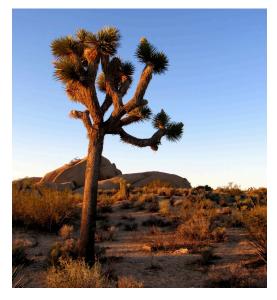
# Yucca Brevifolia called Joshua Tree

**Richard Kohler** 

Why is Yucca Brevifolia called Joshua Tree? An official answer can be found on the Joshua Tree National Park website.

"By the mid-19th century, Mormon immigrants had made their way across the Colorado River. Legend has it that these pioneers named the tree after the biblical figure, Joshua, seeing the limbs of the tree as outstretched in supplication, guiding the travelers westward."

Larry McAfee, National Park Service, 2016



Yucca Brevifolia

But, there are a number of alternative answers. Chris Clarke, an environmental journalist and natural historian explored a few of these in his 2013 report for KCET, Southern California's PBS affiliate. Which he began by quoting the Yucca Brevifolia Wikipedia page.

"The name Joshua tree was given by a group of Mormon settlers who crossed the Mojave Desert in the mid-19th century. The tree's unique shape reminded them of a Biblical story in which Joshua reaches his hands up to the sky in prayer."

Whether guiding or praying, the trees naming is still attributed to mid-19th century Mormons. But there is a rather significant objection to this claim made by the well respected cultural historian, Richard V. Francaviglia, in his 2003 book, *Believing in Place: A Spiritual Geography* of the Great Basin.

"The name Joshua tree did not enter the region's vocabulary until the twentieth century."

In today's world, it is possible to investigate Francaviglia's assertion by searching digital copies of western U. S. newspapers published between 1850 and 1920. Perusing the individual news articles, a noticeable change in the choice of words used when referring to Yucca Brevifloia occurs after 1905, before then it is called Yucca Tree, Yucca Palm or simply Yucca.

Richard Kohler, Washington County (Utah) Historical Society

The famous Great Basin explorer John C. Fremont was the first to make scientific observations about the Yucca Brevifolia in the *Expeditions of John C. Fremont* 1844, published by the U. S. War Department. Fremont simply referred to the plant as "yucca" noting that it occurred in "forests" in California. (Note the entirety of the southwestern U. S. including Utah and Nevada was at the time in the Mexican province of Alta California.)

rapidly during the day, and in the afternoon emerged from the yucca forest at the foot of an outlier of the Sierra before us, and came among the fields of flowers we had seen in the morning, which consisted principally of the rich orange-colored Californian poppy, mingled with other flowers of brighter tints. Reaching the top of the spur, which was covered with fine bunch grass, and where the hills were very green, our guide pointed to a small hollow in the mountain before us, saying, "á este piedra hay agua." He appeared to know every nook in the country. We continued our beautiful road, and reached a spring in the slope, at the foot of the ridge, running in a green ravine, among granite boulders; here nightshade, and borders of buckwheat,<sup>153</sup> with their white blossoms around the granite rocks, attracted our notice as familiar plants. Several antelopes were seen among the hills, and some large hares. Men were sent back this evening in search of a wild mule with a valuable pack, which had managed (as they frequently do) to hide itself along the road.

By observation, the latitude of the camp is  $34^{\circ} 41' 42''$ ; and longitude  $118^{\circ} 20' 00''$ . The next day the men returned with the mule.

April 17 .- Crossing the ridge by a beautiful pass of hollows, where several deer broke out of the thickets, we emerged at a small salt lake [Elizabeth Lake] in a vallon lying nearly east and west, where a trail from the mission of San Buenaventura comes in. The lake is about 1,200 yards in diameter; surrounded on the margin by a white salty border, which, by the smell, reminded us slightly of Lake Abert. There are some cottonwoods, with willow and elder, around the lake; and the water is a little salt, although not entirely unfit for drinking. Here we turned directly to the eastward, along the trail, which, from being seldom used, is almost imperceptible; and, after travelling a few miles, our guide halted, and, pointing to the hardly visible trail, "aqui es camino," said he, "no se pierde-va siempre." He pointed out a black butte on the plain at the foot of the mountain, where we could find water to encamp at night; and, giving him a present of knives and scarlet cloth, we shook hands and parted. He bore off south, and in a day's ride would arrive at San Fernando, one of several missions in this part of California, where the country is so beautiful that it is considered a paradise, and the

