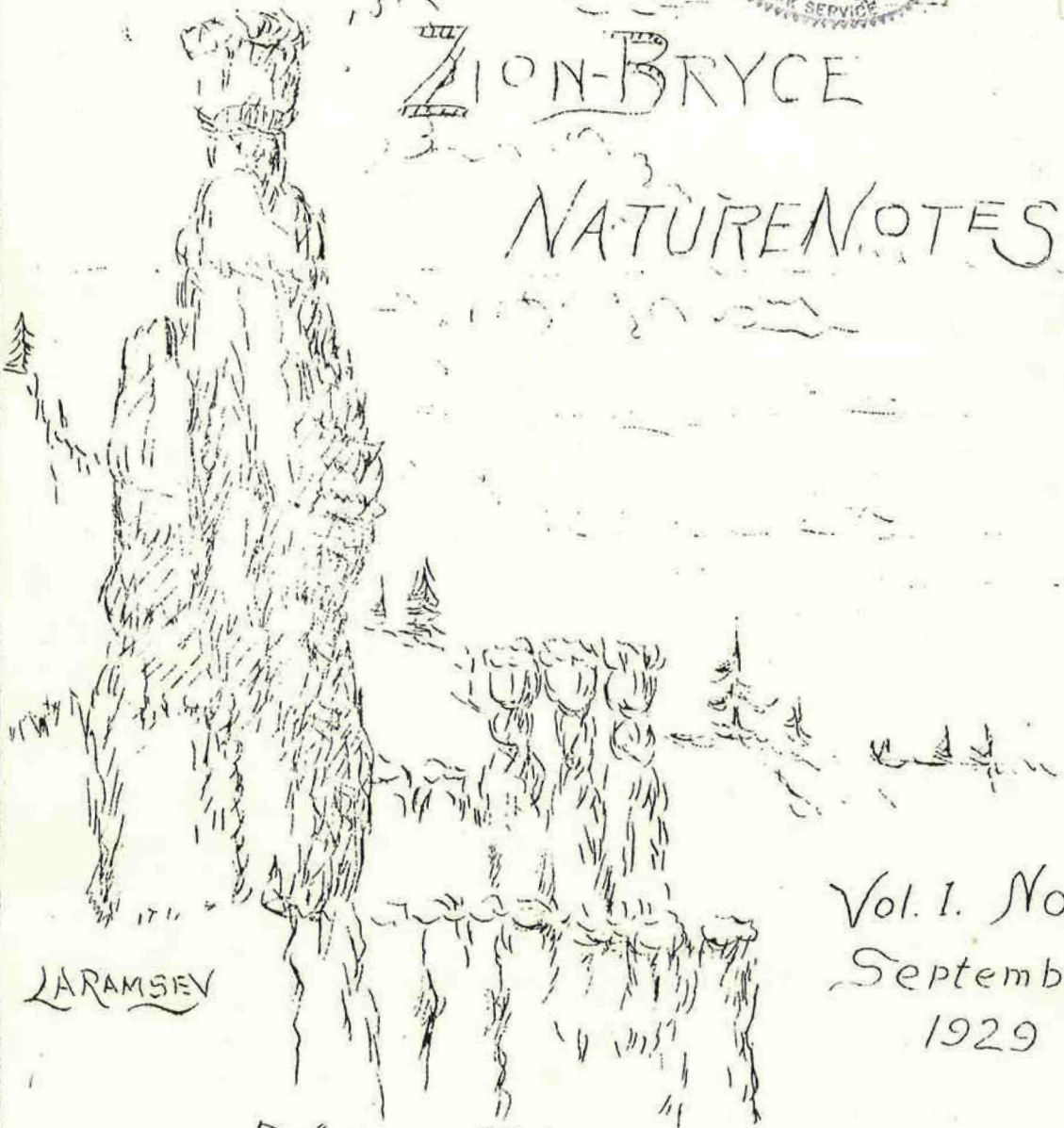


DEPT. OF THE INTERIOR
RECEIVED
OCT 21 1929
CRATER LAKE NATIONAL
MONUMENT PARK SERVICE

Godfrey

ZION-BRYCE

NATURE NOTES



LARAMIE

Vol. 1. No. 2
September
1929

THOR'S HAMMER

Bryce Canyon.

U. S. Department of the Interior
National Park Service
Zion and Bryce Canyon National Parks, Utah

ZION---BRYCE NATURE NOTES.

September, 1929.

Vol. 1, No. 2.

This is the second of a series of bulletins issued free from time to time for the information of those interested in the educational opportunities, the natural history, the scientific features or the scenic beauties of the region. Publications using these notes, please give credit to Zion-Bryce Nature Notes and author.

