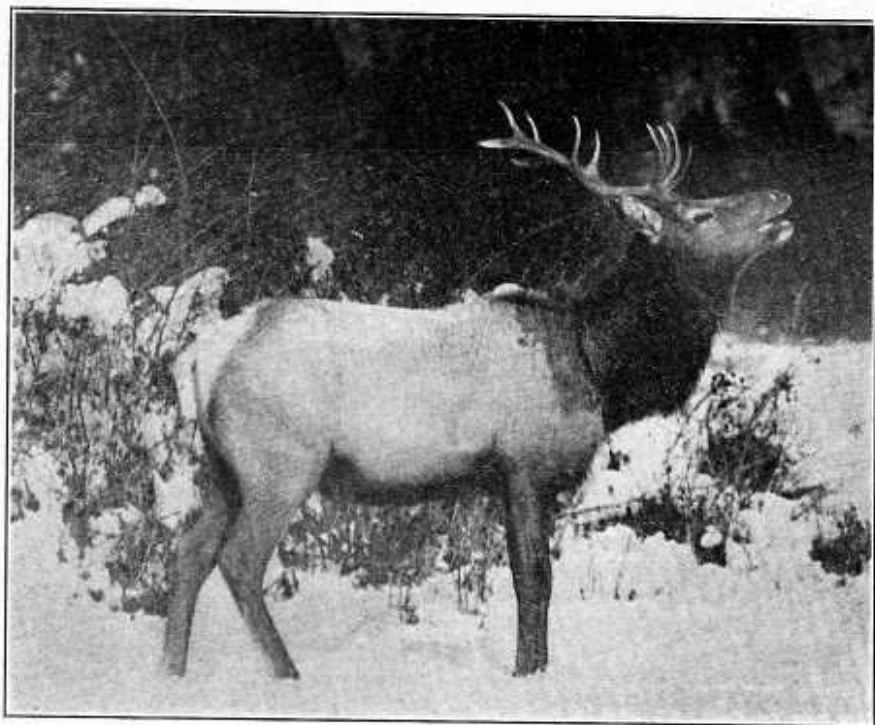


# YOSEMITE NATURE NOTES



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December, 1933

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# Yosemite Nature Notes

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## Yosemite Elk Herd Moved to Owens Valley

By A. E. BORELL, Ranger Naturalist

At one time tule elk (*Cervus nannodes merriam*) were numerous throughout the San Joaquin and Sacramento valleys. But with the gold rush and the rapid settlement of the Great Valley of California the elk were much reduced in numbers. At last but one wild herd remained and that was near Buttonwillow, Kern county. Individuals and organizations interested in wild life conservation were greatly worried regarding the future of the elk. It was feared that some disaster might wipe out the remaining herd or the shooting by farmers whose crops were being damaged would gradually exterminate one of California's finest big game animals. Interested parties and organizations captured and shipped small herds to various parks in California.

The California Academy of Sciences, through Mr. Hall McAllister chairman of conservation, obtained permission to place a few elk in Yosemite and erected a strong wire fence, eight feet high inclosing 28 acres, in which to put them.

In May, 1921, three cows and a bull calf were brought from Del Paso Park in Sacramento and placed in the paddock. These ani-

mals were from Buttonwillow stock.

In August, 1921, five bulls and four cows arrived by truck direct from Buttonwillow.

May, 1922, another young bull was brought from Del Paso Park, Sacramento. Thus a total of 14 animals were shipped into Yosemite valley, but eight died shortly after arrival and during the first winter, leaving only six animals. However, from that time on the elk began to do better, and two or three calves were born each year until this season when six were born. The number of animals in the herd reached 27 during 1933.

For several years there had been a feeling that the elk herd should be removed from Yosemite if a suitable place for them could be found. There were several reasons advanced by those who favored the move. In the first place, so far as we can learn elk are exotic to Yosemite and it is against the policy of the national parks to introduce non-native species. In the second place, the high fence necessary to hold the animals was unsightly and detracted from the beauty of the upper end of the valley. The animals also were destroying one of

our fine meadows, most of the flowers and shrubs were gone completely and the sod was badly cut up. During the rutting season the bulls rake the trees with their antlers and remove patches or strips of bark. As a result of this many of the small trees were badly damaged and even some of the large trees were dead or dying.