153. The nightshade is *Solanum xanti* Gray, and the buckwheat *Eriogonum* fasciculatum Benth.

angelic. We continued on through a succession of valleys, and came into a most beautiful spot of flower fields: instead of green, the hills were purple and orange, with unbroken beds, into which each color was separately gathered. A pale straw color, with a bright yellow, the rich red orange of the poppy mingled with fields of purple, covered the spot with a floral beauty; and, on the border of the sandy deserts, seemed to invite the traveller to go no farther. Riding along through the perfumed air, we soon after entered a defile overgrown with the ominous *artemisia tridentata*, which conducted us into a sandy plain covered more or less densely with forests of *yucca*. Having now the snowy ridge on our right, we continued our way

name of its principal town (Puebla de los Angeles) would make it

towards a dark butte belonging to a low sierra in the plain, and which our guide had pointed out for a landmark. Late in the day the familiar growth of cottonwood, a line of which was visible ahead, indicated our approach to a creek, which we reached where the water spread out into sands, and a little below sank entirely. Here our guide had intended we should pass the night; but there was not a blade of grass, and, hoping to find nearer the mountain a little for the night, we turned up the stream. A hundred yards above, we found the creek a fine stream, 16 feet wide, with a swift current. A dark night overtook us when we reached the hills at the foot of the ridge, and we were obliged to encamp without grass; tying up what animals we could secure in the darkness, the greater part of the wild ones having free range for the night. Here the stream was two feet deep, swift and clear, issuing from a neighboring snow peak. A few miles before reaching this creek, we had crossed a broad dry river bed, which, nearer the hills, the hunters had found a bold and handsome stream.

April 18.—Some parties were engaged in hunting up the scattered horses, and others in searching for grass above; both were successful, and late in the day we encamped among some spring heads of the river, in a hollow which was covered with only tolerably good grasses, the lower ground being entirely overgrown with large bunches of the coarse stiff grass, (carex sitchensis.)

Our latitude, by observation, was 34° 27' 03"; and longitude 117° 13' 00".

Travelling close along the mountain, we followed up, in the afternoon of the 19th, another stream, in hopes to find a grass patch like that of the previous day, but were deceived; except some scattered

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Richard Kohler, Washington County (Utah) Historical Society

Lieutenant R. S. Williamson of the Corps of Topographical Engineers was, in 1853, surveying a practical railway route from the Mississippi to the Pacific and passed through present day Antelope Valley, California. The colored lithograph below was prepared from sketches by Charles Koppel, the expedition's assistant civil engineer and artist.



Fig. 1. Possibly the first published illustration of Yucca brevifolia. Described in Williamson (1853 [1855]: 214 ff.) as "Valley in the slope of the Great Basin" [Antelope Valley].

Williamson noted the remarkable yucca vegetation in the valley. He also reported that the leaves of the Yucca were about as strong and as sharp as a bayonet and that the plant was commonly called the "bayonet tree".

An early reference to the uses of Yucca fibers can be found the the end of an article listing the vegetable resources of Southern Utah, written by Joseph E. Johnson, publisher of the *Utah Pomologist*.

In different localities there are hundreds of acres of varieties of Yucca, whose fibre is known in commerce as "Tampico," and makes brushes, ropes and cordage of great excellence; the fibre is easily cleaned, and the root is large and bulbous or tuberous, and often weighs from ten to tifty pounds, and contains a matter wonderfully erasive, like soap, makes strong suds and is equal to the best of soap for washing clothing. Some cute Yankee will yet make a fortune out of this plant; who is the one? *Utah Pomologist, February, 1874* St. George, Utah

Johnson, a Mormon, was quite scientific in his writing about crops and produce. He received patents for new species of peach and other orchard trees. Nonetheless, the writing here uses the common name "Tampico" for yucca fiber.

