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INFLUENCE OF LEWIS AND CLARK IN YOSEMITE

By Ranger Naturalist Ernest A. Payne

When Thomas Jefferson appointed his young friend and private secretary, Captain Meriwether Lewis, to lead the first band of white explorers over the Rocky Mountains and westward to the mouth of the Columbia River, he knew the results would be far-reaching. That the influence of the exploration surpassed the hopes and expectations of even President Jefferson cannot be doubted.

When the intrepid party returned to St. Louis, the point from which it had departed long months before, Captain Lewis and his associate, Lieutenant William Clark, had accomplished more than the exploration of the newly acquired Louisiana Territory. They had followed the Missouri River to its source; they had succeeded where other ambitious frontiersmen had failed in reaching the Pacific by an overland route over the Rocky Mountains. In addition to the geographic and historic significance of this unprecedented journey, the contribution of the Lewis and Clark expedition to the several fields of science was of lasting value.

By nature a keen observer and a conscientious student, Lewis collect-

ed freely of the flora and fauna of the areas through which the party passed. Chests of animal skins were carried eastward by members of the group who were sent at prearranged intervals to convey progress reports to Jefferson. However, because of accidents that befell the adventurers, only those plant specimens which were collected on the return trip to the east, about one hundred fifty in all, ever reached the taxonomists' herbaria.

Upon the successful termination of the exploration, the botanical treasures were placed in the care of Dr. Benjamin S. Barton of the University of Pennsylvania. Dr. Barton in turn entrusted them to Frederick Pursh, an eminent botanist, for identification. Because of the work of Pursh in classifying the Lewis and Clark material, his name appears as a part of the scientific name of many of the plants included in that early collection.

In spite of the fact that the Lewis and Clark itinerary took them far to the north of Yosemite National Park, many of the plant and animal forms discovered by members of the

party, or later named in their honor, extend their ranges southward as far as Yosemite and in some cases considerable distance beyond. Most of the specimens concerned are plants. However, at least two birds found within the boundaries of the park perpetuate the names of these courageous leaders.

Clark's Nutcracker or Clark's crow, *Nucifraga columbiana* (Wilson), a companion of the coney and white-bark pine of the Sierra and one of the most conspicuous avian residents of the Yosemite timberline, was first reported by William Clark near the site of Salmon City, Idaho, on the twenty-second of August, 1805, and was named in honor of Clark.



Lewis' Woodpecker, *Asyndesmus lewis* (Gray), a bird that in many respects remotely resembles Clark's Nutcracker, bears the name of Clark's superior officer, Meriwether Lewis. This woodpecker ranges widely throughout the west.

Whether this bird was actually discovered by Lewis, I have been unable to ascertain.

It is in the taxonomy of plants that the influence of the Lewis and Clark Expedition is felt most widely in Yosemite. William Clark is hon-

ored with one genus, *Clarkia*, of which there are two species in the Yosemite region. One species each of the genera *Mimulus*, *Philadelphus* and *Linum* bear the name of Meriwether Lewis in addition to the genus *Lewisia* which is represented by four species.

When the high waters of spring have diminished, myriads of gorgeous and delicate flowers appear in countless Sierran rock gardens. One of the most lovely of all these moisture dwelling flowers is the pink *mimulus*.

To one who has pulled himself up the granite steps of the upper part of the Ledge Trail to Glacier Point in early summer through the tangled coolness of lady fern and red columbine, the memory of those glorious clumps of waist-high pink *mimulus* will never be erased. This flower, loved by all who see it and a favorite of many, with its cup of shell-pink and deep throat of golden yellow, derived its name, *Mimulus lewisi*, from Captain Meriwether Lewis.

The Lewis *Mimulus* is distributed widely throughout its range at elevations from 5,000 to 10,000 feet. It occurs in small dense clumps near streams, springs, and in the spray of waterfalls.

