

YOSEMITE NATURE NOTES



Volume IV

February, 1925

Number 2

A PERSONAL INVITATION.

YOSEMITE NATIONAL PARK IS YOURS! WE OF THE NATIONAL PARK SERVICE WANT TO HELP YOU TO MAKE FRIENDS WITH YOUR PARK AND TO UNDERSTAND IT IN ITS EVERY MOOD. ALL OF THE FOLLOWING SERVICE IS OFFERED TO YOU *free* BY YOUR GOVERNMENT:

Visit the Yosemite Museum!

Here you will learn the full story of the Park — what tools were used by the great Sculptor in carving this mighty granite-walled gorge; who lived here before the white man came; how the Days of Gold led to Yosemite's discovery; how the pioneers prepared the way for you; and how the birds and mammals and trees and flowers live together in congenial communities waiting to make your acquaintance.

Plan your trail trips on the large scale models in the Geography Room.

The Yosemite Library in the museum provides references on all phases of Yosemite history and natural history.

Popular lectures on Yosemite geology and other branches of natural history are given by nature guides at scheduled times each day.

The nature guide on duty will be more than willing to answer your questions on any subject.

Go Afield with a Nature Guide!

Take advantage of this free service that will help you to know your Park. A competent scientist will conduct you over Yosemite trails, and from him you may learn first hand of the native flowers, trees, birds, mammals, and geological features.

See Schedule of Nature Guide Field Trips.

Visit Glacier Point Lookout!

From there you will obtain an unexcelled view of Yosemite's High Sierra. The binocular telescope will bring Mt. Lyell to within one third of a mile from where you stand; you can recognize friends climbing trails several miles away. The Nature Guide in attendance will help you to operate it and will explain what you see.

A small library is at your command.

You will enjoy the informal nightly campfire talks given here.

Attend the Nature Guide Campfire Talks!

In addition to the museum lectures, members of the educational staff give talks as a part of the evening program at Camp Curry and Yosemite Lodge. Non-technical explanations of how Yosemite came to be; what you may expect of Yosemite bears; how the local Indians lived; what birds you see about your camps; what trout you will catch in Yosemite waters; how you may best visit the wonderland of the summit region; and scores of similar subjects are given by the National Park Service Nature Guides.

ALL OF THESE OPPORTUNITIES ARE PROVIDED FREE OF CHARGE BY YOUR GOVERNMENT.

—TAKE ADVANTAGE OF THEM—



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A SCHOOL FOR NATURE GUIDES

BY DR. H. C. BRYANT

In Charge Yosemite Nature Guide Service

A NATIONAL PARK should furnish both recreation and education. In every park there is more to be seen and appreciated than the particular phenomena for the preservation of which the park was created. In Europe the main concept of a national park is that of a place where fauna and flora are left undisturbed and where the student of nature may go to study them. In America this viewpoint is overlooked. Most visitors pass by the most interesting forms of life, neither seeing nor hearing them, perhaps, largely because they have not been led to appreciate their opportunities in this regard.

That Yosemite National park might contribute more to the vacationist by means of an organized educational program emphasizing natural history opportunities, the Nature Guide Service was organized. In the work, stress has been placed upon first-hand information from the living thing itself rather than upon printed or spoken words, although these also play a part. The opportunity of becoming intimately acquainted with birds, trees, flowers, insects, and other life is now afforded every visitor. The response of the public has been gratifying. Whereas two nature guides instructed a few hundred the first year (1920), it will take eight guides to care for the thousands who will seek instruction this coming summer.

A School for Nature Guides

Yosemite visitors may expect the same program of lectures and field trips as in former years with added facilities due to the completion of the new Yosemite museum.

The main innovation will be a School of Field Natural History for the training of teachers of nature study and of nature guides. Training in intensive field study such as will be undertaken is not afforded elsewhere in the West. This school appears to be a particularly fitting outgrowth of the Nature Guide Service. A prospectus of the school follows:

"Let the interest be keen and new views will open up; new trees will grow; new birds will fly; new fish will swim and then will our gallery be filled with new and glorious pictures of things worth seeing."

Yosemite School of Field Natural History

Teachers of nature study and of biology are seeking a training that will make them more familiar with conspicuous plants and animals. Leaders of Boy Scouts and Camp Fire Girls are seeking to fit themselves to interpret nature. Every summer vacationist wants to be able to identify interesting forms of life encountered. Training along

these lines is not to be held in the West. The time and conditions seem opportune for the establishment of a school of field natural history. The outstanding growth of the Nature Guide Service in the national parks and the growing demand for trained leadership in nature studies for summer camps and summer resorts is creating a new profession—that of nature guiding.