Why wouldn't Johnson, a Mormon, have used the term Joshua, if it was common among his friends, neighbors and brothers?

Yucca Brevifolia received its proper scientific name with the publication of *Explorations and Surveys West of the 100th Meridian: Expedition of 1872 Lieutenant George M. Wheeler, Commanding,* 1875.

# YUCCA AND AGAVE.

The following addition to the Catalogue of the plants of Nevada and Utah is from DR. GEORGE ENGELMANN as a result of his recent study of our hitherto ill-defined and little understood species of these genera.

During the expedition, Dr. George Engelmann, classified a number of distinct Yucca plants including Yucca Brevifolia, Yucca Angustifolia, Yucca Baccata, Yucca Whipplei and Agave Utahense, Engelmanni that hadn't been observed in Texas or the East. Joseph Ellis Johnson, a newspaper publisher, and Dr. Edward Palmer, an archeologist, were credited by Engelmann with the discovery/classification of Agave Utahense.

Note that Engelmann made his observations and classifications during the expedition of 1872, but that the scientific name's publication was in 1875.

Joseph Ellis Johnson and Dr. Edward Palmer encouraged Charles Christopher Parry another prominent botanist to come in Southern Utah in 1874 and 1875. While in Washington County, Utah, Parry was corresponding with Dr. George Engelmann of St. Louis, Missouri concerning numerous indigenous plants including Yucca Brevifolia.

One sentence, in one letter from Charles Christopher Parry to Dr. George Engelmann dated 14 April 1874 is particularly relevant to our enquiry. It was reprinted from the original in the March 1988 issue of the *Great Basin Naturalist* by Stanley L. Welsh of Brigham Young University, in an article titled *Utah Botanical Explorer Charles Christopher Parry*.

## UTAH BOTANICAL EXPLORER CHARLES CHRISTOPHER PARRY (28 AUGUST 1823–20 FEBRUARY 1890)

#### Stanley L. Welsh<sup>1</sup>

ABSTRACT.—The Utah botanical contributions of Charles Christopher Parry are discussed. Especial emphasis is on his trips to Utah in 1874 and 1875. Plants taken during those years, which were subsequently listed as type-specimens, are listed. Insight is gained into this window in Utah botanical history through his letters to Dr. George Engelmann and limited correspondence from Engelmann and Joseph Ellis Johnson.

Reached here 5th inst just in time to hear Brighams farewell address to the faithful. Since then I have [been] tramping over hill and dell, walking and gathering up the many strange things that came in my way. I am in time to catch all early plants, the season being 3 weeks late (for my accomodation). Best news of all Yucca brevifolia, fide mail rider, is in full flower 30 miles from here, & [he] will bring it up on excursion next monday. Imagine my exultation, say tuesday, 21st, 1 can hardly wait. Not many varieties of cacti just about here. O[puntia] rutilla [probably O. erinacea var. ursina Parish] is here most common. I do not vet meet E. [Echinocactus, now Neolloydia] johnsonii. There is a large Turks head [Ferocactus acanthodes] near here, that I do not recognize. Am watching it. The Mormons individually call Y [ucca] brevifolia 'Joshua.' We have here Mesquite & Larrea near the north limits. I do not vet get sight of Agave utahensis. Glad to hear you think Juniperus Utahensis distinct from J. occidentalis. I am just now out of the range of Juniperus but will be in it again back & forth & send occasional 'instruction' specimens. I do not yet notice a uniform

14 April 1874, excerpt from letter addressed to Dr. George Engelmann from Charles Christopher Parry

< -- The Mormons

So, yes, the Mormons did call Yucca Brevifolia, "Joshua" in 1874. It should be noted that Parry was residing in St. George, Utah at the time he made this statement.

