Close Encounters with the Helpful and Hurtful Harvester Ants

I was just sitting down and preparing to eat my lunch, when suddenly I felt a sharp, burning sensation on my left thigh. I jumped up and reflexively swatted. Now, in addition to the burning sensation a miniature bulldog began munching on my leg. I reached down inside my pants and swiped the critter out. Scanning the ground around me, I did not have to be told its name. “Pogos!” I exclaimed to my friend. “Let’s get out of here!” Although the pain lessened almost immediately, the area continued to throb for several hours.

_Pogonomyrmex_ is the genus of ants commonly called Harvester Ants. The name, derived from the Greek for “bearded ant,” refers to a complex structure of hairs beneath the ant’s head. Called a psammophore, it is used to gather seeds, transport sand and pebbles during nest construction, and carry eggs. Of the 28 species of _Pogos_ in North America, at least three are found in Utah and probably Zion too. The most conspicuous of which is _Pogonomyrmex occidentalis_, the Western Harvester Ant.

I was not the only Pogos victim; in fact one entomologist regularly seeks out Pogos pain…why? To rate it. The Red Harvester—probably present in Zion—received a rating of 3.0 out of a possible 4.0+ on the Schmidt Sting Pain Scale. Schmidt describes the sting as “bold and unrelenting. Somebody is using a drill to excavate your ingrown toenail.” This venom, among the most potent of known toxins can produce extended pain, burning, hives, swelling, wheezing, sweating, faintness, nausea and goose bumps. I guess I got lucky! Luckier too than birds, amphibians, reptiles, spiders, other insects, including even competing and raiding ants, who are all potential enemies and justification for such clout. Sometimes undeterred the sting serves as a warning before engagement in full-scale combat!

A walk along the Pa’rus Trail introduced me further to these creatures who were slowly earning my grudging respect. Around 9 am on a cool September morning, a few sluggish workers—reddish-brown and about 3/8 of an inch on average—are just getting started. By mid-morning, they are bustling, boiling up from their nests. These aboveground workers maintain the entrance, patrol for hostile intruders, and forage for food. They typically travel as much as 30 to 40 feet from the nest to collect the seeds from perhaps dozens of nearby plants. You might think these seed thieves have a negative effect on the plants. Well no and yes. Under many circumstances, the ants may strongly reduce the abundance and local distribution of flowering plants. On the other hand, seeds they

“Harvester Ant middens consist of gravel mounds several inches high, sometimes surrounded by twigs and leaves.”

Although Harvester ants dine primarily on seeds, they will also eat available insects, even those much larger than themselves. Photo Amy Gaiennie.

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What’s Roaming in Zion?

A Great Blue Heron (Ardea herodias), has become the Canyon Junction spillway mascot! An advocate of the multi-use Pa’rus trail look for this majestic flier at dusk.

Wild Turkeys’ (Meleagris gallopavo) still think they’re big enough, strong enough and gosh darn it people like us more than the shuttle buses. Trees and open space from the Lodge to the Court of the Patriarchs are their turf, so be ready for a stand-off!

Western Pipistrelle Bats (Pipistrellus hesperus) are out flying like slow erratic dusk butterflies, startling their insect prey and searching for mates before winter hibernation. Look for these hand sized, penny weights as they dart across Zion’s waterways.

Glow Worm (Phengodidae Family) females and larvae are happily lighting the Pa’rus and Angel’s Landing Trails among others. Think green, be as efficient as a glow worm—~10% of the energy produced by a light bulb is light, while 90% is heat, glow worms produce 100% as a bioluminescent light!

Please remember to take care when driving and pull completely off the road to take pictures.

What’s Blooming in Zion?

Four-wing saltbush, (Atriplex canescens-Goosefoot Family) with their salty leaves and love of alkaline soils are “winging it” along the Pa’rus and Watchman Trails.

Piñon (Pinyon) Pine (Pinus edulis-Pine Family) nuts are just about ready. Pesto anyone? The Pinyon Jays and friends are enjoying a final feast before winter sets in.