Biology as taught in the average high school and college does not emphasize field study, and as a consequence there are few persons who are able to recognize, name and properly study the living things along a trailside. Many, feeling themselves handicapped in this regard, are seeking for instruction that brings a first-hand acquaintance with the living thing in its native environment. A fine new museum building and increased nature guide staff now offer proper facilities, and an auspicious beginning is assured for a School of Field Natural History in Yosemite National Park. In reality, it is a natural outgrowth of the now well established Nature Guide Service.

Registration and Matriculation

The number of students in the 1925 session will be limited to twenty. Students will be accepted on the basis of date and written application after fulfilling educational requirements, two years of college work or the equivalent being considered a minimum prerequisite.

COURSE OF STUDY

Lectures and Laboratory

1. Physical geography and geology of the Sierra Nevada.
2. Classification and nomenclature (animal and plant).
3. Plant and animal distribution. Life zones.
4. Botany—(a) Common trees and shrubs. (b) Flowers. (c) Algae and fungi.
5. Zoology—(a) Invertebrates—Insects; mollusks. (b) Common vertebrates—(1) Fishes, (2) amphibians, (3) reptiles, (4) birds, (5) mammals.

Field Studies

1. Field trips for study of fauna and flora of the valley floor at 8 a. m. daily.

2. All-day field trips every Saturday to the rim of the valley.

3. Special collecting trips for rarer forms.

4. A week's trip to the high lake and meadow country, affording studies at timber line.

Examinations and Grades

Emphasis is to be placed on intensive field work, and each student will be expected to know and identify all the common Yosemite trees, shrubs, wild flowers, insects, fishes, amphibians, reptiles, birds and mammals. Grading will be apportioned as follows:

Field identification, 60 per cent; teaching ability, 20 per cent; notebooks, 10 per cent; preparation of scientific specimens, 5 per cent; familiarity with literature, 5 per cent.

Credit

The work will be of university grade. However, for the present, no university credit is offered, but a certificate showing that the work was satisfactorily completed will be issued.

Housing

It is hoped students will, on account of sociability, prefer to camp in a reserved section for students of the school. A tent for two with housekeeping equipment costs about \$7 per week. Groceries and meat are to be had at practically city prices. Hotel or American plan camp accommodations are near at hand for those who do not care to camp. Free camp grounds are available to those who have their own equipment. If you plan to camp in the reserved section, you should bring your own bedding. Send it by parcel post.

Clothing

Outing clothes are in order at all times and places.

Teaching Staff

Harold C Bryant, B. S., M. S., Ph. D., Economic Ornithologist, Museum of Vertebrate Zoology, University of California and in charge of Education, publicity and research, California Fish and Game Commission.

FEBRUARY BOTANY NOTES

By ENID MICHAEL

The many rain storms that visited the valley early in the month caused a great flood of water to gather from all the cliffs. These many streams that tumbled over the cliffs from a hundred points along the "rim" quickly disappeared when they reached the valley floor to sift through the loose soil. If the glacial theory is the correct one, the whole bed rock base of the valley is a glacial scoop out of the solid granite. The soil composing the level valley floor is the accumulation of ages; and it lies like a great sponge in an enormous cup. When the soil sponge becomes thoroughly saturated and the glacial cup is filled to the brim then pools and lakelets begin to appear in all the low depressions. There have been dry seasons when the soil sponge did not reach the point of saturation and a stream so large as Indian Creek failed to reach the river, being drunk up on its way thither by the empty sands. This season by the middle of February the basin was filled and the low meadows were dotted with pools. One of these pools that always appears in normal seasons lies in Sentinel Meadow.

This lakelet is now full and water is flowing through its outlet. It is known as the Indian Water-lily Pond because it harbors a group of these hardy plants (*Nymphaea polysepalum*). Now at the bottom of the pool the great leaves are starting to uncurl. Golden they are today but when they reach the surface they will spread out round and green. Late in the fall they will again be golden. Among the young leaves stalks with button-like ends start upward. The button is the lily bud that some day will float a great golden bloom on the surface of the pond.