# The Mojave Desert.

About two o'clock in the morning, as the Southern Pacific train runs southward, the Mojave Desert is reached; and here the crumbling "skeleton of nature lies hopeless of burial and bleaching in the sun." No pen can describe the utter desolation of this region. On every side is a howling wilderness of rock and drifting sand; and the only vegetation is a stunted species of sage brush and the Yucca palm. This latter tree is the glory of the desert, and sometimes attains a diameter of from two to three feet and a height of from forty to fifty feet. The trunk terminates in stumpy branches, each having at the extreme end a tuft of daggershaped leaves, with a dark green foliage bristling in the most irritable manner. and the whole presenting an appearance than which nothing more grotesque can be conceived. Even this product of the desert has its uses, for, the bark being removed, the trunk is utilized in making paper. It is crushed into a pulp, and alterward taken to a mill near San Jose and manufactured. It is especially adapted for making a superior class of banknote paper, which proves to be firm and smooth and of great durability. In the midst of this desert is the only eating station between the San Joaquin Valley and Los Angeles. The water is carried in pipes from a spring ten miles distant; and the butter, spring chickens and other provisions are brought from points beyond the mountains. The station is the distributing point for several mining camps situated at considerable distances from the railroad, and accordingly a number of stores and shops are also in successful operation. - Chicago Tribune.

July, 1881, Chicago Tribune

Yucca tree, Yucca palm and Yucca were the names by which Yucca Brevifolia was called by until after the turn of the century.

Travel by rail increased the public's exposure to this unusual plant during the later part of the 19th century.

Dagger-shaped leaves.

Nothing more grotesque.

Pulp used to make banknote paper.

# THE SPANISH BAYONET.

Facts About the Fucca Tree of Southern California.

The yuccas, or Spanish bayonets, as they are most commonl called, are among the most characteristic plants of desert and semi-desert zones of California, being found in nearly all the hot, dry parts of the state where little rain falls. Strange as it may seem, these tough, wiry-leaved plants belong to the same order in botany as do our beautiful hyacinths, lily of the valley, tulips, and gorgeously colored Mariposa lilies or butterfly flowers, so characteristically represented in all parts of the state. And yet these yuccas are tough and hard in texture with sharp pointed leaves, often terminating in a tough thread, which hangs loosely from the end. Others grow to the size of large, but not graceful trees, often reaching fully 30 feet above the ground, as is the case with the tree yucca of the Mojave desert, groves of which may be seen at any time near the railroad between Mojave and Los Angeles.

November, 1896, San Francisco Chronicle

Yucca tree or Spanish bayonet

Classified in the lily family of plants.

Sharp pointed leaves,

Seen near the railroad.



Photograph by C. R. SAVAGE.

1902, The Romance of the Colorado River, Frederick S. Dellenbaugh

Dellenbaugh was a member of John Wesley Powell's 1871 Colorado River Expedition. His 1902 book included photographs, sketches and artwork made on that expedition.

Charles Roscoe Savage was a prominent Mormon photographer based in Salt Lake City.

Note the variation from the scientific name Yucca Brevifolia from a reclassification made in the 1890s by Dr. Torrey of Kew Gardens, England.

In 1902, Dellenbaugh wrote, "And the yuccas are quite as

beautiful, with their tall central rods so richly crowned with bell-like blossoms, the fantastic Clistoyucca arborescent, or Joshua Tree, being more in harmony with the archaic landscape than any other plant there." Dellenbaugh and the other members of the John Wesley Powell Expedition had learned the term "Joshua Tree" from their contact with Mormon colonists.

You can read the 1903 edition of The Romance of the Colorado River at <u>https://library.si.edu/</u> <u>digital-library/book/romanceofcolor00dell</u>. The book was well received by the public in the first decade of the twentieth century. The third and largest edition was printed in 1909.

