

Visitors curiosity satisfied about desert floor pock-markings

by John Engler

"Who makes those holes in the ground?" Virtually every out-of-town visitor who has ever hiked with me in the Desert Foothills has asked about the wide variety of holes that pock-mark the desert floor.

"Rodents" have been my stock answer. That seems to satisfy (maybe pacify) most people, and that's where the inquiries usually stop.

Presumably, if the holes are made by something no more menacing than a rodent the hike can continue.

Recently, however, someone pressed the issue. "What kind of rodent?" Kangaroo rats came first to mind. I was sure they burrowed, but was unsure about which burrows were theirs. I thought about some other potential diggers: grasshopper mice, cactus mice and pocket mice.

But I didn't know whether they dug holes, appropriated the vacated headquarters of someone else or lived in nests above ground.

In the midst of my ruminations came another question. "Do snakes burrow?" I couldn't decide if the question was born of a need to better understand desert ecology or simple paranoia. At any rate, I couldn't answer.

Nor did I know if any lizards tilted the desert soil. I decided my stock answer was no longer adequate. I collected a dozen reference books and sat down to find out just who is responsible for the mysterious mouths on the landscape.

What follows is a list of the most-likely excavators of the visible holes ranging from small to large. Armed with this information you can handle most reasonable inquiries. Questions that go beyond what is covered here probably mean that the questioner already knows more than you and just wants to watch you squirm.

Probably the smallest of the visible holes have been made by

ants. The size of a hole may range from $\frac{1}{8}$ to $\frac{3}{4}$ inch. Local ant species include harvester, leafcutter and fire. The holes can be on perfectly flat terrain, in the center of a gently sloping mound or a sharply sloping, gravelly mound.

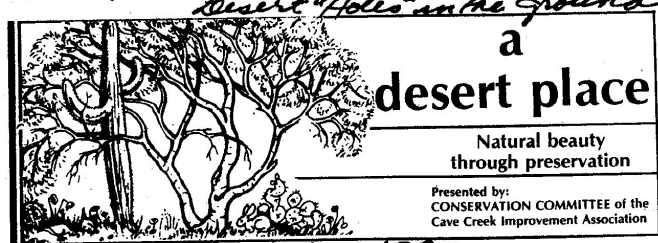
Ants are among the most important movers of desert soils, potentially moving almost a ton of soil per acre annually. Since most of the desert burrowing animals are nocturnal, ants might be the only creatures caught in the act of burrowing.

Most of the larger visible holes are made by rodents — however,

rocks. Often, however, they don't. A 4-inch diameter hole is strong evidence one has been at work. This is probably the largest of the openings most often seen.

A large seldom-seen burrow opening belongs to the badger. The opening resembles the broad side of a football, about the same size or larger. A large mound of dirt should be close by.

Another sizeable opening, possibly as large as the badger's and more often seen, might lead to a desert tortoise burrow. Look



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not all rodents burrow. The pocket mouse is one who does. His burrow hole can often be found in the open, away from overhanging shrubs. The hole will be finger-sized, just large enough to accommodate this $\frac{3}{4}$ -ounce animal.

The burrow opening of an antelope squirrel may be 1- to 1 $\frac{1}{2}$ -inch in diameter, also in the open. There is usually no mound at the entrance. Pathways can often be seen radiating from the opening.

A 2-inch hole under a bush or rock overhang may have been dug by a spotted ground squirrel or a round-tailed ground squirrel. If this hole is lined with silk it might be occupied by a tarantula.

Multiple holes between 2 $\frac{1}{2}$ and 3 inches in mounds on which grow bursage or creosote usually indicates the presence of the kangaroo rat. The root systems of these plants help support the roof of this multi-tunneled burrow.

Rock squirrels, as their name implies, generally burrow among

for them in the banks of desert washes.

The burrowing owl is capable of burrowing but prefers to take over vacated nests of large ground squirrels and tortoises.

While there are several species of so-called burrowing snakes in our range, they are capable of burrowing only in loose or sandy soils. Consequently, any burrows dug by these reptiles will quickly cave in on them and reveal no visible hole. The same is true for lizards who burrow.

The next scheduled "Desert Heritage" class will be from 7 to 8:30 p.m. Thursday, Nov. 21, at Cactus Shadows High School, in Room C3. The topic, "Reptiles," will be presented by Peter Mayne.

This class is invaluable to new residents.

The class, which has been scheduled for Nov. 14, "Birds of Our Area," has been rescheduled for Tuesday, Dec. 3, in the same room.