Fresh lawns of wild grasses have started in all the meadows and moist open stretches. On the forest floor *Nemophila exilis* and *Montia perfoliata*, plants that in early spring lift a mist of white bloom above the red-brown pine needle carpet, are growing fast. The first strawberry leaves (*Fragaria californica*) and the first leaves of Milfoil (*Achillea millefolium*) sought the sunlight on the same day. Very attractive are the close green mats

of filaree (*Erodium cicutarium*) brightened by many scarlet leaves. The yellow pine-violet (*Viola purpurea*) and miners lettuce (*Montia perfoliata*) are showing their first flowers on the warm northern slope.

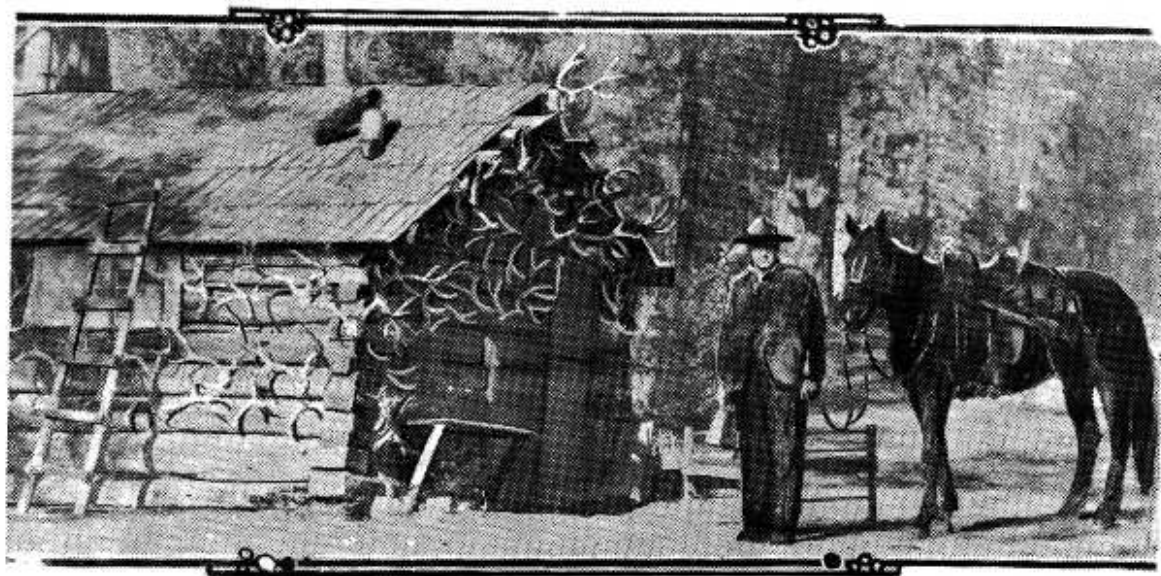
Rhododendron Leafing Out

Full, rapidly expanding buds head the leafless *Azalea* twigs (*Rhododendron occidentale*). The red and yellow willows, the glory of the river banks, each day plump out the buds that stand like rows of beads along the bare twigs. The manzanitas (*Arctostaphylos mariposa* and *patula*) are in full bloom on the north slope. There are many fine manzanitas here on the warm slope but there is one individual that surpasses all the others in size and beauty. Seventeen feet in height and possessed of a main trunk that measures two feet through at the base with two main branches that are one foot through, it has attained the proportions of a tree. Recently some vandal cut off two of the finest limbs. We counted the annual rings in the fresh cut and found that this branch was one hundred and six years old. It was safe to assume that the age of the tree, which had three times the diameter of this branch, was at least two hundred years old. Surely so ancient and wonderful a tree as this manzanita should be protected from the thoughtless chopper.

The maple (*Acer microphyllum*) buds promise an early unfolding. Of late the spreading crowns of the Kellogg oaks have lost the grey and wintry look. A lavender-pink flush shows through the network of twigs—for the old oaks are awakening. The beautiful golden-brown catkins of the alder (*Alnus rhombifolia*) now mingle on the ground with the dry leaves of last autumn. And the alder twigs lift baby fruit-cones and swelling leaf-buds into the sunshine.

Different indeed is the aspect of the valley this February from the usual February appearance of the last five years. Lacking the numbing ice sheet and abundantly supplied with water most of the plants grew and developed during the last sunny week of the month as they usually grow and develop in April or May.

DROPPED ANTLERS



Yosemite deer drop their antlers in the Stanislaus National Forest. John Lumsden has picked up the larger antlers that have been shed near his cabin and nailed them to his domicile.