Utah Juniper (Juniperus utahensis-Juniper/Cypress Family) berries are appearing in scat throughout the park. Coupled with the purple Cactus (Opuntia-Cactus Family) fruit, they make a striking scoop of poop.

Shrub Live Oak (Quercus turbinlla-Oak Family) and Gambel Oak (Quercus gambelli-Oak Family) are both popping out acorns as fast as the squirrels can attempt to munch them.

Remember it is against park policy to pick flowers and in some cases serious illnesses and death may occur due to consumption, touching and sniffing of flowers.

I Dip, You Dip, We Dip

Craving solitude and relaxation after work I headed on down towards the swimming hole for a nice dip. As I made my way down the slope, I could practically feel the cool water on my toes, hear the sound of the water tumbling and cascading over the sandstone and into the pool. This was going to be the most relaxing swim ever! I scrambled over the boulder and as I rounded the corner my visions of isolation were shattered! There he was, across the pool. MY pool. Standing on a big boulder in all the glory nature gave him, dipping away. I should have known he might be there…. I should have expected it. After all, it made perfect sense. Under most circumstances I might be irritated at this invasion of privacy, perhaps even a bit miffed. This guy was different though. He was one of my close buddies—one of my most joyful companions: the American Dipper.

I may indeed be a bird nerd, but the joys of the American Dipper (or Water Ouzel) (Cinclus mexicanus), extend beyond my personal love. I’ve come across both park visitors and employees asking me what this curious bird is they see along the river. In The Mountains of California, John Muir writes, "He is the mountain streams' own darling, the humming-bird of blooming waters, loving rocky ripple-slopes and sheets of foam as a bee loves flowers, as a lark loves sunshine and meadows.” Indeed just as the waters in Muir’s beloved Sierras, our Virgin River & her tributaries provide ideal habitat for these birds: lots of rocks and fast-dropping water. Zion National Park provides an oasis of habitat for these water-dependent birds among the harsh & arid climate of the four corners region.

Thriving in a world of cold, turbulent water, the American Dipper is host to a great variety of fascinating adaptations, including his namesake. He is named for the habit of bobbing up and down; bending at the “knees” as if he was performing repeated curtseys. At times the show may be augmented with fast-paced blinking revealing a white eyelid. No one is really sure exactly why these birds dip, though the most widely excepted idea seems to be communication. Just as white-water rafters use nonverbal communication to overcome the loud, rushing water, so do these Ouzels. The behavior starts early; in fact, young dippers have been seen practicing their moves while still in the nest.

While the Dipper does perform its dips best while standing on dry land, the birds are

American Dippers, also known as Water Ouzels are the only North American aquatic perching bird.
I stand- my back against the distinctive canyon walls for which Zion was aptly appointed a National Park. At my front are sixty eager eyes all looking for fascinating tidbits of information on a morning Shuttle Tour. This morning precedes as many others before, following the theme of a life giving river providing for many forms of diversity. In order to test the crowd’s knowledge of desert life, I pull out a small animal pelt. Predominately black and white in color, it is the ringed tail making up half of its body length that makes this animal unique. I study the expressions of the crowd; I see eyes glowing with curiosity, some with confusion, and others with wonder, few with recognition. I ask the group, what desert dweller is this? One visitor shouts, “Weasel!” Another, “ferret!” The answers are typical, but alas. Finally one hesitant visitor murmurs quietly, a ringtail cat?

The ringtail is also known as “ring-tail cat,” “civet cat,” and “miner’s cat,”

The ringtail cat, correct enough for a rewarding sticker; however, the ringtail (Bassariscus astutus) is actually not a cat at all. Although it resembles one in size and the two have similar hunting techniques, the ringtail is actually in the same family as another ring-tailed omnivore, the raccoon. Both are equipped with banded tails, a face mask, and the desire to scavenge food from you.

