Zion National Park News

National Park Service
U.S. Department of the Interior

Nature Notes

Fowl Play in Zion

Fugitives. Mavericks. Outlaws.

Who are we talking about here? Those individuals who skirt the law, who think they can move about freely in an open society knocking us on our ear, who evade the norm and thumb their nose at convention?

Well, yes. And there is possibly such an individual in Zion.

I know what you might be thinking. We've read the Morning Reports about the violations that occur in the park on a regular basis: camping near the Canyon Overlook trailhead; drag racing (sort of) on the highway between the VC and Canyon Junction (can someone really drive 71 mph on that stretch of road? Apparently they can!); setting cheat grass on fire to show a lady friend just how flammable the stuff is. Flagrantly denying the rules is a conscious behavior with which we are very familiar.

But sometimes we're intrigued, even excited, by the motives of a popular antagonist. His role in an unfolding drama gives us a reason to cheer him on—we identify with his unfortunate circumstances and secretly hope "he gets away with it."

In the last year or so, two sightings of such a charismatic single male have been brought to my attention. I haven't seen him. For goodness sake, don't go to the post office and scour the mug shots. Forget watching KCSG to catch a glimpse of him on TV. As yet, the park LE officers haven't issued an APB to discover his whereabouts.

WANTED: Cerulean Warbler. Deep blue above with a streaked back, white below with a narrow blue-black band across the throat, white wing bars and tail spots. He's considered disarming and almost endangered. Photo by Stuart Elsom

DO, however, hang out on the Lower Emerald Pool trail or lounge on the benches at the Lodge shuttle stop. Apparently these two spots are the ideal hideout. By all means, bring your binoculars because to observe our ne'er-do-well, you'll have to magnify your search. This dandy, this clever mastermind is a four-and-three-quarter inch flyer and seeing him would surprise and thrill. Remember his name: Cerulean Warbler (*Dendroica cerulea*).

Being a stranger to Zion, the importance of this blue and white rambler visiting us is great. Many areas of the world, including parts of the eastern United States, are experiencing significant fragmentation or loss of forest habitat vital to the survival of this species. The Cerulean Warbler's range extends from Canada (Quebec and Ontario), east to Nebraska and Iowa, and south to northern Texas, Louisiana, Mississippi, Alabama, and Georgia. After the breeding season, it migrates south through the Caribbean before spending the winter mainly in eastern Ecuador, Peru, and northern Bolivia. This warbler is the only globally threatened neotropical migratory songbird that winters exclusively in South America.

According to the National Audubon Society, Cornell Lab of Ornithology, and other conservation groups, the Cerulean Warbler population in the U.S. had dropped 70 to as much as 82% in the last 40 years.

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How Dry I Am...but not always...

Just when you thought you knew all there was to know about the Navajo sandstone—geologists are making some surprising discoveries here in the Colorado Plateau and out in the solar system. It turns out that this big, dry, ancient desert wasn't always so dry, and we are learning about geology that is out-of-this-world—on Mars—by studying the Navajo. Maybe a big, dry desert isn't such a boring place after all!

We've all heard about the giant sand dunes that covered the Colorado Plateau during the early Jurassic—an ancient Sahara Desert—that eventually became the magnificent cliffs of Zion. Miles and miles of sand, nothing but sand, barren as far as the eye could see—or so we thought. In Zion, the Navajo sandstone is still seen as primarily a wind-blown sand dune desert, as seen in the large, sweeping cross-beds on the east side of the park. But in other portions of the Colorado Plateau, accumulating evidence shows that this desert was occasionally a much wetter place, where life flourished around tropical oases.

In the Coyote Buttes area, concentrations of fossil burrows and theropod dinosaur tracks suggest that life was abundant during rainy periods that broke up the otherwise dry climate. Detailed study of crossbeds there suggests the Navajo desert experienced annual monsoonal rains, consistent with its position close to the equator. In Capitol Reef, geologists have found stromatolites—laminated mounds of calcium carbonate produced by cyanobacteria, resembling petrified haystacks or limestone onions. (The oldest fossils on earth are stromatolites over three billion years old; the best modern analogues are algal mounds growing today in Shark Bay, Australia.) Stromatolites would have formed over thousands of years in warm, salty, shallow lakes between sand dunes. Thin limestone layers in many locations are evidence of high water tables at various times, which resulted in stabilization of the sand dunes and ponding of water between dunes. One such lake is preserved in Canyonlands National Park, which contains more dinosaur tracks, burrows, and evidence of abundant plant life. Fossil tree stumps in the Moab area indicate conditions favorable for the growth of large trees, perhaps similar to the conifers growing up through the Coral Pink Sand Dunes today. Long-lived wet periods during deposition of the Navajo have been compared to wet "greening" periods in the Sahara Desert and Nebraska Sand Hills, linked to large-scale, natural patterns of climate fluctuation.

So while some geologists are changing our view of the ancient Navajo environment, others are finding similarities to Martian environments and rock formations. Iron concretions are common in the Navajo sandstone in Zion and elsewhere, and have a striking likeness to "blueberries" found in Martian rocks. Sometimes called "moki marbles" here on earth, these iron-rich spheres form as groundwater fluids dissolve iron oxides and precipitate them elsewhere in the rock, leaving bleached sandstone and iron rich layers. In Mars rocks, these concretions are distributed like berries in a muffin (or so it must have looked to a hungry NASA geologist who named them). It has been suggested that these "blueberries" could have formed under similar fluid-saturated conditions. Additionally, polygonal cracking patterns in Mars rocks have been compared to "tortoiseshell" or "brain-rock" weathering patterns in Navajo sandstone, possibly suggesting similar weathering patterns and thermal expansion-contraction processes.