DROPPED ANTLERS

By C. P. RUSSELL

Park Naturalist, Yosemite National Park

Not long ago a gentleman guest in Yosemite said to me in some little excitement, "I just saw a buck deer with a big antler on one side of his head and no antler at all on the other side." To this interested visitor it was news that bucks normally drop their distinctive head gear at that season when they are of no further use. Anyone in a region frequented by deer must, in the spring, be impressed by the absence of bucks to the casual observer most of the deer then present lack antlers and consequently must be does or fawns. Few tourists are fortunate enough to witness a buck in the brief transition stage as did the gentleman mentioned.

About 200 deer are this year making Yosemite valley their winter home. Presumably this is a larger number than have previously remained through the winter snows. The fact that snows have not been heavy accounts, in part, for their staying, but I believe it is safe to say that increased confidence in human kind has had much to do with it. Never before have Yosemite deer been so tame as they were the past year. Scores of the animals have formed the habit of coming to residents' homes for food. The sight of deer feeding from human hands has become commonplace. Many of these hand-fed animals have remained, and, in addition, a great number of others that have learned to depend upon "hand outs" left in yards and at garbage cans. This year as never before will shed deer antlers be found on Yosemite valley floor.

Recently I had opportunity to study deer in the region west of Yosemite to which they habitually resort in winter. But a small part of Yosemite National Park affords winter refuge for deer. During the summer they are well distributed throughout the wonderful high country of the park. I believe 30,000 is a conservative estimate of the number of deer that some time during the year range over the 1125 square miles of Yosemite. With the first storms of September they band together and in single file pass by routes used annually by thousands of deer generations to lower levels not yet covered with

snow. With each successive storm the snow line pushes lower. The deer move before this descending snow line until it has reached its lowest level, where ordinarily it remains fairly constant until the spring thaws come. However, with each fluctuation of margin of snow-cover the deer respond with a migration. If in January a period of mild weather is experienced and the snow melts back a thousand feet vertically, deer gradually drift upward into this newly opened country. Then, should new snows again come, there is a corresponding downward movement of the animals. In general, it may be said that the snow-line marks the upper limit of the winter range of deer. At present this limit is between the 4000 and 4500-foot level.

When the Plains**Teemed With Deer**

Before the great valleys and the foothills west of the Sierras became populated with Californians, deer ranged well out on the plains. At the present time the lower limit of their range is marked by the settlements and towns of the foothills. Not all deer leave the lower altitudes in summer. A very few remain on the winter range the year around. But for each one that remains a thousand may migrate. As in the downward drift, definite and well-defined routes of travel are used in upward movement, and in the spring as in the fall snow conditions regulate the time that this migration takes place.

The earliest record of a mule-tail buck shedding antlers in the Yosemite region of which I know was recently given me by John Lumsden, who resides in the Stanislaus National Forest. Mr. Lumsden had a spike buck under observation which shed its antlers on January 10 of this year. On January 19 a buck was seen near the Jaw Bone ranger station, Stanislaus National Forest, with but one antler, the other having recently been shed. But the majority of bucks shed their antlers in February. A few may delay until well into March.

Jaw Bone Ridge, a Shedding Ground

In many places throughout the winter range of Yosemite deer, many shed antlers may be seen upon the ground, but the place of their greatest abundance known to me is the very top of Jaw Bone Ridge, nine miles west of the park boundary. It would appear that the bucks for miles around habitually resorted to the flat top of this elongated prominence to drop their antlers. Without diverging from the trail I noted more than two

dozen single antlers within a mile's travel. Mr. Lumaden has picked up the larger antlers around his cabin and nailed them to the exterior log walls of his domicile. It bristles like the impediments thrown up before the trenches in the late war. There are few rodents in this region to destroy the horns upon the ground. Where porcupines abound, anything of the structure of deer antlers would quickly disappear if left upon the forest floor. But here they are subject to the gnawing of mice and gray squirrels only. Gray squirrels have all but disappeared in the past several years, and the mice have accomplished but little in devouring the discarded horns. The result is that an accumulation of all antlers shed during the past several years is to be seen.

When a recently shed antler is examined, the butt, where separation took place, is found to be finely granular and very white and clean. It is apparent that no blood oozes from the horn itself. On the other hand, observations of captive deer have shown that when an antler drops off, the shallow concave seat upon the head from which it comes immediately fills with blood, which quickly coagulates. It would appear that some of the blood vessels that supplied the antlers with nourishment during their growing period remained open and active up to the very point of junction of antler and skull, even after the horns hardened.