The blue flax, although usually not as abundant in the Sierra as in the northern part of its range where it was collected first near the Continental Divide in Montana by Captain Lewis, does its part in contrib-

uting to the floral mosaic of our mountain landscapes.

The specimen collected by Lewis proved to be a new species and Frederick Pursh named it *Linum lewisii* in honor of the collector.

For several years one of the most beautiful and accessible fields of flax in the Yosemite Valley area has been in the wild flower garden on the grounds of the Ahwahnee Hotel. In this garden the plant is visible to all who care to see it and is protected from the trampling feet of the careless park visitor. I have seen individual plants of flax blooming on the slopes of Mount Dana near timberline.

The Lewis Mockorange, *Philadelphus lewisii* (Pursh), grows principally in small scattered clumps made conspicuous during the early months of spring and summer by the profusion of attractive white flowers. The plant occurs generally on or near canyon bottoms or in other moist, moderately shaded or open situations.

The genus *Philadelphus*, named for Ptolemy Philadelphus, a king of ancient Egypt, includes some forty species found throughout North America, Europe and Asia. The Yosemite representative is a variety of the extremely variable species discovered by Captain Lewis on July 4th, 1806, along the Clark Fork River, near the site of the present city of Missoula, Montana.

A characteristic shrub of the mockorange may be seen near a drinking

fountain at the Bridalveil parking area.

According to Charles F. Saunders, the name *Syringa* is often applied to *Philadelphus* but it is not satisfactory since *Syringa* is the generic name of the cultivated lilac and also because the name signifies a pipe or trumpet, an application totally inappropriate for mockorange flowers.

The Yosemite Indians used the straight tough shoots of the mockorange for shafts for their arrows.

One of the many rewards awaiting the hiker whose way leads him among the Sierran peaks is the wealth of diminutive flowers that carpet the apparently barren slopes and boulder-strewn ridges of the high country with their unsuspected beauty. Some of our most exquisite blossoms are to be found in these alpine gardens and the memories of sky pilot, cassiope and mountain columbine compensate a thousand fold for the discomforts and physical weariness which accompany mountain climbing.

Of all alpine flowers, the *Lewisia* is one of the most beloved.

When Lewis and Clark entered the land of the Shoshones, they found the Indians digging up the roots of the low-growing plant. From the hearts of these gnarled parsnip-like roots the Indians prepared a soup or a mush of which they were very fond and which filled a very important place in the diet. The root as taken from the ground is very

bitter and by virtue of that characteristic the plant was called bitter-root. The name was soon applied to a river and to a mountain range.

Several years had elapsed since the specimen had been collected by Lewis on the Bitter-root River in what is now Montana, and when Pursh examined the dried material the roots of one of the plants gave evidence of being alive. He put the plant in the ground and under his watchful care green leaves and beautiful flowers soon appeared. When the botanist learned that the plant was new to science, he dedicated the genus to Captain Lewis and in describing the ability of the plant to live again or to revive after long periods of drought, he applied the specific name *rediviva*. Thence the scientific name, *Lewisia rediviva*.

Hall, in his *Yosemite Flora*, lists four species of *Lewisia* for Yosemite National Park. A variety of *rediviva*, *yosemitana*; *nevadensis*; *pygmaea*; and *triphylla*. The Yosemite *rediviva* is extremely variable and has been given species status by Jepson. *Pygmaea* is the most common *Lewisia* in the park. It occurs usually on the gravelly slopes of the higher peaks and high Sierran plateaus.

The flowers of *pygmaea* are much smaller than *rediviva*. In the summer of 1938 I found a plant on the side of Mount Dana that measured one and one-quarter inches in diameter upon which were twelve open blossoms and ten closed buds. I have seen this lovely flower growing in

such profusion on Mount Dana that it was difficult to step without treading on some of the plants.

The Bitter-root, as the *Lewisia* is commonly known, has been selected as the state flower of Montana.

