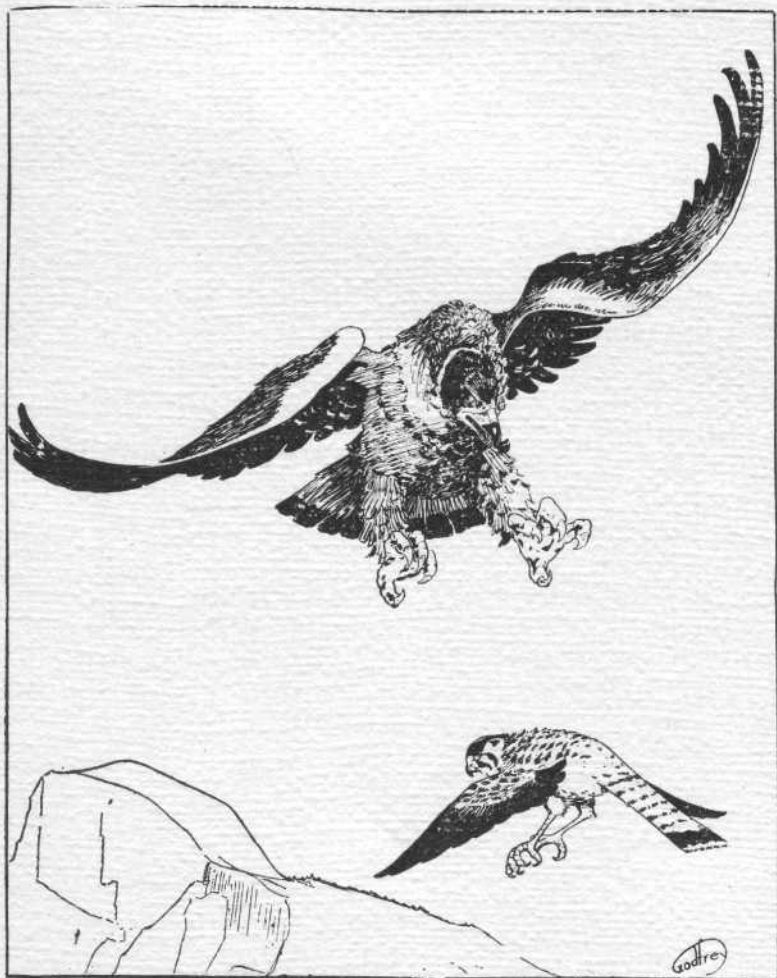


# YOSEMITE NATURE NOTES

Vol. XXIV

November, 1945

No. 11



# Yosemite Nature Notes

THE MONTHLY PUBLICATION OF  
THE YOSEMITE NATURALIST DEPARTMENT  
AND THE YOSEMITE NATURAL HISTORY ASSOCIATION

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## IDENTIFYING DECIDUOUS TREES IN WINTER

By C. Frank Brockman, Park Naturalist

Much has been written about the varied interests embodied in the study of broadleaved deciduous trees during that portion of the year when they are graced with foliage. At that time the leaves, flowers, or fruit provide distinctive characters for identification which are familiar and of interest to most people. But with the coming of winter when these trees, divested of their foliage, exhibit only their stark, naked branches, interest in tree botany is often shelved for the season. Many people, quick to distinguish an oak, a maple, a dogwood, or an alder during the more favored summer season find themselves unable to recognize many common trees in winter because of their unfamiliarity with distinguishing characters significant of that period. Yet such characters exist and once a few primary factors are fixed in mind, tree botany can readily become a year round avocation, replete with interest brought about by a more comprehensive understanding of trees at all times of the year.

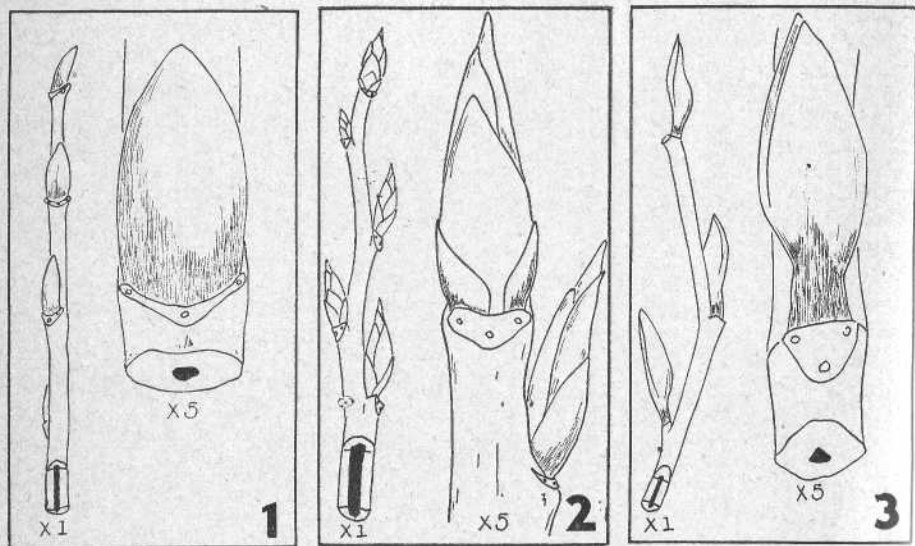
The forests of Yosemite National Park are primarily coniferous; that

