Many Instructed by Nature Guide Service.

The Yosemite Nature Guide Service closes the month of July with the largest attendance records of any month since the inauguration of the service four years ago. In addition to the regular scheduled trips, two each day, and an all day trip on Saturdays, many organizations visiting the Valley have been furnished nature guides, and a number of additional trips added to take care of the crowds. The Service probably forms the largest trail school in the world, and trail school it is for people are led to study nature, not out of books nor in a laboratory, but first hand. More than thirteen hundred persons received instruction in the field and over twenty thousand listened to lectures and campfire talks given by nature guides.

Nature Study in High Sierra.

The members of the first Nature Guide Party to make the four-day hike into the back country report a very enjoyable trip. They were comfortably cared for at the three hikers' camps which are located as follows: the Merced Camp, about one half mile beyond Merced Lodge at the point where the trail crosses the McClure Fork; the Tuolumne Camp, just below the Tuolumne Lodge on the Dana Fork; and the Tenaya Camp, between the Tioga Road and Lake Tenaya at Murphy Creek.

Whether the individual's interest was in Geology, or flowers, or birds, or trees, there was much to interest him.

The great slopes of granite polished by the glaciers, the areas strewn with boulders left stranded by the melting of the ice, and the glacial cirques of Mt. Clark and Vogelang Peak were of especial geological interest.

Juniper, mountain pine, and hemlock were trees which a number saw for the first time on this trip.

Some of the more notable or rare birds seen or heard were the canyon wren, hermit thrush, green-tailed towhee, white-crowned sparrow, ruby-crowned kinglet, California pine grosbeak, Cassin purple finch, California purple finch, Sierra grouse and Clark crow.

The flowers were a continual source of enjoyment throughout the trip. In the fir forests the snow plants were very numerous, one especially fine clump of plants consisting of five stalks. In some of the marshy meadows shooting stars and the beautiful blue camassia seemed to vie with one another to see which could make the better showing, while in others the wild onions and the rhein-orchis seemed to struggle to grow the taller. Labrador tea, Kalmia, Bryantanae, and Cassiope were conspicuous members of the Heath Family found at the higher altitudes.

Yosemite Birds During the Month of July

Fifty-one species of birds were noted on the floor of the Valley during the month of July, 1923. In point of numbers the bird species fall far short of surveys made during the month of May, nevertheless to the bird student July is always an interesting month. Late nesting birds are still building and many birds have their broods off from the nests. Young birds, with their eternal hunger are forever demanding food. Parent birds are very busy and many are quite bold. The calling young attract one's attention and as the
parent bird approaches to feed them one is enabled to get closeup views of both old and young birds. It is well that we do get this last good look at the birds, for soon after the nesting season is over many species of birds begin their wanderings and may not be again seen until the following spring.

RASPBERRIES ARE RIPE.

A nature guided party to Illilouette Falls on Saturday refreshed themselves along the way with delicious ripe raspberries. It is those who leave the main traveled trails that find wild delicacies of this kind. Another treat was in the form of numerous Calliope Hummingbirds, the smallest of North American birds, seen feeding about brilliant Red Penstemon.

FIRST POST NESTING SEASON MIGRANTS SEEN.

Although many birds nest in Yosemite some are visitors only. After nesting at lower elevations many birds come trooping into the higher mountains. The first post nesting season migrants noted this year were the Bush-tit, a common bird of the chapparal belt but one that seldom nests in the yellow pine belt; and the green-backed goldfinch, white-crowned sparrow from high mountain meadows have also been seen. Other migrants of this type are to be expected during August.

GOLDFINCHES

Green-backed Goldfinches as a rule nest at lower elevations; they nest commonly about El Portal. After the nesting season pairs or small groups wander into the Valley. At this season they may often be seen about the edge of the meadows. One of their favorite foods is the Evening Primrose seed. The pretty little birds cling to the stem of a primrose plant and tear open the seed pods.