It was also obvious that conditions were not right for the elk. The paddock was too small, there was not enough browse at any time of the year and the animals had to live on alfalfa hay throughout the winter. Aside from the fact that alfalfa is not a natural food of elk it is expensive.

In the light of the unsatisfactory conditions in Yosemite the State Chamber of Commerce was asked to locate a suitable home for our elk herd. When G. W. Dow of Lone Pine heard of the proposal he started negotiations to have the herd released in Owens valley. Most of the land in the valley belongs to the City of Los Angeles and furnishes the water supply for that city. It was first necessary to receive permission or approval of several organizations and individuals, and then to finance and arrange for the capture and transportation of the elk. Finally the necessary arrangements were completed and the date of moving set for October 10, 1933. During the month of September, Chief Ranger F. S. Townsley, with the aid of rangers and C. C. C. men, constructed a wire fence so that the animals could be driven into a small high board holding pen. A heavy timber chute also was built leading from the pen.

It was obvious that if the bulls were allowed to keep their enormous antlers they would injure themselves and other animals dur-

ing capture and shipment. So each of the seven bulls was driven into the holding pen and thence into the chute where his antlers were sawed off. The sawing of the antler is painless as the antlers of the deer family are of solid horny material and do not bleed. An antler does not have the tender "bone" core as does the horn of a cow.

With pen and chute ready and the antlers removed, we awaited the shipping date. At 8 o'clock on the morning of October 10 we drove a number of the animals into the pen and then one at a time they were put through the chute and into a heavy wooden individual crate, the crates having been made beforehand by Mr. Dow. By 6 in the evening all of the animals were in crates and loaded on three trucks. The caravan of trucks, accompanied by Mr. Dow, Ranger William Merrill and the writer, left that evening via Merced and Tehachapi Pass. We drove all night and until 3 p. m. the next day with very few stops in order to get the animals to their destination and out of the crates as soon as possible.

Mr. Dow had constructed a temporary holding pen on the bank of Owens river, near Aberdeen, 14 1/2 miles northeast of Independence, Inyo county, in which to place the animals until they recovered from their trip. By 5 p. m. all of the elk had been released into their new paddock. Here they had a good supply of water, browse and alfalfa hay. When first released some of the animals were tired and wobbly, but when we visited them the next morning all except one of them were in fine shape. One old bull which had been injured by fighting before we started shipping operations was lame, but will probably recover. After one week in the paddock the gate was opened and the elk permitted to roam at large

over their new range.

The many friends of the Yosemite elk herd will be happy to know that their new range promises to be ideal. There is an abundance of willow, tule, brushy undergrowth and grass; some of the undergrowth is six feet high. This type of country extends for at least 50 miles along both sides of the Owens river. The river never dries up and will supply the elk with drinking water and wallowing places.

Mr. Dow wrote that on October 22 he found the elk in a thicket near the paddock and that when he called them they came out and ate apples from his hand, seemingly very contented.

There are very few private ranches left in Owens valley, the nearest being 10 miles from the place where we released the herd. Unless the elk concentrate about one of these ranches they will do no damage. It seems unlikely that they will bother the few ranches when there is such an abundance of natural forage and shelter along the river.

The local fish and game officers and residents are taking an active interest in the welfare and protection of the elk. The animals certainly are under more natural conditions and I believe that the elk will be much better off than they were in Yosemite.

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## TOWHEE TEETERS

By Ranger Naturalist C. H. ONeal

The green-tailed towhee is a brilliant little songster who lives close to the thicket. He is one of the friendliest of birds. When things are quiet he is likely to announce his arrival with a few kitten-like mews.

He is slightly larger than a sparrow; he wears a bright chestnut cap on his crown; his gray chest is protected by a pure white bib and he cocks his head from side to side as he looks at you. As the sun hits his back and tail it is reflected in a beautiful yellow-green color.

One noon a weary hiker was sitting on the parapet of the lookout dreamily resting. There was a flash of grayish brown and a newcomer alighted about a foot away. I called to the man to hold still. Up hopped the spry little creature first on the man's leg and then onto his hand in hopes of finding some choice morsels there. The dulled intellect of the man registered surprise

Automatically he jerked his hand away with such suddenness that the trusting little visitor was dropped but not frightened.

Breaking off some crumbs from my lunch I went over to the parapet. Placing the crumbs in the palm of my hand I held it out with the index finger extended. Onto this perch hopped the spry little fellow. My moving my index finger and arm up and down interferred not one whit with his eating. Each downward movement caused an instinctive extension of the wings but no fear. After eating his fill his mind centered upon his family obligations. Gathering his bill as full of crumbs as possible off he flew to satisfy the lusty appetites of his offsprings.