Richard Kohler, Washington County (Utah) Historical Society



Mule train hauling cargo outside Goldfield, Nevada ca. 1905

The use of the word "Joshua tree" in newspapers begins around 1905. Many instances occur in the newspapers of Goldfield, Tonopah, Rhyolite and other Nevada mining towns, or in stories about those places published in the Deseret News, the San Francisco Chronicle, the Los Angeles Times and other national newspapers.

Note that there is only one Joshua tree visible in the above photograph taken on the outskirts of Goldfield in 1905 (dark spot on hill). Joshua trees were burned to fire mining smelters.

Goldfield is now close to four years old. It was in the spring of 1903 that a government mineralogist reported that signs of rich mineralization had been discovered around Columbia mountain. The next year tents and shacks began to blossom out of the desert in the midst of sagebrush, grease wood, cactus and the occasional Joshua trees of the region. The Joshua tree is called a tree merely as a joke or a josh. The only thing it is good for is fuel, and it is not good for that.

January, 1908, Deseret News

A joke or a josh.

Good for fuel.

From the car windows in all the great west where cars go, the whole country seems covered with the much despised sage brush. In the Nevada desert the sage brush becomes a novelty and wherever it will grow it is welcome. Anyhow, it is the only thing, except the Joshua, a small, stumpy tree comparable to nothing else, which lends relief to the wholesale desolation. December, 1905, Goldfield News

From car windows.

The Joshua lends relief.

Meanwhile the gentlemen from Los Angeles are coming here as our guests, and theirs is in the nature of a social visit. We extend to them the hospitality of Tonopah; we offer to them the right hand of good fellowship, the good fellowship of the desert. The keys of the city are in their keeping. They have left behind them the orange groves and the beautiful flowers of the South, for which we can offer only the sagebrush and the Joshua trees; but they bring with them no deeper sentiment of esteem, or higher respect for manly qualities than they will find in the welcome extended to them from the sons of the desert.

# June, 1907, Tonopah Daily Bonanza

We can only offer Joshua trees as tokens of hospitality, and fellowship.

"The ceremonies will begin at 10 a. m. and continued through the day and early evening, with an intermission for lunch, until all the candidates are invested with the emblems of Columbus. In the evening a banquet tendered by the ladies of Goldfield, will furnish opportunity for the prators and entertainers of the desert to dazzle the guests and make them feel like forgetting the trees and verdure of other climes and stay with us in the shade of the Joshua trees. "If you intend to be present and desire accommodations reserved for you, please notify the committee, care Box 844, Goldfield, Nevada."

September, 1907, Tonopah Daily Bonanza

Stay with us in the shade of the Joshua trees.

# JOSHUA TREE UNIT ADDED TO PARKS

# Government Acquires 825,340 Acres-Plans to Save Odd Plant From Extinction.

Approximately 825,340 acres in Riverside and San Bernardina Counties, Calif., situated south of the Mojave Desert, have been set aside by presidential proclamation, as Joshua Tree National Monument, a new unit in the national park chain.

Many varieties of desert flora abound in the area. Among them is the rare and rapidly diminishing joshua tree, one of the most spectacular floral features of our Western deserts. Yucca brevifolia is the botanical name for this fantastic growth, which belongs to the lily family and attains a height of from 10 to 30 feet. Its greenish-white blossoms, growing in clusters 8 to 14 inches long, are characteristic features of the semi-arid wastes of this land of mountains and deserts. A representative stand of this plant, which is very limited in distribution, occurs with this area and will thereby be protected from commercial exploitation. Among its uses are the manufacture of surgical splints, protectors for fruit trees, and even fuel. The Mormons gave this giant yucca the name of joshau tree, seeing in its extended branches a symbol pointing them to the promised land they were seeking.

Other rare and beautiful desert flora also are native to this section, which is rich in scientific, scenic and recreational values. From Inspiration Point in the San Bernardino Mountains, one of the most extensive desert views in the West is obtainable. September, 1936, Evening Star (Washington, DC)

Save odd plant from extinction.

Set aside by President Franklin Delano Roosevelt.