TWO MILES OF FLOWERS

Now that spring begins to wane on the floor of the Valley we frequently visit the gardens of the cliffs. The one who climbs the four-mile trail to the stream, then turns to the right and follows the stream up the mountain, walks with glorious flowers every foot of the way. Purple daisies, Crimson Fuchsia, Mountain Pennyroyal, Blue and Red Penstemon grow in the dry sand beyond the stream. In the stream are large beds of Cardinal Mixolus in full bloom. Little Leopard Lilies, sometimes thirty two buds on a stem, stand above the Mixolus. Golden Arnica crowds along the water's edge. Here and there groups of snow white Orchis stand in the midst of the colored throng. Saxifrage punctata, with sharply leaves and loose clusters of lovely white flowers, is one of the most beautiful of a dainty flower tribe. These are a few of the seventy-five different flower beauties that fill the stream bed and spread out on either side far into the dry sand. This garden continues almost to the top of Sentinel Rock and spreads about over the cliffs, wherever there are streams.

INDIAN MORTAR ROCKS.

Occasionally a Yosemite visitor comes to the Museum with this question: "How do deep, round pits happen to be in certain flat slabs of granite?" The pits are so evidently made that the thought of Indians must come at once to all observers. These pitted rocks are numerous in Yosemite Valley and they mark the sites of ancient villages. Acorns of the black oak formed the staple food for Yosemite Indians. Because of their bitter taste they could not be eaten as most nuts are eaten but required elaborate preparation. The shells were removed...
and the rich, oily meats were ground to flour. It was through hundreds of years of such grinding that the round pits were made in the flat-topped rocks. Numerous squaws would work around the same convenient rock. A rock pounder or pestle was the grinder, and rarely one of these smooth cylindrical rocks can yet be found near the old mortar rock. When a quantity of acorn flour had been prepared, the bitter tannin was removed. This was done by placing the flour in a basin scooped out in a pile of clean sand. Warm water was then poured over it, which seeped through the sand and leached out the tannin. The flour was then made into patties and baked on heated, flat rocks, or it was made into a mush and cooked in baskets. Baskets could not be put over fires, of course; so it was necessary to drop heated rocks into the mush, to provide the required heat.

Go with a Nature Guide and visit the old village sites and examine the mortar rocks yourself. At the Yosemite Museum you will find exhibits giving the entire process of bread and mush preparation.

A FEATHERED ANGLER.

The Great Blue Heron is seen in the Valley flying up or down the river or standing in the shallow water along shore. This large bird is a patient fisherman, standing motionless until some fish or frog comes close. Then with a swift slam of the long neck armed with the spear-like bill the prey is caught and eaten. The Great Blue Heron is one of California's best gopher catchers for it catches numerous gophers by displaying the same patience. Only a few of these birds come into the Valley after nesting season in the lower country.

LADYBIRD BEETLES SWARMING.

At this season of the year visitors to Yosemite report Ladybird Beetles, commonly termed "ladybugs" swarming about old logs. It is when they appear in numbers like this that the State Department of Agriculture sends out men to gather pack train loads of them. They are kept at the insectary at Sacramento until needed to control aphids in the cantaloupe fields of Imperial Valley or elsewhere when they are sent out and liberated. They are efficient destroyers of plant lice.

AN EGYPTIAN DEITY AMONG US.

In moist cool nooks growing in company with ferns and mosses is found one of Yosemite's most beautiful orchids. On a spike rising from succulent green leaves is hung a chain of bell-like blossoms. Mixed shades of lavender color the blossom that is about an inch across. Looking directly into the flower one sees a velvety tongue and short sharp horns; this, together with the general aspect of the flower and the way it waves upon the stem, give it a resemblance to a bull's head. The botanist has seen this resemblance and has called the plant Serapias after the sacred bull of Egypt. Some of the common names of Serapias gigantea are Stream-orchis and Heliotrope.

THE SWIFTS

During the recent spell of hot weather the White-throated Swifts have been absent from the noon-day skies. But in the coolness of late afternoon these birds may be seen sailing high over the Valley.