Close association with man and confidence in his friendship have made this little gleaner of the ground respond in as full measure as he has received.

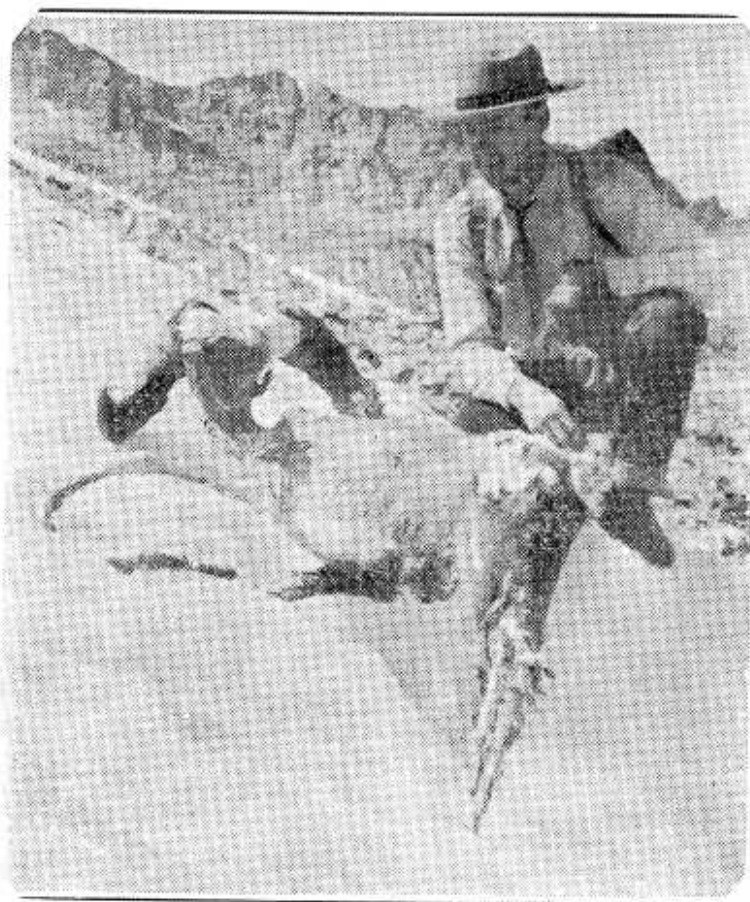
## Mountain Sheep Found in Lyell Glacier

By M. E. BEATTY, Assistant Park Naturalist

Mountain sheep (*Ovis canadensis sierrae*) have been rated as extinct in the Yosemite region for at least 50 years. That they once inhabited this area in fairly good numbers is indicated by the fact that horns, together with fragments of skulls and cores, are often found by hikers in our high country.

On October 4, while Park Natu-

ralist Bert Harwell and I were scrambling over the east lobe of the Lyell Glacier on our third annual glacier measuring expedition, we made a startling discovery. While pausing to regain normal breathing, I chanced to glance over to my right, where to my great astonishment I saw what appeared to be, at first glance, a normal



M. E. Beatty, Assistant Park Naturalist, with mountain sheep as found on Lyell Glacier.

living mountain sheep staring at us across the ice. Needless to say, I could scarcely believe my eyes, and asked Bert Harwell whether I was seeing things. We immediately realized that the animal lacked both hair and horns—a mummified specimen!

We discovered that the life-like position was due to the fact that the animal was supported in an upright position by a pedestal of ice that the body had shielded and thus prevented the sun from melting. The warm summer had melted the ice of the glacier sufficiently to expose all of the animal, with the exception of two of the feet.

The ram seemed to be in a perfect state of preservation, the flesh dried in the manner of "jerky;" the skin dry and taut as a drum's head. The missing horn shells were found with little difficulty in the moraine below, one at a distance of 30 feet and the other about 75 feet from the specimen.

**A closer examination showed that the neck of the animal was broken, but none of the leg bones or other bones was broken. One front leg had come apart at the knee joint. We found the missing part all intact near one of the horns, and we realized that we had discovered the first complete skeleton of a Sierra mountain sheep for the region.**

After photographing the ram in place, we undertook the laborious job of carrying the specimen over ice, loose morainal rocks, and down the steep mountain side to our base camp several miles away on the Lyell Fork. The extremely rough going caused several falls, which resulted in snapping the brittle bones of two sound legs. The animal was then transported 10 miles by pack horse to the Tuolumne ranger station, and 70 miles by car

back to the valley, where it is now being prepared for exhibition at the Yosemite Museum.

