The Industrious Desert Woodrat

On Valentine's Day my husband and I took advantage of the nice weather to picnic and hike at Arthur B. Ripley Desert Woodland. On our walk, we were happy to notice that several of the Joshua trees that are a prominent feature of the desert woodland protected by this park, had the beginnings of blooms nestled in the center of their leaves. One bloom was easy to photograph as it was in a young plant barely two feet tall. As I took my photo, I also noticed that the leaves of this plant were completely devoid of the sharp tips that typically make the Joshua tree a prickly danger to careless desert explorers. The very green leaves also looked as if they had been partly eaten. Whoever had dined on this plant, however, had first "pruned" the sharp leaf tips. I found many of them discarded around the base of the plant (after I first accidently kneeled on one – ouch!). As we continued walking, we found Joshua tree leaves on older trees, much higher off the ground that had also served as someone's dinner.

So what desert animal can climb the rough trunk of a Joshua tree to harvest its leaves? One likely candidate is the *Neotoma lepida* commonly known as the desert woodrat. It is also known as a "pack rat" due to its attraction to shiny manmade objects that it will often "borrow" and take back to its nest. Another common name is "trade rat" because it is known to leave something in place of the purloined object – probably due to the fact that it discarded one "treasure" when another more attractive object was found. When these industrious characters make their homes too close to humans, they have been implicated is some serious thefts, including in one instance, the disappearance of a valuable diamond ring that was documented by sheriff investigators in Kalispell, Montana!

Desert woodrats are 8.5 to 15 inches long (including the tail) with buff-gray back, white hind feet and multi-colored tail. They are able to survive in the desert even when water is not available due to their ability to obtain nourishment and moisture from desert plants that are avoided by other desert dwellers. Woodrats find food and water by eating cactus pads and the young leaves of Joshua trees that others find poisonous due to a high content of oxalic acid created during the process of photosynthesis. This acid is toxic to humans and desert rodents such as the kangaroo rat because it combines with calcium to produce calcium oxalates which can damage the kidneys. Woodrats are adapted to easily metabolize this acid.

Woodrats also eat bark, berries, pinyon nuts, and seeds. They forage primarily at night, making it unlikely that they will be spotted by desert day hikers. However, their presence can be detected easily due to the rather spectacular nests that they create. Using branches, twigs, sticks and other scrounged debris (including human discards!) they create large mounds resembling beaver dams than can be as high as 3 feet. Nests can be found beneath cholla and prickly pear cactus and sometimes within rock crevices

and caves or in abandoned human dwellings. At Ripley Desert Woodland desert woodrats have created large nests underneath some of the California juniper trees. We found several of these on our hike along the Rare Juniper Trail.

Woodrat nests or “middens” can be occupied for multiple generations. If protected from water, they are surprisingly durable. Woodrats often urinate on nest material. As the urine dries out sugar is produced that “cements” the midden together. Researchers are now excavating abandoned woodrat nests, found in caves in the arid southwest, to better understand the change in vegetation in a specific location over time. Using carbon dating scientists have found ancient nests in these areas that are more than 40,000 years old!

Visit Ripley Desert Woodland and as you enjoy the park look underneath the California junipers and examine the Joshua trees for evidence of the fascinating desert woodrat! The park is located on Lancaster Road approximately 7.5 miles west of the Poppy Reserve. Two trails with brochures are available. Interpretive panels give more information about the history of the park and the habitat it protects. To see photos related to this article, please visit www.prmdia.org and select NEWS and then PRESIDENT’S MESSAGES.