Later, I ponder the lack of knowledge many seem to have of this southwest critter. I decide to head to the park library to do some research. I search through numerous books specific to mammals of the southwest, but discover some disconcerting news. It seems as though little research has been conducted on the ringtail. At most, one page is dedicated to their behaviors and other books admit little research had been done. How could this seemingly sweet, southwest stick-rock scavenger go unnoticed? After all, there’s tell-tail evidence throughout these cliffs of their residency. Amongst our tracks on the trails and near the river one surely will find small tracks equipped with five distinct toes. As fall approaches, the evidence of their occupancy is only further enhanced as one may find a small purple scat choked with berries. A sign of not only the sweet-tooth of the ringtail, but as well, of this ripe desert treat, the fruit of the prickly pear cactus.

Although the ringtail is quick to leave its mark, it is fairly uncommon to see one. They are off skirting rock ledges and scampering amongst the rock crevices under Zion’s mysterious moonlit nights. The ringtail has comparably short legs for its size. Along with a long bushy tail, these petite legs allow the ringtail its’ quick agile movements to effortlessly search cracks for mice, moths, and insects to dispel its’ hunger. An expert climber, the ringtail would challenge even Zion’s most skilled rock climbers. Perhaps it could challenge a gymnast as well. The ringtail is furnished with feet that swivel 180 degrees, allowing the ringtail the ability to cartwheel between narrow cliff walls. This sounds like a challenge for the next summer Olympics!

Suddenly startled by the time I decide to put my research and daydreaming on hold. I gather my things to head home. I swing the door open and as if out of a movie there sits a perfectly poised ringtail. Its’ wide-eyed expression meets my own. For a brief moment I am witness to this seemingly elusive species. From now on I will be able to vow for the active abundance of these lively creatures. As well I will be sure to pass on the good news that unlike other bandits, this masked animal can be easily identified.

-Jacqueline Winter

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indeed at home in the water. In fact, they rarely stray from the water’s edge even to nest and rear their young. Dippers tend to build their mossy nests in tucked-away places like behind waterfalls and rocky outcroppings… no wonder I’ve seen them in the Narrows and along the Riverside Walk all summer long! They forage in and under the water, both walking along the bottom and swimming beneath the surface gleaning macroinvertebrates from beneath the rocks.

Lucky for us, the Virgin River does not lose along the way may help to disperse plants more widely, partly compensating for the damage they do. Meanwhile, out of sight underground, some ant workers care for the queen and tend the new larvae. Others excavate new chambers, store food, or carry garbage and excavated dirt to the surface. This too helps plants grow, by aerating the soil and increasing soil moisture retention, so much so that they’ve been dubbed “the primary soil workers in the Southwest.”

As entomologists’ waiver back and forth on the helpful or hurtful impacts of Harvester Ants, I’ve discovered that understanding them a little better has taken the sting out of my close encounter with this maligned insect.

-Amy Gaiennie

-Olympics!
The East & West Rim Trails: A Walk in the Park?

Imagine being paid $3.50 per day to strap yourself to the side of a cliff, jackhammer in hand, and slowly chip a trail out of solid sandstone. That’s how much crews got paid in the 1920s to build the East and West Rim trails. Construction methods and equipment have changed, but the main goal – building a trail that’s worth the hike while having a low impact on the environment – has remained the same over the past century.

Trail building, no matter what efforts are taken, harms the resource. However, many people find themselves unable to enjoy the resource without such paths. Back in the 1920s, park leadership and trail crews had one goal: to go up, up and up! Building the East and West Rim trails were quite the feats. With low pay, harsh conditions and, of course, a lot of dust, crews constructed these trails that leave Zion Canyon by way of dozens of switchbacks. They faced the same struggles that trail crews face today, especially when it came to the grades of the trails.

At the time, the National Park Service did have some semblance of trail standards. Frontcountry trails were to be five feet wide and not exceed a grade of 16 percent. Unfortunately for generations of hikers to come, some points on the West Rim Trail exceed that grade considerably because of the environment. Walter’s Wiggles, the brainchild of former Superintendent Walter Ruesch, has a 19% grade, with points along the trail achieving grades of up to 22 percent. You may not consciously be aware of this increased grade while hiking, but I bet your calves will take notice!