Another floral monument to the intrepid leaders of the expedition is the *Clarkia*. The plant from which the genus received its name was collected by the party on the Kootenai River in Northern Idaho. To this flower the botanist Pursh applied the name *pulchella*—the beautiful. Although *Clarkia pulchella* does not appear in Yosemite, the genus is represented by a lovely species, *Clarkia rhomboidea* and along the Sierran foothills *Clarkia elegans* is found. Both of these were discovered by David Douglas on his collecting trip through the northwest and they were named by him.



The *Clarkia* is not abundant but it is found generally throughout the lower Yellow Pine Belt.

Individuals who have contributed to man's knowledge of Yosemite flora and fauna are legion. The name by which each animal and plant is known represents the conscientious endeavor of someone. Romance, adventure, and even disappointment and tragedy form an unwritten part of the name associated with each organism. The influence

of the Lewis and Clark Expedition upon naming of Yosemite birds and plants is but typical of the efforts of countless individuals and groups who have given freely and generously of their energies and experience so that the composite picture of the biotic heritage might be more intelligible for the generations that follow.

DEVELOPMENT OF TRANSPORTATION TO YOSEMITE

By C. Frank Brockman, Park Naturalist

Part II—The Era of Wheels

(Continued from last month's issue.)

Wawona—Yesterday and Today

Today, passing Wawona, one is generally impressed by the serene beauty of the unhurried scene about the white hotel buildings. One finds it hard to imagine this quiet spot as a center of bustling activity, yet such a picture is obtained from Hutchings' "In the Heart of the Sierra," as follows:

"Wawona (the Indian name for Big Tree), formerly called 'Clark's,' is the great central stage station where the Berenda, Madera and Mariposa routes all come together; and which also forms the starting point for the Mariposa Big Tree Grove. The very instant the bridge is crossed, on the way to the hotel, the whole place seems bustling with business, and business energy. Conveyances of all kinds, from a sulky to whole rows of passenger coaches, capable of carrying from one to eighteen or twenty persons each, at a load, come into sight. From some the horses are just being taken out, while others are being hitched up. Hay and grain wagons, freight teams

coming and going; horses with or without harness; stables for a hundred animals; blacksmiths' shops, carriage and paint shops, laundries and other buildings, look at us from as many different standpoints. That cozy looking structure on our left is Mr. Thos. Hill's studio; but that which now most claims our attention, and invites our sympathies, is the commodious and cheery, yet stately edifice in front known as the Wawona Hotel."

So, while these original pioneer wagon roads have since been replaced by new and improved automobile highways it is no wonder that many who knew Yosemite in the old days cherish their memories.

The original Coulterville and Big Oak Flat highway, still serve in a very limited fashion. A section of the original Wawona Road, which was eliminated when the modern Wawona highway was constructed, can still be seen as one descends to the Valley floor from the east portal of the Wawona Tunnel.

Interest in a Route Up the Merced Canyon

The nature of the topography in the Yosemite region necessitated the routes of approach as previously noted. Although the advantages of an approach directly up the Merced Canyon were obvious, so likewise were the difficulties in the completion of such a project. A suggestion of the advantage of this approach appears as early as 1855 when Bunnell and Peterson, while making a survey for a route to bring water to the "dry diggings" in the Mariposa region, noted its practicability. Bunnell in his "Discovery of Yosemite" (1892) states:

"... advantage may be taken of the configuration of the walls on either side to construct a railroad through the canyon into the valley, upon a grade and trestle, that may be made practicable."

In the late 80's, A. H. Ward and James Cross agitated for a road through the upper end of the Merced Canyon from Mariposa, the highway being scheduled to reach the river a short distance below El Portal. Later difficulties, however, prevented the consummation of this project.

