

**Burrow digging by Barn Owls.**—Barn Owls (*Tyto alba*) exhibit very plastic nest-site selection behavior. Commonly, they nest in attics and lofts, but also in many other varied sites. A summary of these peculiar nesting sites is found in Bent (1938), Dawson (1923), and Reese (1972). Hawbecker (1929) published a photograph of a Barn Owl nesting cavity in a bank (arroyo) wall, but did not speculate upon the evolution of the nest. Dawson (1923) and Everman (1882) noted that Barn Owls can dig their own retreats and nest burrows, but did not substantiate their statements with actual observations.

In 1970 and 1971, I investigated Barn Owl nests in a 1.8 mile-long section of Tijeras Arroyo, three miles south of Albuquerque, New Mexico. The habitat was desert grassland showing effects of overgrazing (Fig. 1). Plant forms present were assorted annual grasses, snakeweed (*Gutierrezia* sp.), four-winged saltbush (*Atriplex canescens*), rabbitbrush (*Chrysothamnus nauseosus*), and Russian thistle (*Salsola kali*). No large trees or barns were near the area.

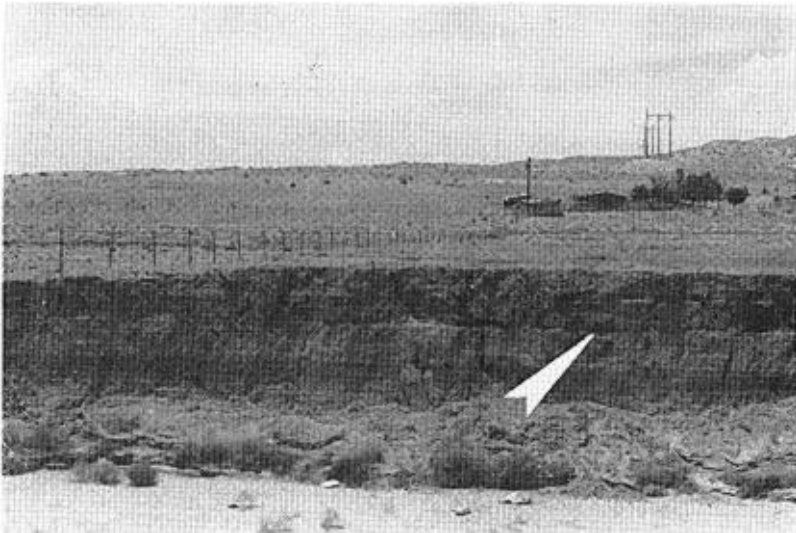


FIGURE 1. Study area in Tijeras Arroyo, New Mexico. Barn Owl nest burrow at top of arroyo.

Burrowing Owls (*Speotyto cunicularia*) also nested on the area. Their nests were modifications of Rock Squirrel (*Spermophilus variegatus*) tunnels. Thus, in 1970, when I found two Barn Owl nests in burrows, I presumed they also were inhabiting Rock Squirrel tunnels. Later I noted that the nests extended only 2-4 feet into the bank and did not appear to be modifications of Rock Squirrel tunnels. For the 1971 breeding season, five Barn Owl nests were recorded. None of the nest burrows appeared to be squirrel-tunnel modifications. The burrows extended a short distance into the bank and at no point had an interconnecting squirrel tunnel.

The design of each of the five nests was similar. A 6 to 12-inch tunnel extended horizontally into the bank 2-4 feet and ended in an elliptical chamber about 2 feet long, with one end joining the tunnel and the other extending left or right. The height of the chamber was approximately 10 inches. Entrance locations on the arroyo wall ranged from 3-5 feet from the top and 8-10 feet from the bottom. This design allowed the owls to remain out of sight of inquirers and out of reach of most ground predators.

Four of the five nests were in pre-existing burrows. I observed Barn Owls construct the fifth. While examining Burrowing Owl burrows on the evening of 21 March 1971, I observed a Barn Owl on a small ledge giving a concealing display as described by Ligon (1968) for Elf Owls (*Micrathene whitneyi*) and Catling (1972)

for Saw-whet (*Aegolius acadicus*) and Boreal owls (*A. junereus*). The next day a Barn Owl was again present at the site, but perched within a 6-inch recess. The photograph (Fig. 2) was taken two days later, when only a tunnel was present. The tunnel and chamber were completed after three more days.



FIGURE 2. Barn Owl looking out of burrow it had excavated.

Because the excavation of the first 6-inch recess was not observed, I cannot determine if the owl flew at the wall, as a swallow (Peterson, 1955), scratched with its talons, or dug with its bill, as a Burrowing Owl (Thomsen, 1971). Also no pellets were recovered that could confirm, as with Burrowing Owls (Martin, 1971), if the bill is used in digging. Observation of the remaining tunnel and chamber construction revealed the owl scratching with its talons.

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