is, evergreen, cone-bearing trees occupy the dominant role. Deciduous varieties, although important on the basis of the number of species, are very definitely in the minority when considered on the basis of individual abundance. Yet this fact highlights, rather than subordinates, their interest in many cases. Further, even the casual visitor to this region will see that there is a considerable concentration of deciduous species in the Valley area, that section of the park most intensively used by the majority of people. In addition, the Valley area is the only part of the park most readily accessible in winter. Thus, while the opportunity may be greater in areas outside the park where conditions are more suited to the development of deciduous species in greater variety and abundance, such study here offers interesting possibilities to those visitors who care to make such observations.

As winter approaches deciduous trees must necessarily make adequate preparations for its rigors. These preparations, largely designed for the prevention of excessive transpiration, since excessive

loss of water will result in the death of the tree, are responsible for the development of many features useful in winter identification. The most obvious of these occurs in the autumn when the leaves fall. This event, however, had been anticipated weeks before. By mid-summer a layer of loose cells begins to form across the base of the leaf stem and when complete extends entirely across the stem at the point where it joins the twig, except for the vascu-

lar bundles which are necessary in the transportation of food and moisture. Subsequently an additional layer of corky cells forms under the one previously developed. By the time fall arrives the process is complete. Since the cells of these tissues separate readily, the leaf is easily detached as winds blow and the petioles of the leaves bend. The corky cell layer covers the area that would otherwise have remained as an open wound on the twig following the fall



1. WILLOW. Twigs slender, round in cross section. Leaf scars alternate, U-shaped and narrow, with three bundle scars. Buds sessile (not stalked), small, oblong and with but one exposed bud scale. Pith round in cross section and small.

2. BLACK COTTONWOOD. Twigs moderately stout, slightly angular in cross section. Leaf scars large, alternate, broadly crescent shaped to triangular, with three bundle scars. Buds sessile, elongated, conical, gummy and fragrant, with 6-7 overlapping scales. Pith rather small, somewhat 5-angled in cross section.

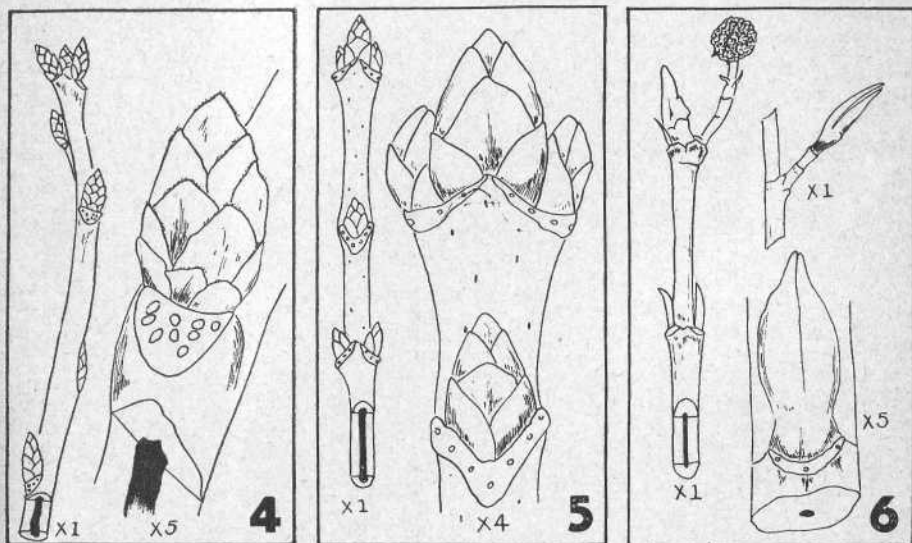
3. WHITE ALDER. Twigs slender, somewhat 3-sided in cross section. Leaf scars alternate, half round, raised, with three bundle scars. Buds large and stalked, with 2-3 reddish-brown valvate (not overlapping) scales.

of the leaf. Thus we find a leaf scar of distinctive size and shape in place of the leaf.

However, this is but one episode in the tree's preparation for winter. By mid-summer the buds, conspicuous on the naked twigs in winter, are formed. These contain the rudimentary foliage or flower parts, destined for development the following summer, protected by scales, waxes, gums, or hairs. In addition, growth

is retarded and finally ceases, the recently formed tissues are "hardened," and the bark of the twigs and branches is increased in thickness through the addition of corky tissue.