E. T. Sneyden
Superintendent

A. M. Woodbury,
Park Naturalist

INTRODUCING
THE EDUCATIONAL WORK OF ZION
By A. M. Woodbury, Park Naturalist.

The scenic beauty - chasmic grandeur - of Zion is probably the great drawing card that brings visitors to this place. But when once seen, the mind inevitably wanders to the questions of how and why, and if those questions should remain unanswered, many people would lose much in the way of enjoyment. Probably the highest type of pleasure comes when a great thing is beheld and the mind comprehends it.

To answer these questions (and others) the educational service has been developed. Lectures are given, guided trips conducted, information dispensed, museum specimens displayed and research encouraged.

The lectures deal with the carving of the canyon, the geology of the region, the scrambled plant life of the canyon, interesting animal life, or the history and settlement of the region.

The museum contains much of interest in the way of specimens that act as a key to the larger natural museum - Zion National Park. There are collections of flowers, insects, reptiles, amphibians, rocks, fossils, Indian relics, pioneer relics and others.

At the information counter in the museum, questions of roads and trails are answered and other information dispensed. The government publications dealing with national parks - both free and sale - are available.

Daily guided trips are conducted over the new gravel-surfaced trail from the end of the road to the Narrows. This is the most popular trail that we have and here may be found the key to Zion Canyon. Along the way are pointed out the forces of erosion now at work in the canyon, as also the various types of vegetation all scrambled together due to the way the walls of the canyon modify the climate.

Studies have been made of the plants, the animals, the rocks and the relics, and articles are being prepared dealing with the more obvious groups. We encourage study and investigation and co-operate with scientists interested in furthering the scientific knowledge of our forms.

And now comes the Nature Notes. This is the second number. It is intended to disseminate information about the natural things of the Park that we collect from time to time. And it is hoped that they will help to create and perpetuate that love of nature that is so fundamental to a proper understanding of the relation of mankind to the rest of the universe.

EROSION - THEN AND NOW.

By A. M. Woodbury, Park Naturalist

A man named Marion Heap of Thayne, Wyoming, came in to the museum one day to tell us that Hopes Canyon as shown on the map should be spelled Heap's. He turned out to be a son of the old settler William Heap who lived in Zion Canyon from about 1864 (?) to 1874. He gave us a picture taken about 1870 showing himself sitting on his father's knee in front of the old log cabin in the mouth of Heap's Canyon (Emerald Pool Canyon).

He told us many interesting things about the olden days. The Virgin River was then confined between narrow grassy banks. It could be crossed in many places by dropping a foot log over it. And there was no big wash coming down out of Heap's Canyon as there is today. He recalled that one time, one of their turkey hens had stolen away and made a nest farther up the canyon toward the Lower Emerald Pool. While she was sitting on the eggs, they used to take a bed out and sleep on the ground by her to protect her from predatory animals.

One night, one of those thunderous electric cloudbursts occurred and brought heavy floods. He remembered the waterfalls that came over the cliffs from the hanging valleys above. The flood that came down Heap's Canyon spread out on a wide flat through the vegetation doing little erosive damage.

The contrast today is striking. If we can piece the story together, it is something like this. When the white people came into the region, they brought with them domestic stock (sheep, cattle and horses) which they turned out to graze, not only in Zion Canyon but also on the mountains at the head of the stream. They finally increased to such numbers that they badly overgrazed the region, tramping trails through the vegetation and making bare areas around the bed-grounds so that when the rains fell and the snows melted, the water running down over the bare soil picked up sediment and carried it into the streams. The river then had tools with which it could work. The sand acted as an abrasive, and the river then cut out the grass roots, drained the meadows, undermined the banks, letting the trees and bushes fall off into the stream, and widened out the channel, leaving it strewn with rocks.

On down the river for a couple of hundred miles, it has cut out thousands of acres of good fertile soil, once farmed, carrying it down into the Colorado River, for that stream to empty into the Gulf of California, there building up new land for a foreign country - Mexico.

ROBBING THE WORLD OF BEAUTY.

By J. W. Thornton, Ranger Naturalist

It was a glory of color, that columbine hanging as it did among the maiden hair ferns of the Hanging Gardens of Zion. I loved it all from the beautiful yellow of its petals to the entrancing pink of its spurs and sepals. It looked out from among the inimitable combination of columbine leaves, leaf with those marvels of natural design, the maiden hair fern. It just begged the world and gross from the souls of its many admirers and made them worshippers. Few passed it whose eyes did not glow with a light of appreciation and a deeper understanding of that undefinable thing which makes man, woman and flowers one in this glorious world.

I had learned to look for that flower each day, as I conducted Zion visitors along the trail, with an exuberance of emotions far removed from those felt ordinarily in the day's routine of duty. I greeted it with joy and introduced it to the crowds with keen delight and suppressed excitement. I touched it gently and caressed it as I would the face of my sweetheart and left it with the joy of living tugging at my heart-strings.