Joshua Tree National Monument.

Mormons gave giant yucca its Joshua name.

Pointing them to Promised Land.

Richard Kohler, Washington County (Utah) Historical Society



1929, Garden Club of America, Flower Show Traveling Exhibition, Minerva Hamilton Hoyt

In the late 1920s widowed Pasadena socialite Minerva Hamilton Hoyt began a crusade to preserve the desert where Joshua Trees grew. Her exhibit, filled seven freight cars with native plants, desert rocks, and sand, shipped to New York, then Boston and finally London.



# 1934, Stephen Willard Photograph Album, Minerva Hamilton Hoyt

Hoyt's crusade was capped with a picture book that she had delivered to President Franklin Delano Roosevelt by United State Chamber of Commerce president Henry Harriman in 1934.



# 1937, Borderland, Screen Guild Productions

The new *Joshua Tree National Monument* became a more fashionable location, attracting Hollywood film companies, including box office star Hopalong Cassidy (William Boyd), to the area in 1937 for two productions, *Borderland* and *In Old Mexico*. In both films, the beauty of the desert scenery and Joshua trees is highlighted.

# Maurine Whipple Awarded Fellowship And Prize of \$1,000 For Novel

In a letter from Ferris Greenslet, head of the publishing house of Houghton-Mifflin, Boston, confirming a telegram of May 25, Miss Maurine Whipple, of this city was advised that she is awarded the \$1,000 prize in this year's 1938 fellowship contest. This fellowship is given each year to one person for a work in progress, and comes to Miss Whipple for her nearly completed novel, "Giant Joshua". This talented young St. George writer will receive \$500.00 July 1, and the second \$500.00 January 1, 1939. Shortly after which the book will be completed and published by Houghton-Mifflin company.

June, 1938, Washington County News (Utah)

Miss Maurine Whipple of this city.

Nearly complete novel, "Giant Joshua".

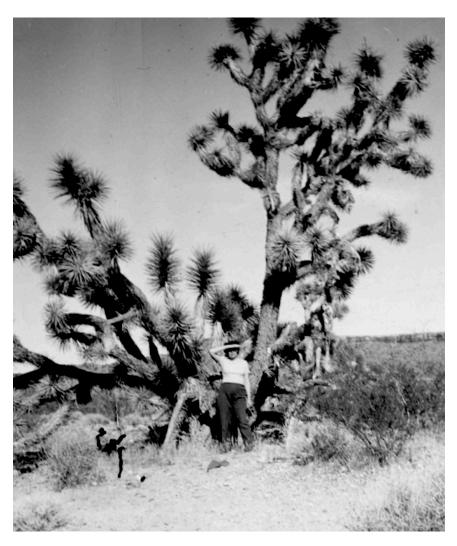
Shortly after the designation of Joshua Tree National Monument by President Franklin Delano Roosevelt in September of 1936, Maurine Whipple of St. George, Utah began writing her successful novel "Giant Joshua" for Houghton-Mifflin of Boston. The excerpt below is from the finished novel, which was finally published in 1941.

"Near-by grew a stunted, cactus-like tree with spiny branches; it looked like a gnarled dwarf with weird, extended arms. "That's a Joshua tree," explained Abijah, "When Prother Pricham

'That's a Joshua tree,' explained Abijah. 'When Brother Brigham called Saints who were colonizin' San Bernardino back to Salt Lake at the time of Johnson's Army, they had to cross a big desert which stretches many miles to the south and west of where we be now.'

'Just at the beginning of the desert they ran into whole forests of those trees,' continued Abijah. 'Only on the desert they grow to be giants. Giant Joshuas. The Saints called 'em that, their twisted branches made 'em look like Joshua with his arms outstretched pointing the Israelites to the Promised Land.' "

Given the timing of these events, it is certainly fair to ask if Maurine knew this account from growing up in St. George, or from the news accounts of the National Monument dedication.