When the Horns Are "In the Velvet"

In a few weeks after antlers have been shed, new ones begin to grow. At this season the surplus strength of does goes to their unborn young; that of bucks, to their developing antlers. At first the new antlers are soft and plastic. They are covered with a soft integument commonly known as "velvet," and are richly supplied with blood and nerves. They are of course sensitive as well as soft, and accidents that they meet with during this period may cause them to take permanent freak shapes. By Sep-



"I just saw a buck with a large antler on one side of his head and no antler at all on the other side."

tember they may be complete, but are still covered with velvet. From this time on the buck busies himself with scraping the velvet from them, and when the breeding season arrives they are hard and lifeless and ready to function as weapons of offense or defense. This winter I witnessed an eighteen months' old buck in mock combat try his spike-like antlers against a two-point buck. The youngster actually embarrassed the larger animal as his sharp horns came in direct contact with the other's forehead. Rarely do fatalities result from buck combats. When the rutting season is over, there is no longer a need for the antlers. They drop off, and a new and larger set begins to grow.

YOSEMITE NATURE NOTES

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Communications should be addressed to C.P. Russell, Park Naturalist, Yosemite National Park.

A PREDATORY VISITOR FROM THE NORTH

By D.D.McLEAN

Assistant Park Naturalist, Yosemite National Park.

Most people with any eye at all for birds are familiar with the little sparrow hawk that in summer is found throughout the United States. In winter the same birds that covered so wide a summer range, are more particular in their choice of habitat. With the advent of severe weather they migrate to those places that provide the most congenial climate and the greatest abundance of their favorite food, insects. The Yosemite region is one of the places that sparrow hawks forsake in winter.

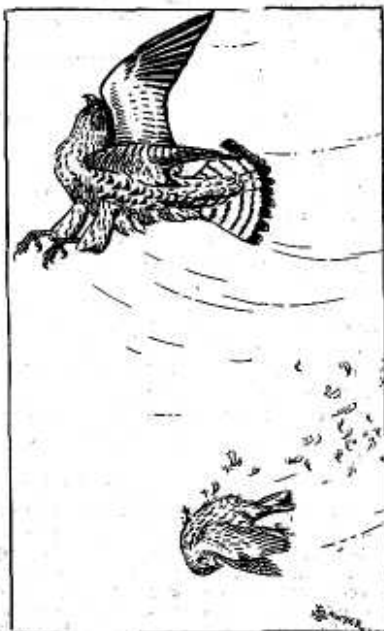
But the gap they leave is soon filled by a somewhat similar bird, the northern pigeon hawk, that comes to us from Canada and Alaska. This killer from the far north moves south with the migrating smaller birds upon which he preys.

The pigeon hawk is only slightly larger than the sparrow hawk, being a little longer and much more powerfully built. It is swifter of wing, reminding one of the duck hawk and prairie falcon in its dashing, reckless flight while in pursuit of prey.

The males have blue gray backs with each feather centered by a black streak covering just the quill; the rusty collar is flecked with black and white, and the white throat is bordered by a black mustache stripe on either side. The under parts are buffy or rusty streaked with black. The "pantaloon" are generally washed heavily with rusty color and streaked with black. The feet are yellow, and the bill is slaty black.

The females and young are similar except that they are brown where the male is blue gray.

I have found them most common in the open, generally on the wing, but sometimes they may be seen perched on a dead topped tree that stands out on some knoll or cliff at the edge of the valley.



The Northern Pigeon Hawk which in winter comes to the Yosemite region, is a killer. Small birds are struck when flying at full speed and knocked down in a cloud of feathers.

They are confiding little fellows generally, allowing a close approach with little apparent uneasiness. Their flight is rapid, the wings seeming to shoot them through space at an incredible speed. Food is caught mainly on the wing and consists mostly of small birds.

The prey is struck at full speed and knocked down in a cloud of feathers. Sometimes it is grasped when struck and again it may be knocked to the ground and retrieved there. I have twice seen them strike savanna sparrows and catch them before they struck the ground.

The feathers are generally plucked off before the bird is eaten, but it is not always so, as I have seen several birds that pigeon hawks have started to eat that were not plucked at all.



MUSEUM NOTES

EARLY YOSEMITE BOOKS DONATED

Two valuable volumes have recently been added to the growing library of historical and scientific works to be housed in the new museum building. These books were donated by M. E. Blanchard, 845 Ashbury street, San Francisco.