One glorious morning as the sun spread over the west wall of the temples of Zion and reflected those indescribable blends of lavender, pink, red and yellow over the east wall I went in search of my morning inspiration. It was gone. The blackened end of the stem where it had been gloriously enthroned told a sad and silent story. Some barbarian had been in Zion. His destructive had reeking with selfish ignorance had stolen the queen of beauty from her throne.

Zion had been robbed of something so beautiful that all the landscape mourned. The maiden hair fern so sensitive in its beauty cried out against the coarse violence of such an act on the part of nature's so called highest creation -- man. The brilliant cardinal near by, so often the victim of similar acts, swayed before the canyon breeze in eloquent protest against such vandalism. And my soul was weeping bitterly the loss of so much colorful, eloquent beauty that spoke to it in mystic tones the glorious secrets of the beauty of life.

Could the perpetrator of this unthoughtful, unkind act know our feelings his soul, if he has one, must be crushed under the load of resentment and sadness. For to us he murdered beauty and stole away loveliness and robbed the world of something that was an inspirational reminder of all that is good and beautiful and glorious.

May nature's God be kind to his soul and teach it this much needed lesson: that the loveliness that is emblazoned on the face of nature's manifestations is to be left untouched.

SQUAWBUSH AND SQUAWBERRIES
By A. M. Woodbury, Park Naturalist

In front of my office window at the museum, stands a clump of that distinctly odoriferous plant that reminds one of the native Indians, squawbush (*Rhus trilobata*). It is very closely related to the poison ivy, but of course, it is not itself poison. As a lad I remember gathering what then seemed to be a delectable dainty, squawbush gum, from its stems, and recall the wry faces that we used to pull when we tried to eat its acid-covered berries. And I remember watching the Indians weave and fashion the long slender flexible stems of young shoots into fantastic shapes to make baskets.

For three months now I have been watching this bush. At first the berries were green and sour. Later they turned red and ripened, losing much of their acid properties. The berries are still hanging in dull red clusters among the grayish green foliage. They do not appear to be a very popular article of diet among nature's denizens of the canyon, but occasionally some creature comes to partake of the ill-flavored fruit. In July some Black-headed grosbeaks came to pick and crack some of the freshly ripened berries.

In August, a young Rock squirrel (*Otospermophilus grammurus*) came visiting a few times, gathering the berries. The slender stems afforded but scanty support for him to climb, and the exhibition of acrobatic skill given in his attempts to reach the ends of the branches where the berries were hanging was enough to excite the envy of an experienced acrobat. Usually he had little trouble, but on one occasion as a branch swayed back and forth with him, the tail was waved to help in balance. Finally the branch bent down with his weight, and bracing himself with his tail on another stem he reached down, head foremost, and calmly picked off the berries which he ate suspended in the air head downward.

Along about the first of September, that delightful songster and mimic, the long tailed Chat, but who was not singing at that time of the year, came flitting through the thicket in search of morsels to eat. Mostly, it was hunting insects but on two occasions I saw it pick the berries and eat them.

Now, toward the close of the season, the berries are still in evidence, awaiting further developments.

INCREASES AT THE ZOO
By A. M. Woodbury, Park Naturalist

On August 15, a female horned toad (*Phrynosoma douglasii ornaticornis*) gave birth to 8 young, one of which smothered to death by failure of the egg membrane to remove from the nostrils. On August 17,

another female gave birth to 10 young. Soon after birth they were lively and able to run around actively. They were placed in a large screened cage into which insects were dropped that had been gathered up with a net. None were noticed to take any of the insects although the older lizards had great sport doing so.

The young ones kept disappearing day after day which puzzled us very much at first. Careful watch, however, soon revealed the cause. Vespid wasps commonly known as yellow jackets (*Vespa pennsylvanicum*) were found to be attacking the helpless little creatures, tearing them to pieces bit by bit with their atrocious mandibles. Such is nature - often extremely cruel.

A garter snake (*Thamnophis ordinoides vagrans*) gave birth on September 4 to 14 young, averaging nearly 9 inches in length. Earlier in the season, one of our rattlesnakes died from an injury evidently inflicted while catching. We skinned the snake and found that it contained 6 eggs, 4 in the right and 2 in the left oviduct.

Rattlesnakes, garter snakes and horned toads are said to be ovoviviparous; that is they retain the eggs in the body until ready to hatch, so that when the eggs are laid, the young immediately break the shell and emerge. Most snakes and lizards lay eggs in the soil and leave it to nature to take care of the eggs and young, but these exceptional cases seem to have developed farther in the scale of evolution in this direction.