Such preparations are responsible for the development of a variety of features by means of which one may readily identify deciduous trees in winter primarily by an examination of the naked twigs. Varying with the



4. CALIFORNIA BLACK OAK. Twigs moderate to slender, often fluted. Leaf scars alternate, moderate to small in size, half round and somewhat raised, with numerous bundle scars. Cluster of several buds at tip of twig; lateral buds solitary. Buds sessile (not stalked) with overlapping scales arranged in five ranks. Pith small and somewhat star-shaped in cross section.

5. BIGLEAF MAPLE. Twigs stout. Leaf scars opposite, U-shaped, and with 5-9 bundle scars. Buds sessile, stout, blunt, with 3-4 pairs of overlapping scales. Several buds clustered at tip of twig; lateral buds solitary.

6. PACIFIC DOGWOOD. Twigs slender. Leaf scars opposite, narrow, crescent or U-shaped with three bundle scars. Leaf scars encircle twig, are commonly raised during first winter on petiole bases—later sluff off at level of twig. Buds solitary, stalked, oblong, with pair of valvate scales.

species, in a manner similar to the more familiar flowers, foliage, or fruits, one finds buds of distinctive form and protective devices placed in typical positions on the twigs, leaf scars of distinctive size and shape with their vascular bundle scars (from one to many) arranged in specific patterns visible upon the surface, and stipule scars which are present on the twigs of certain species. In addition, one may note the color, taste and odor of the twig, the nature and number of the lenticles in the bark, the color and character of the pith found in the central portion of the stem, and the bark itself. The form of the tree is also of assistance in winter identification. This has many variations from an upright pattern (as in the case of the dog-

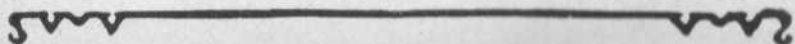
wood) wherein the trunk or central axis of the tree is continued through the crown, to a wide spreading type (as in the California black oak) in which case the trunk divides into several large limbs.

Thus, armed with a knowledge of the preparations which our deciduous trees make for winter and an understanding of the distinctive variety of features which are largely derived from these activities, examine your deciduous trees this winter. Although the accompanying sketches are illustrative only of the common deciduous trees found in Yosemite, other deciduous species found elsewhere will possess equally distinctive characters by which they can be readily identified during the winter season.

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# YOSEMITE ANIMALS

## NOTES FROM A RANGER'S DIARY

By Park Ranger Clyde E. Quick

During the past several summers it has been my good fortune to be employed as a seasonal park ranger in Yosemite National Park with headquarters at Merced Lake. My duties, like those of all park rangers, have been highlighted by numerous observations of interest relative to the wildlife of this area.

Last summer in Echo Valley a small yearling bear was noted, busily engaged in ripping a dead lodgepole pine apart. So engrossed was he in that activity that my presence went unnoticed for several minutes, as he alternately clawed and ripped with his teeth at the rotten portion of the snag. Occasionally he would pause and lick his jaws and nose with his tongue. Seeking to satisfy my curiosity as to the reason for these actions I advanced closer, which prompted the reluctant departure of the bear. Evidently I had interrupted his meal for numerous large black ants could be seen emerging from a hole in the snag.

About 48 species of birds were noted during the summer at various

times. On one occasion—about mid-July—a Sierra grouse with about 15 chicks was seen along the Vogel-sang Pass Trail, 1½ miles from the ranger station at an elevation of 8500 feet. Later, on the old Merced Lake trail, a mountain quail with



about 12 chicks was seen. It was interesting to watch the hen as she sought to protect her young from the apparent danger by feigning injury in an attempt to distract our attention



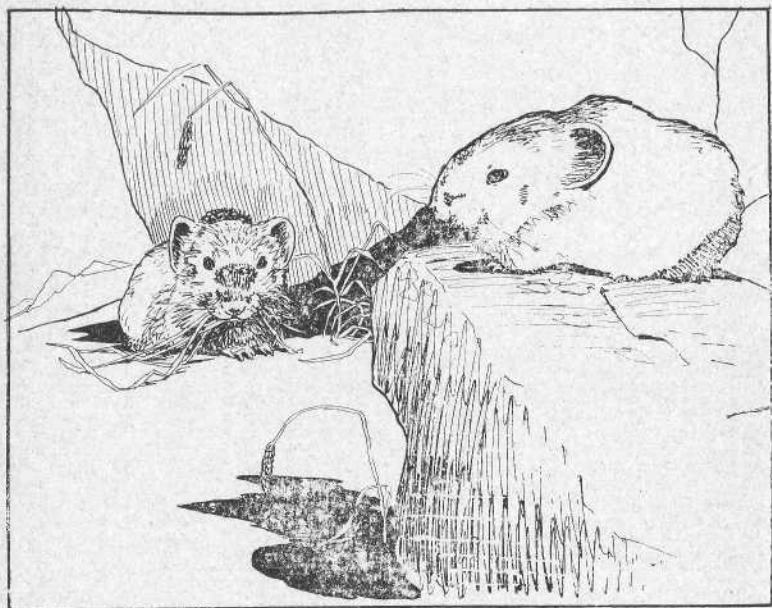
from her brood.