"Picturesque California," a remarkable volume of 503 pages and profusely illustrated, was edited by John Muir in 1887 at the instance of the J. Dewing Company. This elaborate work was issued in parts and sold by subscription. The copy donated by Mr. Blanchard is bound in a single volume. A score of prominent artists contributed to the many excellent illustrations, which drawings and paintings make the work especially valuable from the historians' view-point. A large part of the text is from the pen of John Muir, and the chapters on Yosemite make "Picturesque California," a valuable addition to the Yosemite library.

"Croftus, 1872, Transcontinental Tourist's Guide" contains among other things "a full and authentic description of—where to look for and hunt the buffalo, antelope, deer and other game." It, too, contains numerous interesting wood cuts by A. Fasel. Mr. Blanchard brought this guide book from the East in 1877.

The references on Yosemite and national parks in general that are to be the Mather Library at the Yosemite Museum, represent the largest collection of such works yet brought together. Friends of the Park Service can aid in building this library by sending in old volumes that they may possess or that they may chance upon.

A SCHOOL FOR NATURE GUIDES. [Contd. from page 10]

Ansel F. Hall, B. S., chief park naturalist, National Park Service.

Carl P. Russell, A. B., M. A., park naturalist, Yosemite National Park

M. B. Nichols, Ph. B., instructor biology, Oakland Technical High School, nature guide.

Mrs. Enid Michael, park botanist and nature guide.

Robert Harwood, A. B., teacher of biology, Bakersfield Union High School.

Leo Wilson, M. S., University of California, nature guide.

Term

Regular instruction, June 29 to August 8; high mountain field trip, August 9 to August 14.

Tuition and Fees

The school being a contribution of the National Park Service with the aid of the California Fish and Game Commission, no tuition or fees will be charged. Expense is thus limited to sundry materials, such as notebooks and collecting apparatus and transportation, food, housing and clothing.

Opportunities offered

The plan is to make the work supplement the lower division university courses in botany and zoology with the opportunity for field work bringing first-hand acquaintance with various living forms. Emphasis will be placed on the very knowledge, the lack of which many feel so keenly. Opportunity for practice in teaching, leading parties afield, in presentation of nature lore at the campfire and in writing nature notes will be given every student.

For further information apply to park naturalist, Yosemite National Park, Yosemite, Calif.

"Knowledge never learned of schools
Of the wild bee's morning chase,
Of the wild flower's time and place
Flight of fowl and habitude
Of the tenants of the wood;
How the tortoise bears his shell,
How the woodchuck digs his cell,
And the ground mole sinks his well;
How the robin feeds her young,
How the oriole's nest is hung."
—Whittier.

THE YOSEMITE NATURAL HISTORY ASSOCIATION ITS PURPOSES

1. To gather and disseminate information on the wild-life of the Sierras.
2. To aid the Yosemite Museum in telling Yosemite's story.
3. To promote the educational work of the Yosemite Nature Guide Service.
4. To publish (in co-operation with the U. S. National Park Service) "Yosemite Nature Notes".
5. To study living conditions, past and present, of the Indians of the Yosemite region.
6. To maintain in Yosemite Valley a library of historical, scientific, and popular interest.
7. To further scientific investigation along lines of greatest popular interest and to publish, from time to time, bulletins of non-technical nature.
8. To strictly limit the activities of the association to purposes which shall be scientific and educational, in order that the organization shall not be operated for profit.

MAY WE SEND YOU EACH ISSUE OF YOSEMITE NATURE NOTES?

Your check for \$2.00 sent to the Park Naturalist, Yosemite National Park, will help to pay the cost of its publication for one year and make you a member of the Yosemite Natural History Association for the same period.

KEEP IN TOUCH WITH YOUR YOSEMITE.

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FROM THE NATIONAL CONFERENCE ON OUT-DOOR RECREATION

Called by PRESIDENT COOLIDGE

"THAT THE CONFERENCE ENDORSE NATURE STUDY IN SCHOOLS AND THE EXTENSION OF THE NATURE STUDY IDEA TO EVERY AMERICAN SCHOOL AND FAMILY; THAT THE ESTABLISHMENT OF MUSEUMS OF NATURAL HISTORY IN NATIONAL PARKS WILL INCREASE THE EDUCATIONAL RECREATIONAL VALUE OF THE PARKS". —Resolution of the Conference.



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Dan Anderson