Undoubtedly we will learn more about the ancient Navajo environment, and the Martian environment, as geologists continue to study the slickrock of Zion. What geologist wouldn't want to study some of the most scenic rocks on the planet?

-Adrienne Fitzgerald

What's Roaming in Zion?

Unusual Summer Bird Sightings:

-**California Condor** #6 at Lava Point, others at Kolob Creek waterfall outside of the park. Repeated sightings of 4-5 condors over Bridge Mtn.

-2+ **Mexican Spotted Owls**

-**Painted Redstart** pair (April-July), on Riverside Walk. See article on page 3.

-**Common Black Hawk** at Great White Throne.

Unusual Summer Mammal Sightings:

-**Bobcat** stalking two turkeys, West Rim Trailhead. Another above Watchman housing.

-**Beavers** in Virgin River.

-**Coyote** or **fox** in Narrows.

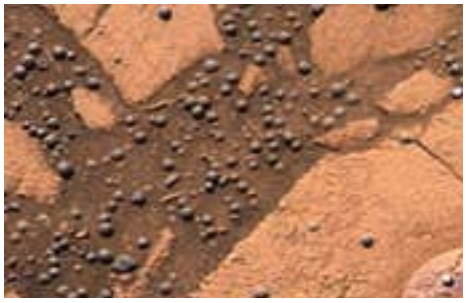
-**Mountain Lions** on Taylor Creek Trail, Northgate Peaks/Wildlcat trail junction, Coalpits wash first campsite East Rim trail, 1/2 mile before Stave Spring, cliff above Zion Lodge.

-**Desert Tortoise** found outside the park.

-**Bear** tracks (fresh) near Nagunt Mesa in Kolob.

Remind visitors to take care when driving and pull completely over to take pictures.

Iron concretions, or "moki marbles", in the Navajo Sandstone. Photo by Brenda Beitler, University of Utah



Mars "blueberries". Photo from NASA

"Out of Range"...

"Out of Range!" Commentary, as Tom Cruise and his fighter jet are unable to engage in an aerial dogfight? Computerized voice telling me I can't make a cell phone call? Nope, it's a visitor informing me that the bird I just identified using my guidebook could not possibly be found here in Zion National Park, it's "out of range."

A second assessment and flip through the photo plates brings me to the same conclusion, the bird was a Painted Redstart (*Myioborus pictus*). But, indeed according to my guidebook, the bird was out of range.

New questions about ranges darted through my head, eventually leading me to possible scenarios: 1) The range of the Painted Redstart changed or, 2) The Painted Redstarts I'd seen were simply off-course.

The Painted Redstart posesses a white tail instead of red tail as its "redstart" name implies. A future name change to Painted Whitestart anyone? Photo by Mike Dansenbaker

I soon discovered that this was not the first sighting of Painted Redstarts along the Riverside Walk. In fact the first documented sighting of these gorgeous wood warblers was April 26, 1930 while in the last four years a pair of Painted Redstarts has frequently been seen nesting. Lovers of the arid woodlands and mountains such as our high piñon-juniper slopes, they are the only member of its genus regularly occupying the USA. While all of this evidence seemed to show they were in fact "in range", guidebooks place their range along the US border, making the sightings here in Zion the northern-most sightings.

After watching a Painted Redstart insect hawking—flashing its white wing patches and tail feathers to flush out bugs—I determined that both scenarios held a little truth. These birds were perhaps originally off-course and out of range, but have now discovered a perfect niche and habitat here in Zion. Once again proving that Zion is an oasis in the desert, where an incredible set of unique species enter the dogfight for survival!

-Autumn Ela

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Found something funny and friendly in the park? Seen something silly or sly? Or just plain old got something to say? We'd love to hear it, so send us your submissions or observations! Drop it in one of our mail-boxes or e-mail us.

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It has been red-listed as "vulnerable" by the IUCN (International Union for the Conservation of Nature and Natural Resources), which means the bird will quickly disappear if habitats throughout its range are completely destroyed. In this country, mountain removal mining is one cause of dwindling numbers of this global traveler. Also, an insidious survivalist tricks the warbler and casts out the bird's own young from the nest—the brown-headed cowbird. We know how tenacious it can be.

So next spring, despite the warbler's attempt to blend in with our seasonal avian gangs, pin on your temporary deputy's badge and help his escape from injustice by closely watching for him in Zion Canyon. Keep in mind that he likes mature forested areas with large and tall trees of broad-leaved, deciduous species and an open understory, but may also inhabit wet bottomlands and mesic upland slopes. He'll look for insects higher in the tree's foliage than many other warblers. He should arrive in April and depart in August.

When you identify him, make your report to the proper authorities (those bird organzations mentioned above) as well as our own bird expert, Claire Crow. Then you can proudly revel in the knowledge that you aided and abetted a desperate criminal. If the Cerulean Warbler grows to love this place as we have, I doubt he could be considered a major flight risk. Take care, though. He may be villainous enough to soar right in and steal your heart.

-Robin Hampton