Jones's pocket gopher | Geomys knoxjonesi

Jones's pocket gopher is restricted to regions of western Texas and eastern New Mexico with deep, sandy soil. Throughout its arid range, its habitat is characterized by the presence of aeolian wind-deposited soils, indicating that it may be a specialist in reference to soil composition. Alternatively, it may be that G. knoxjonesi has been displaced by G. buscarius from the harder, more endure soils surrounding this region. G. knoxjonesi typically occurs in native yucca grassland communities, although it has adapted well to grassy roadsides, pastures, and lawns. Pocket gophers are fossorial, spending their entire lives underground, so little is known about their nesting habits. However, burrows are generally designed with a central nest site connected to a multitude of feeding burrows. Typically, the presence of pocket gophers is documented by the small mounds of dirt (often referred to as mima mounds in the early literature) that are deposited on the surface when the animal excavate new burrows.

Pocket gophers can readily be distinguished from other species of mammals because of the fur-lined external cheek pouches, short tails, reduced external ears, and the greatly enlarged claws on their front feet. Within the genus Geomys, it is difficult if not impossible to distinguish among the different species without genetic or geographic data. The color pattern—pale buffy brown on the back, grading to paler sides and white on the ventral—sometimes can be used to distinguish G. knoxjonesi from G. attwateri, G. brevicaudus, G. pinetis, and G. tropicaulis (a Mexican species), which are generally darker. It is extremely difficult to distinguish G. knoxjonesi from G. personatus based on pelage color, and G. arenarius is essentially identical in color and size. G. buscarius usually cannot be distinguished from G. knoxjonesi without genetic data. For a number of years, these two taxa were considered to be conspecific. Only after intensive genetic studies (starch-gel analysis of proteins, DNA markers, and chromosomes) of a hybrid zone between the two taxa were they recognized as distinct species.

The ranges of two other genera of pocket gophers (Thomomys and Pappogomys) approach that of G. knoxjonesi in eastern New Mexico and western Texas, and P. castanops is known to be sympatric with G. knoxjonesi at two localities. However, these genera are easily distinguishable based on the number of grooves on the upper incisors. Pappogomys has a single groove on each upper incisor. Geomys has two, and Thomomys has no grooves.

Geomys knoxjonesi breeds in the fall of the year. Most young are born in the spring and early summer. The gestation period is unknown, but probably approaches 23 days, as is typical for
most species of rodents. If so, this indicates delayed implantation or sperm storage by females following the fall breeding season. Generally only one litter is raised per year, with two to four young (average two) being produced per litter. The young are born hairless and blind and require maternal care for the first few weeks. Growth and development are similar to that observed for other rodent species, with young being weaned at approximately three to four weeks of age. As is true of other species of Geomys, *G. knoxi* *n* *e* is extremely territorial. Males and females only come into contact during the mating season and aggressively defend their territory (burrow system) for the remainder of the year. *Geomys knoxi* *nes* appears to feed on a variety of tubers, roots, and seeds. These include yucca, sunflowers, and grasses.

Many arid-adapted species of rodents occur in the region occupied by *G. knoxi* *nes*, including kangaroo rats, pocket mice, harvest mice, deer mice, grasshopper mice, and ground squirrels. Except for *P. castanops*, these species are all terrestrial rather than fossorial.

S. D. Bradley and R. J. Baker

**Size**

- Significant sexual dimorphism
- Total length: 103–282 (236) mm
- Length of tail: 37–104 (81) mm
- Weight: 160–185 g

**Identification**

*Geomys knoxi* *nes* is small in size for the genus. Its tail is shorter than the head and body, but proportionately long compared to that of other species of pocket gopher. It is pale in coloration, with buffy-brown upperparts; the sides and vent are pale to white, and the feet are white. *Geomys knoxi* *nes* does not occur with other species of *Geomys* except *G. bursarius*, with which it has a narrow contact zone in eastern New Mexico. These two species generally cannot be distinguished without genetic data. Although *Geomys knoxi* *nes* is sympatric with the yellow-faced pocket gopher (*Pappogeomys castanops*) in at least two localities in eastern New Mexico and western Texas, it is readily distinguishable by its smaller size, paler coloration, and smoother pelage.

**Recent Synonyms**

*Geomys bursarius knoxi* *nes*