half Dome. Let the reader be warned and proceed at his own risk.)

High on the eastern rim of Yosemite Valley is a little sky-girt land, a scant 13 acres of rocks and thin soil bounded on all sides by a sheer abyss that at one point is nearly a mile deep. Men call it the top of Half Dome, but to one of those who often scale its heights it is Skyland. It is undeniably a very solid portion of the earth's surface, but so situated as to create the illusion of an island floating with the clouds in the upper atmosphere.

The tops of most mountains command a view of slopes that extend to the hills below, forming a visual link with the nearby country, but it is not so with Half Dome. From its comparatively flat summit distant mountains may be seen, but the precipitous sides of the Dome drop from sight so quickly that it seems to have no connection with its neighboring peaks. Hence the illusion of Skyland, an illusion greatly enhanced by occasional clouds drifting rapidly by, causing the observer to think that the solid granite beneath him is traveling in the opposite direction.

AN ETHEREAL ISLAND

Skyland is not merely a pleasant fantasy induced by an overdose of high altitude and romantic vision. The top of Half Dome is actually an island. Scientists say so. It is a biotic unit having its own characteristic fauna and flora, separated from adjoining areas by the barren cliffs that surround it. This 13-acre

plot that I have called Skyland supports a surprising variety of plant and animal life.

The area consists of gently rolling granite, in places thinly covered with sandy soil, and at an elevation of 8856 feet above sea level. It rises high above the surrounding terrain, from which it is separated by very steep and vertical cliffs ranging from 1000 to 4700 feet high. Snow usually covers it for six or seven months, and it is subjected to great extremes of temperature during the remainder of the year. Scant shelter from sun and storms is afforded by a few boulders of exfoliated and eroded granite, and in the hollows of these same boulders is found the only summer supply of surface water, which collects after infrequent thunder showers. Despite this unfavorable environment a considerable community of living things has become established there.

VARIED FLORA

During July and early August the top of the Dome is a veritable flower garden. No complete list of the herbaceous plants found on the Dome has as yet been made, but in August of 1930, C. E. Graves, a student in the Yosemite School of Field Natural History, listed 12 species, as follows:

1. *Carex* sp., a small sedge present in considerable quantities.
2. *Eriogonum lobbii*, butterballs.
3. *Eriogonum marifolium*.
4. *Eriogonum ovalifolium*.
5. *Eriogonum wrightii*.
6. *Eriogonum nudum*.
7. *Sedum yosemitense*, Yosemite stonecrop.

8. *Stellariopsis santolinides*, mouse-tail.

9. *Gilia pungens*, prickly gilia.

10. *Pentstemon menziesii*, Pride of the Mountains.

11. *Achillea millifolium* var. *lanulosa*, yarrow.

12. *Hieracium horridum*, yellow hawkweed.

At least four species of shrubs grow on top of the dome:

1—*Castanea sempervirens* (bush chinquapin)—a very thrifty shrub with abundant seed crop.

2—*Spiraea densiflora* (pink spiraea).

3—*Holodiscus discolor* var. *dumosa* (ocean spray)—very abundant.

4—*Macronema discoidea* (sometimes called rabbit brush)—most abundant shrub.

Trees are naturally at a minimum on such a place as Half Dome, only six individuals having been found by the author. There are four specimens of lodgepole pine (*P. contorta* var. *murrayana*), the largest being about 15 feet high and a foot in diameter at the base. Jeffrey pine (*P. ponderosa* var. *jeffreyi*) and white-barked pine (*P. albicaulus*) are each represented by one very scraggly individual.

ANIMAL LIFE

Everyone who scales Half Dome cannot fail to have noticed the golden-mantled ground squirrels (*callospermophilus c. chrysodeirus*) that often come out in search of bread

crumbs and other luncheon scraps. Two other mammals have been noted, but their presence is unsuspected by most Half Dome climbers. On July 15, 1932, Lawrence Hosbrook another field school student, saw a cony (*Ochotona schisticeps muiri*) gathering hay on the summit, but no search for hay piles has been made, so it is not known whether the conies are living permanently there. On August 30 the author and a party of 13 hikers had a fine view of a bushy-tailed woodrat (*Neotoma c. cinerea*) that ventured forth from a rock crevice to eat crumbs of bread and cheese.

No birds have been observed nesting on Half Dome, but Sierra Nevada rosy finches and Clark crows have been seen to alight on the top.

A large fence lizard (*Sceloporus* sp.) seems to be the only reptile that inhabits the area.

Insects have not as yet been studied, although undetermined species of flies, bees, grasshoppers and butterflies are fairly abundant. Spiders are also present.

With the preliminary data thus far collected it will be possible in the future to make an intensive study of the ecology of the top of Half Dome, which, because of its isolation and small area, is ideally adapted to such work. In the meantime it will continue to give unique enjoyment and inspiration to the earth-bound mortals who ascend the granite steeps to visit Skyland.





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Dan Anderson