1940, Maurine Whipple beneath Giant Joshua, photographer unknown

Maurine Whipple grew up in St. George, Utah. With partners, her father owned and operated, the Electric Theater. She attended Dixie College and the University of Utah. Juanita Brooks taught at her at Dixie College. Both sides of her family had been polygamists.



*The Giant Joshua* was about polygamy and the impossibly hard life suffered by her heroine Clory, the third wife of Abijah, an original colonist of St. George. The subject of Juanita Brooks first published article in the September 1934, issue of Harpers magazine was polygamy. Juanita assisted Maurine with historical research for *The Giant Joshua*. Maurine Whipple appeared on the national literary stage nearly a decade before her mentor Juanita.

Maurine had traveled to Southern California across the Mojave desert in 1929 to study drama and outdoor recreation. Giant Joshua trees, like the one in this photograph, have all survived in an incredibly arid climate, to grow into huge specimens where they dwarf all other vegetation. Each of these giants, with their tangled and distorted limbs, provide a visual record of the many harsh vicissitudes they have withstood. Maurine's choice of the name for her nationally acclaimed novel reveals much about her view of life in Mormon desert outposts.

Veda Tebbs Hale gave the 25th annual Juanita Brooks lecture in 2008. The subject was Maurine Whipple and her Joshua. Available here <u>https://library.dixie.edu/special\_collections/</u> Juanita\_Brooks\_lectures/2008.pdf.

# Mormons Credited for Naming Joshua Tree

"Fortnight", a California news for the name "Joshut" as applifor the name "Joshua" as applied to the thorny trees of the Southwest desert. A current issure of the publication says: "The Joshua is still relatively undiscovered by the tourist. Named (probably by the Mormons) ... it has been part of the National Park system since 1936..."

The Utah Department of Publicity points out that few Utahns are aware that the Beehive State has a Joshua forest. Utah's area of prickly trees starts 20 miles west of St. George and spreads out over thousands of acres of Utah mountain and desert land in the extreme southwest corner of the State. Traversed by Highway U. S. 91, the Joshua forest is an interesting sight to tourists

February, 1948, Vernal Express (Utah)

The Joshua is still undiscovered by tourists.

Named (probably by the Mormons).

Beehive State has a Joshua forest.

Why is Yucca Brevifolia called Joshua Tree Richard Kohler, Washington County (Utah) Historical Society



The Joshua name for Yucca Brevifolia almost certainly originated with the Mormons traveling across the Mojave desert in the mid-19th century. The 1874 involvement of St. George Mormon Joseph E. Johnson with noted botanists Charles Parry and George Engelmann at that time confirms the Mormon use of the term. But, there are a number of different explanations of why the biblical prophet's name was appropriate.

Joshua ... hands raised up to the sky in prayer. Joshua ... uplifted trumpets collapsing the walls of Jericho. Joshua ... welcoming them with upturned arms. Joshua ... guiding them to the Promised Land.

Of course we know mid-19th century Mormons were familiar with the Old Testament and Joshua, but there are biblical passages supporting many differing explanations.

The most famous Mormon emigration was from Iowa to the Great Salt Lake Valley across the great plains beginning in 1847, but yuccas don't grow along that historic *Mormon Trail*. A battalion of about 500 Mormons were recruited to serve in the Mexican-American War (1846 - 1848). They marched through present day New Mexico and Arizona to San Diego, when all of Alta California was still a province in Mexico. Members of this *Mormon Battalion* would have traversed the Mojave desert and seen forests of Yucca Brevifolia. Mormon leader Brigham Young sent about 900 colonists to Southern California in 1851. They purchased part of the *Rancho de San Bernardino* from the *Californio* land grant family that owned it, and established a thriving settlement. These colonists were recalled to Utah in 1857. During their brief tenure they established a wagon road, the *Old Mormon Trail*, from Southern California to Southern Utah across the Mojave desert.