On many occasions we observed marmots, porcupines, pine martens, weasels, and in one instance, high

on the Isberg Pass trail just below Triple Peak Falls, I caught a glimpse of a coney. Even the momentary view of the coney was of interest since it was the first one that had come to my attention in that area in two years.

Deer were abundant in the Merced Lake area last summer. The first fawn of the season was born on July 6. Throughout most of the summer both it and the doe were regular visitors at the corral where salt was placed for the horses.

One buck attracted more than the usual interest because of the deformed nature of its antlers, a feature seldom observed in this area. One antler was about 16 inches long and had three forks; the other was



CONY OR PIKA

approximately 12 inches in length and had but two branches.

No summer would be complete without its fish story—in this case a true one. One day, while stopping for lunch on the shore of Vogelsang Lake a number of trout were noted. My fish pole was quickly assembled.

At the first cast a fish jumped clear of the water, missing the fly. But to my surprise he hit the fly on the way down and was caught near the back lower fin. After a short struggle he was finally landed—a 12 inch golden, prize of every high country fisherman!

### "PINTO" GROUND SQUIRRELS

By C. Frank Brockman, Park Naturalist

One of the more interesting occurrences in the park during the past summer was the appearance of a family of unusual Sierra ground squirrels (*Citellus beecheyi sierrae*).\* This group, consisting of a mature female and six young, made their home beneath one of the cabins in the Yosemite Lodge area for a period of several weeks. Grinnell and Storer in "Animal Life in Yosemite" call attention to the normal color of the pelage of this species in the following words—"General body color dull yellowish brown in effect; triangular area on each side of the neck and shoulders, grizzled white; narrow area on fore part of back between whitish shoulder patches, dark brown." Such was the case insofar as the female was concerned but her brood differed radically from the ordinary and consequently attracted wide attention soon after they were first noted in July by Mrs. Louise Reynolds, an employee of the

Yosemite Park and Curry Co. Each of the young animals were white in some degree which contrasted with areas of dark gray pelage varying



in location and extent with different individuals. Ears and feet in some instances were black. As a result of this unusual coloration their appearance is best described as "pinto."

When the report of the existence of "white" ground squirrels first came to the attention of the Museum

\* Originally known as California ground squirrel (*Citellus beecheyi beecheyi*). Nomenclature here from A. H. Howell, Revision of the North American Ground Squirrels, North American Fauna No. 56, April 1938; pp. 153-154.



staff the first thought was that they might be albinos. However, on the occasion of a visit to the Lodge area to see these animals it was immediately apparent that such was not the case. Obviously they were color phases which, insofar as Yosemite National Park is concerned, was quite unusual. It was the first reported instance of this kind here. Numerous photographs—both stills and motion pictures—were taken of

these animals by Park Photographer Ralph Anderson.

Mr. Joseph Dixon, Field Naturalist of the Fish and Wildlife Service, to whom a set of photographs was sent, stated that there were records of melanistic (black phase), albanistic (white phase), as well as yellow or straw-colored ground squirrels of this species but that this was the first instance of a "pinto" type that had come to his attention.



### BOOKS FOR CHRISTMAS

Each year many books are ordered through the Yosemite Natural History Association for Christmas gifts. Although we have experienced some difficulty this past year in keeping books in stock, due to the restrictions on print paper, we hope to have on hand a supply adequate to fill all Christmas orders.

Your cooperation is requested, however, in the handling of these special mail orders at Christmas time. We would appreciate receiving your order well in advance of the holiday rush, and we especially request that you include in your check or money order the 2½% state sales tax which we are required to collect on our book sales.

On the inside back cover of this issue of Yosemite Nature Notes there

is a complete list of the publications which we plan to have in stock for the Christmas Season.

There are also a number of gift subscriptions to Yosemite Nature Notes, Nature Magazine, and American Forests received each year. Allocation of some monthly issues of these magazines are made as much as two months in advance, and frequently the entire issue is exhausted, thus making it necessary to postpone entering your subscription at least until the following month. To avoid this inconvenience we suggest that you enter your subscription well in advance of the Christmas season. You may request, however, that the subscription begin with the January number and run for the calendar year.

—M. V. Walker





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Dan Anderson