Seen the de/re paving of Angel’s Landing this year? It’s just one more step in the historical march of trail building in Zion!

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What did you learn in Zion?

“The people ate chicken.” - referring to the petroglyphs

“Sandstone is made of lawyers.”

“Zion means a city of wreckage and rage; a heavenly place.”

“Real roadrunners are nothing like the cartoon.”

“People should not eat grass.” - referring to picture below.

“The Virgin River cuts a lot of silt and puts it in Lake Mead via dump-trucks.”

“That I should protect the parks so that nature can journey into the future and my grandchildren can see it this same way.”

What didn’t you learn in Zion?

“How much does it cost to buy you as a souvenir?” - seven year old to a ranger

“Do snakes have butts?”

“If I cut slits in my neck like a fishes gills, will I be able to breath under water?”

“Is there are rock here called slimestone?”

“Where are the views we can see? Are they outside?” - It depends what you’re hoping to view I suppose.

I’m a poet, did you know it?

Scat
Brown
Stinks
I am interested when I see you!
-Violet (age eleven)
An Explosive Past. An Explosive Future?

We’ve all seen the black rock capping the red and white sandstones along Highway 9 towards Virgin. This basalt is a portion of a lava flow that came down the hillside from a small volcano. Often we think of a volcano as a steep sided mountain towering over the surrounding landscape. But here at Zion, volcanoes are rounded non-threatening hills, now covered in vegetation. Most of us have probably seen these small cinder cones dotting the landscape while driving up to Kolob Reservoir. These lava flows and small volcanoes indicate a violent and explosive past. Could they also signify the future of Zion?

Most of Zion’s volcanoes are found along the Kolob Terrace Road, which follows the East Cougar Mountain Fault, allowing easy access to the surface for molten rock. Aligned along the fault are three eruptive centers, or cinder cones, within Zion National Park boundaries: Crater Hill, Firepit Knoll, and Spendlove Knoll. Each of these erupted for only a short period of time.

Unlike the ash and rock plume produced by the 1980 Mount St. Helens eruption, Zion’s volcanoes produced thick, ropey lava that followed the topography downhill through existing valleys. These flows dammed rivers and streams and created lakes in places now covered in cacti and sagebrush. When these cinder cones and lava flows were releasing their fury, Zion National Park may have resembled the same landscape that is being created at Hawaii Volcanoes National Park today.

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The early trail crews actually paved these trails not with cement but with gallons of oil. It took 760 gallons of oil – plus sand and rocks from the side of the trail – to pave the East Rim Trail. Paving the West Rim Trail took almost twice that amount. All of that oil had to be packed up the trail by horses and mules. Although it helped to prevent more erosion on and around the trails, this type of paving only lasted a few decades. By the 1950s, the rangers and trail crews had had enough with the oil method and switched to the easier, albeit heavier, way of paving the trails: cement.

Another difference between the trail crews of the 1920s and ours today is that here at Zion, we no longer utilize stock animals like horses and mules to cart tools, cement and supplies up trails. Today, most tools and supplies are brought to trails at the higher elevations either with helicopters or small construction equipment, causing less of an impact. The 1985 epic repaving of Angel’s Landing Trail took more than 200 helicopter trips to bring just 88 cubic yards cement up to Walter’s Wiggles.

I bet that if a member of Zion’s 1920s trail crew returned to the park today, he would notice little difference between the trails he built and ones we hike on today. Zion’s first tourists, perhaps after visiting the Grotto visitor center and museum, appreciated the park more after hiking on some of these gravity-defying trails. Today, the methods of construction are different but the look and feel of our trails is the same. Most of us make our deepest connections with Zion from the top of Observation Point or gazing upon the Great West Canyon from the West Rim Trail. We can take ownership and pride in our national parks by hiking these historic trails and appreciating not only the scenery but the effort behind their construction as well.

-Tiffany Rivera

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Nature Notes Editor:
Autumn Ela
autumn_el@nps.gov

Thanks to our writers this month; Cat Ceci, Amy Gaienne, Katie Raney, Tiffany Rivera and Jacqueline Winter!