In attempting to piece together the story of the animal, it was found necessary to have more data, so a return trip was made with steel stakes and surveying equipment to measure distances and rate of flow of the glacier. We found that the glacier moved only one inch during a four-day period, or at the rate of seven and one-half feet per year. The ram was found 1936 feet from the head of the glacier. Now, assuming that the animal fell or was caught in a slide while feeding on the crest of Mount Lyell and was buried in the bergschrund, it would take close to 250 years for the glacier to carry the sheep to the spot where found. This great length of time is borne out by the aged appearance of the horns and the dehydrated flesh. Dr. Eric Wasmund, geologist from Kiel University, Germany, and specialist on decomposition of animals in ice and water, upon examining the specimen stated that the white patches on the back and rump represent "leichenwach," or corpse wax, an initial stage in the formation of petroleum.

The animal shows a broken neck, probably sustained at the time of death, and a concave body, probably the result of varying ice pressure.

The only "wool" found on the body was directly back of the ears and in the folds of the neck. It may be argued by some that the lack of hair, together with the dehydrated flesh, proves that the animal could not have remained constantly buried in the ice. It is impossible to state just what effect the ice might have on the pelage of an animal, but quite likely there was sufficient friction to wear it



off without severely damaging the skin.

The dryness of the meat leads one to believe there were summers of sufficient melting in the ice to at times partially or completely expose the specimen for short periods, but this can again be discounted by finding coyote tracks on the glacier every year, and the sheep shows no sign of being chewed on.

On our return trip to the glacier, we found the bodies of a marmot and a cony in the ice of Mount Lyell. The marmot also lacked fur and hair with "leichenwach" in evidence showing similar conditions, but the carcass was badly mutilated, possibly the work of coyotes. The cony was in better condition, it being necessary to dig it out of the ice, and quite a bit of fur still remained with no evidence of "leichenwach."

This mountain sheep is a mature male specimen measuring 55 inches in length and 33 inches in height.

The circumference of each horn at the base is  $12\frac{1}{2}$  inches, and the length of the horns along outer curve 27 inches. Judging from the growth rings on the horns, the animal was a 7-year-old.

The weight, as is, 45 pounds.

National Park officials feel that this find is one of the most important discoveries of the year in the whole park system.

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## AUTUMN COLORS

By M. E. BEATTY

Assistant Park Naturalist, Yosemite National Park

One of the most delightful signs of autumn in Yosemite is the fine colorations of the leaves of our

deciduous trees, especially dogwood, aspen and oaks. Visitors come from afar to view and photograph nature's great floral display ranging from brilliant yellows to reds and from deep crimson to browns. Many people admire these color tints, but few pause to consider the marvelous change that takes place to give them their striking autumnal robes.

**Frost is commonly believed to be the cause of leaves coloring and falling. The truth is, that while frost plays a part in determining the fall of the leaf and hastens this process, there are other factors, mainly in the tree itself, that bring it about.**

The leaf has been an important factor in manufacturing food all during the summer. If the leaves were to fall at this time there would be a considerable loss and wasting of those valuable substances produced in the leaves. This is provided for by the fact that before the period arrives when the leaf is to fall practically everything which is of value for the nutrition of the tree has been gradually transferred to other parts of the tree. The result is that the leaf which is left is little more than a skeleton whose cells contain various pigments which are of no further use to the tree. It is these pigments that color these leaves during autumn.

So with the coming of autumn we see nature preparing for a well earned rest. Our migratory birds are bidding us good-bye; bears and other hibernating animals are saying good night, and our autumn leaves are saying farewell in a blazing sunset color that makes this season a favorite for many visitors to Yosemite.

