

A wood rat cacti house in the Grand Canyon

by Jessica Dettman

There are two wood rat species which are abundant in the river corridor of the Grand Canyon. The desert woodrat (*Neotoma lepida*) (Fig. 1) is found on both the north and south side of the Colorado River (Hoffmeister 1971) and is skillful at navigating within spiny cacti plants. It eats spiny cacti, green vegetation, and seeds and pods available in its arid habitat (Whitaker 1998). It uses an underground burrow as a nest where it can keep cool, be protected, and store food (Whitaker 1998). The other species present is the white-throated woodrat (*Neotoma albigula*) (Fig. 2), which is mostly restricted to the south side of the Colorado River (Hoffmeister 1971). This species is also good at climbing among cacti plants, and is often associated with prickly pear cactus (*Opuntia* sp.) (Whitaker 1998). It has a diet similar to the desert woodrat, but depends more heavily on cactus. It generally chooses the base of a prickly pear or cholla cactus as the location for its house, where it often has a burrow for storing food (Whitaker 1998).



Figure 1. The desert woodrat is abundant in the Grand Canyon river corridor (Photo © Anthony Mercieca *in* Whitaker 1998).



Figure 2. The white-throated woodrat is another abundant Grand Canyon river corridor inhabitant (Photo © C. Allan Morgan *in* Whitaker 1998).

While looking around a site at river mile 220 right, we found a prickly pear cactus which was being used as a woodrat house (Fig. 3). The cactus was large (over 6 feet in diameter), and was located in the old high water zone (Dettman 2005). Numerous signs of chew marks were visible on its vegetation. Woodrat pellets were scattered throughout the cactus' base, and were abundant. The large volume of chew marks and pellets served as evidence that this cactus was being used as a woodrat house. The chew marks show that the woodrat is using the cactus as not only a home, but also a food source. Since the cactus was located on the North side of the river, this house presumably belonged to a desert woodrat individual, even though the use of prickly pear cactus as a house location is generally attributed to white-throated woodrats.



Figure 3. The prickly pear cactus house found at river mile 220 right. Notice the numerous chew marks, which can be attributed to woodrat herbivory (Photo: Sarah Thrasher)

In addition to the numerous signs of woodrat use, there was a burrow visible at the base of the cactus. This burrow had an opening about 5-6" wide which was easily big enough for a woodrat. Since woodrats are nocturnal, the woodrat was likely hiding in this burrow when we came upon its house during the daylight hours. Interestingly, a desert spiny lizard (*Sceloporus magister*) was also moving around within the cactus base (Fig. 4). Upon our arrival, the lizard retreated to the burrow in order to hide. Woodrat burrows and houses are often used by other invertebrates and vertebrates as a site of refuge (Whitaker 1998), and our observation provides direct evidence that this woodrat's home was useful to other species.



Figure 4. A desert spiny lizard was found using a woodrat burrow within a prickly pear cactus (Photo: Jessica Dettman).

Overall, this prickly pear cactus house was an interesting find. The evidence of woodrat activity within the cactus showed that it was being used as a home, a food source, a waste deposit site, and a refuge for other species. The complex ecology surrounding this single cactus showed how important a given plant individual can be to the animals that live around and within it.

REFERENCES

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