Joshua Trees in the Mojave Desert

Richard Kohler, Washington County (Utah) Historical Society



Joshua Tree Canopies Tilting to the South

A fairly recent scientific article published in the November 2016 issue of *Western North American Naturalist* by Steven Warren, etal. might have some relevance. It was titled *"Directional Floral Orientation of Joshua Trees"*.

We document the unique and heretofore unreported directional orientation of its flower panicles. The flower panicles grow primarily at the tips of branches that are oriented to the south. When the branches with flower panicles are not oriented in a southerly direction, the flower panicles themselves tend to bend or tilt toward the south.

Many non-scientists have observed over the years that "Joshua tree canopies tilt to the south". It is almost certain that the Mormons crossing the Mojave desert would have taken note of this growth habit. The very shape of a Joshua tree, would been a directional compass for them, assisting in their orientation across an otherwise mostly featureless landscape. Arms outstretched. Pointing toward their destination.

Richard Kohler, Washington County (Utah) Historical Society



Joshua Tree from Above at Mid-Day

The characteristic shape of a Joshua tree, tilting south and spreading wider in the east-west direction could very easily have pointed 19th century Mormon travelers in the right direction (to the Promised Land), giving Maurine Whipple's 1941 account in her *Giant Joshua* book even more credence.

'That's a Joshua tree,' explained Abijah. 'When Brother Brigham called Saints who were colonizin' San Bernardino back to Salt Lake at the time of Johnson's Army, they had to cross a big desert which stretches many miles to the south and west of where we be now.'

'Just at the beginning of the desert they ran into whole forests of those trees,' continued Abijah. 'Only on the desert they grow to be giants. Giant Joshuas. The Saints called 'em that, their twisted branches made 'em look like Joshua with his arms outstretched pointing the Israelites to the Promised Land.' Richard R. Kohler is an architect/historian and past president of the Washington County Historical Society. He received a Bachelor of Science in Civil Engineering from the University of Utah and a Master of Architecture from the University of Hawaii, completing postgraduate studies at Harvard University. Richard and his wife, Jennifer, have been involved with the <u>DOCUTAH</u> film festival held each September in St. George, Utah. Richard has served on the Washington County Water Conservation District CIRPAC committee and the WCWCD Conservation committee. Richard serves on the Washington County Recreation Arts and Parks Advisory Board.

Richard is the author of a number of community planning studies, and two local history books. *The Town Lot: A Little Piece of Zion* published in 2013. *St. George: Outpost of Civilization* published in 2011 celebrating the sesquicentennial of the founding of St. George by Mormon Colonists in 1861.

Richard Kohler's architectural practice <u>www.kohler-architecture.com</u> is geographically and technically diverse ranging from Park City, St. George, Las Vegas and San Diego. He has designed custom homes, lodging, resorts, resort communities, shops, shopping centers, city halls, county courthouses, schools, churches, parks, trails, pavilions, even chicken coops. Energy, water, landscape conservation together with historic preservation have shaped his unique approach to the art of design.

Richard has lectured extensively on the history of water development in Washington County and Southern Utah. The subjects of these lectures have included

Redeeming the West: A History of the Scientific Approach to Water Resources before 1930, Jarvis, Snow and Winsor: The Works of Three Early Water Engineers from Washington County, Thomas Judd's Innovations for Irrigated Horticulture at the Southern Utah Experiment Station, Forgotten Principals of Water Conservation: John A. <u>Widtsoe's</u> Water Science Reports, A History of Cottonwood Canal, Hernia Dam and St. George, A History of the Santa Clara Bench Canal, Shem Dam and the CCC Boys An Architectural History of the St. George Tabernacle, The Historic Ditches of Rockville, Utah, Charles <u>Bigelow</u> and the Arrowhead Trail in Southern Utah, The 1926 Rockville Bridge and its Role in Southern Utah's Early Tourism Industry Woolley, Lund and Judd Merchants and Capitalists, A History of St. Thomas, Nevada in Rio <u>Virgen</u> County, Utah An Architectural and Political History of the Old Washington County Courthouse