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## Roadside Planting of the New Wawona Highway

By ENID MICHAEL  
Ranger Naturalist

On July 26 I motored over the new highway that leads from Yosemite valley to the Mariposa Grove of Big Trees. Along the highway I was amazed and very much pleased to find many native flowering plants taking hold in the raw cuts that are not yet three years old. These plants, apparently, had originated from seed that had rolled down from above the cuts and found lodgement on the steep banks. Among these pioneers of the roadside the pea tribe is prominent. And among the peas *Lupinus latifolius* is the most frequent and most splendid. This lupine favors the moist canyons but it occasionally steps out onto the driest of raw banks and makes a glorious display. Another charming lupine is *Lupinus excubitus*. A gray, mat-like plant, it colonizes dry slopes in a delightful manner. And in spring its wand-like spray of lavender flowers is lovely. Another pea that steps out boldly upon the raw bank is Giant Lotus (*Hosackia crassifolia*) and with robust form and clusters of handsome pods, makes a pleasing display. The fastest worker among the pioneer plants is the creeping Lotus (*Lotus decumbens* var. *nevadensis*). It seizes

upon the raw bank and spreads out like a starfish in the hottest sections.

The ceanothus group was represented in the raw soil by four species, *integerrimus parvifolius*, *cordulatus* and a creeping form of *cuneatus*. All of these shrubs are excellent roadside cover but the very best type for the new slidy banks is the crawling *cuneatus*. It forms dense leafy clumps, tough enough to take rough treatment without breaking, and down the steep bank lowers rope-like branches.

Other shrubs to take hold are thimble berry (*Rubus parviflorus*), blue elderberry (*Sambucus velutina*), the gray and the green manzanita, woodbine (*Lonicera interupta*), yerba santa (*Erodium californicum*), wood rose (*Rosa gymnocarpa*), hazel (*Corylus rostrata*), bear clover (*Chamaebatis foliolosa*) and chinquapin (*Castanea sempervirens*).

Bright flowering plants in bloom upon the raw, dry banks, especially the east bank, are as follows: Blue bugle (*Pentstemon leatus*), yawning pentstemon (*Pentstemon breviflorus*), Yosemite straw flower (*Gnaphallium microcephalum*).



pussy paws (*Spraguea umbellata*), yellow pea (*Lathyrus sulphureus*), Indian hemp, (*Apocynum androsaemifolium*), penny royal (*Monardella lanceolata*), farewell-to-spring (*Godetia viminea* and *G. didleyana*), bear-stem buckwheat (*Eriogonum nudum*), cliff aster (*Malcothrix obtusa*), shield leaf (*Streptanthus tortuosus*), candle plant (*Stephanomeria virgata*), and others.

From the observations noted above the following conclusions may be drawn: A variety of attractive native plants grow readily in the raw soil of the new cuts; members of the pea tribe, especially creeping lotus, giant lotus and species of lupine are excellent for initial planting; ceanothus and other shrubs may be planted with splendid results; other flowering plants noted may be used to advantage in roadside beautification.

The above data may be considered pertinent at the present moment as Colonel C. G. Thompson, superintendent of Yosemite National Park, has a program of Wawona roadside planting underway. Cuts too steep for planting are now being graded and the superfluous soil used to mask rock fills below the road. Seeds of suitable flowering plant are now being collected in Yosemite by a group of E. C. W. boys. Last spring Dr. F. E. Clements of the Carnegie Institution of Washington, came to Yosemite at Colonel Thomson's request, to take charge of the new Wawona Highway roadside planting.

In view of this ambitious program we may look forward with confidence to the day when ribbons of wild flowers shall lead the way from our Yosemite valley to the old Wawona Grove of Big Trees.

#### NATURE NOTELETS

By Ranger Naturalist J. C. Shirley

On a conducted nature walk July 5 from Mariposa Grove camp, a clump of 21 plants known as *Pleurocospora fimbriolata* was observed. The plants were from one to three inches tall. The large ones had flowers which were beginning to open. These plants are closely related to *Sarcodes sanguinea* and would be mistaken quite easily for the snow plant, except for the fact that there is no red pigment, and also due to the fact that the petals are separate instead of united. The plants are saprophytes, and in that respect resemble the snow plant.

#### SPECIAL NOTICE

**This is a special appeal for support of our Yosemite Natural History Association.**

We are continually receiving requests to be placed on a complimentary mailing list to receive Yosemite Nature Notes. There is considerable expense involved in the production of these notes. Through the Yosemite Natural History Association paper, cuts, linotype, ink and postage are supplied.

We urge those requesting complimentary membership to consider the purposes of this association as printed on page 82 of the last August issue and be willing to share the expense of issuing this publication as well as contributing to the fine work of the association by joining it.

Annual dues \$2 a year including subscription to Yosemite Nature Notes.



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Dan Anderson