Construction of the Yosemite Valley Railroad

In 1907 an event occurred that materially altered the Yosemite travel picture for, in that year, the Yosemite Valley Railroad completed its line to El Portal, but one mile from the park boundary. Thus the "iron

horse" pioneered the much discussed route up the Merced—which had included proposals for an electric line as well as a wagon road—and the necessity of the long ride in horse-drawn stages was eliminated. However, until the summer of 1913 when auto stages were substituted, fleets of horse-drawn vehicles transported visitors from the railhead at El Portal to the Valley, and horse-drawn stages operated on the Wawona Road until about 1914.

Tangible plans for the railroad materialized in 1902 and actual construction began in 1905. The last ties and rails were laid at El Portal on April 25, 1907, and three weeks later, at 6:30 p.m. on May 15, the first train to carry Yosemite visitors arrived at El Portal from Merced.

First Car to Enter Yosemite National Park

Activities in connection with the development and completion of the new rail approach to Yosemite obscured, or at least minimized, an event which heralded the beginning of an era of even greater importance to Yosemite travel history. In July, 1900, A. E. and F. H. Holmes of San Jose arrived in Yosemite Valley in an automobile via the Wawona Road. The car involved was a Stanley Steamer. Concerning this memorable journey A. E. Holmes is quoted in an article which appeared in the Standard Oil Bulletin of September, 1926, as follows:

"The Wawona Road leading into

Yosemite Valley gave us much difficulty as our machine was not wide enough to bridge the regular horse-stage tracks, necessitating our making a new path over the entire length of the road. Then, too, when we encountered a stage coach, the horses became very much frightened at the horseless carriage that moved steadily toward them in a cloud of steam."



It was not until August 23, 1913, however, that automobiles were officially permitted within the park. At that time, buttressed by numerous annoying restrictions, official Yosemite succumbed to public demand in this respect, and 127 automobiles were admitted before the end of the travel season that fall. The following year 739 automobiles entered the park.

Concerning the advent of motor

travel to the park, Chief Ranger F. S. Townsley, who in 1913 was just starting his many years of service in Yosemite National Park, states in a memorandum prepared for the historical files of the museum, as follows:

"During the fall of 1913 a few cars entered the park. However, the real travel began during the summer of 1914. It was my pleasure to issue the first permit to an automobile on each road entering the park at that time. There were approximately 60 separate rules and regulations covering traffic on the roads in Yosemite National Park at that time. In fact these regulations were so severe that it made it very unpleasant for people to travel in cars within the boundaries of the park."

A glance at the auto regulations of 1914 bears out Mr. Townsley's statement. Until August 8, 1914, when the Wawona Road was opened to cars, automobiles were permitted to enter only by way of the Coulterville Road. Cars which failed to reach the ranger station at the Merced Grove by 3:30 p.m. were refused admission until the next morning. Campers with automobiles were permitted to keep their car with them in a specially designated auto camp but visitors staying at hotels were required to place their car "in the garage and nowhere else." Regulation No. 32 states that "Automobiles halting at the hotel or at hotel camps will be allowed only the necessary time for the purpose of taking off passengers or baggage, or both, not to exceed five minutes" and adds in Regulation No. 42 "while the automobile is being vacated or emptied

of its load the chauffer or driver shall not leave the automobile." Apparently the nature of the new mode of transportation was not to be trusted for in addition Regulation No. 46 states that "speed will be limited to six miles per hour, except on straight stretches where approaching teams will be visible, when, if no teams are in sight, this speed may be increased to an approximate maximum speed of 10 miles per hour, at no time to be exceeded."

Cars were permitted to enter the park via the Big Oak Flat Road on

September 16, 1914, but they were not given general use of the roads on the valley floor, other than necessary travel to and from hotels and camps in entering and leaving the Valley, until 1916. One will find an indication of the public's reaction to this development in an article in the Oakland Tribune of July 2, 1916, in which the statement is made that "Yosemite Valley is alive with cars." The superintendent's report for 1916 states that 4043 cars entered Yosemite National Park during the travel season of that year.

(Concluded in next month's issue.)



Wawona Tunnel Tree



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Dan Anderson