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Geomys knoxjonesi.

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Geomys knoxjonesi Baker and Genoways, 1975

Jones's Pocket Gopher

Geomys lutescens Merriam, 1895:129. Type locality "sandhills on Birdwood Creek, Lincoln Co., Nebraska."
Geomys lutescens major Davis, 1940:32. Type locality "8 mi. W Claredon, Donley Co., Texas."
Geomys bursarius major Villa-R. and Hall, 1947:229. Type locality "8 mi. W Claredon, Donley Co., Texas."
Geomys bursarius knoxjonesi Baker and Genoways, 1975:1. Type locality "4.1 mi. N, 5.1 mi. E Kermit, Winkler Co., Texas."
Geomys knoxjonesi Baker et al., 1989:74. Type locality "4.1 mi. N, 5.1 mi. E Kermit, Winkler Co., Texas."

CONTEXT AND CONTENT. Order Rodentia, suborder Sciurognathi, family Geomyidae, subfamily Geomyinae (Wilson and Reeder 1993). *G. knoxjonesi* is monotypic (Baker et al. 1989; Mauk et al. 1999).

DIAGNOSIS. *Geomys knoxjonesi* is small for the genus both externally (Fig. 1) and cranially (Fig. 2; Baker and Genoways 1975). Externally, *G. knoxjonesi* is nearly indistinguishable from *G. arenarius, G. bursarius,* and *G. personatus* (Bradley and Baker 1999). *G. knoxjonesi* and *G. bursarius major* share a narrow contact zone in eastern New Mexico and cannot be distinguished without genetic analysis (Bradley and Baker 1999). *G. knoxjonesi* is sympatric with *Pappogeomys castanops* in eastern New Mexico and western Texas (Bradley and Baker 1999; Pembleton and Baker 1978) and is readily distinguishable from *P. castanops* by its smaller size, paler color, and smoother pelage (Bradley and Baker 1999). *G. knoxjonesi* has bisulcate upper incisors, whereas *P. castanops* has 1 median groove on upper incisors (Baker and Williams 1974; Jones and Manning 1992).

GENERAL CHARACTERS. *Geomys knoxjonesi* has a thick-set body; small eyes; reduced pinnae; enlarged, heavily clawed forelimbs; and large external fur-lined cheek pouches (Baker and Williams 1974). Dorsal pelage is pale buffy-brown and moderately smooth, grading to paler white on venter. Feet are white. Length of tail is shorter than length of head and body (Baker and Genoways 1975; Bradley and Baker 1999). Average external measurements (in mm), followed by extremes in parentheses, from 24 male and 39 female pocket gophers, respectively, are: total length, 247.0, 225.8 (206.0–282.0, 203.0–255.0); length of tail, 85.3, 77.8 (74.0–104.0, 57.0–94.0); and length of hind foot, 30.1, 27.7 (25.0–35.0, 23.0–31.0—Baker and Genoways 1975). Length of ear of holotype is 6 mm (Baker and Genoways 1975). Adult mass ranges from 160 to 185 g (Bradley and Baker 1999).

Average and extreme cranial measurements (in mm) from 24 male and 39 female pocket gophers, respectively, are: greatest

FIG. 1. Live *Geomys knoxjonesi.* Photograph by Robert J. Baker.

FIG. 2. Dorsal, ventral, and lateral views of cranium and lateral view of mandible of *Geomys knoxjonesi* (female, Museum of Texas Tech University, TTU 19873). Greatest length of skull is 38.4 mm.

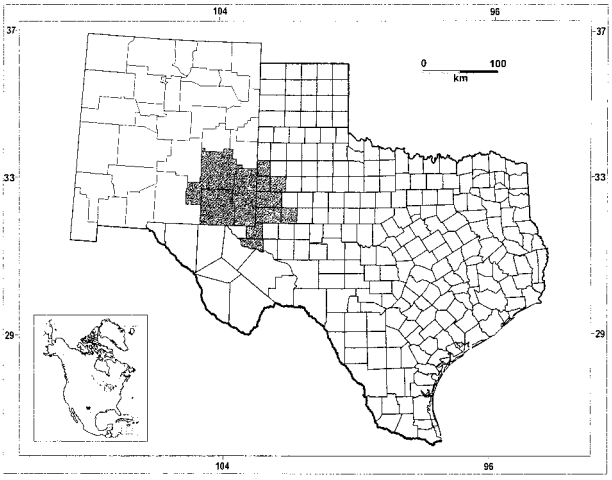

FIG. 3. Distribution of *Geomys knoxjonesi*.

length of skull, 43.6, 39.4 (40.9–46.9, 37.6–43.0); condylobasal length, 42.2, 38.0 (37.0–45.7, 36.0–44.2); zygomatic breadth, 27.4, 23.7 (23.8–37.8, 22.4–26.6); interorbital breadth, 5.9, 5.9 (5.3–6.6, 5.5–6.6); mastoid breadth, 24.7, 22.3 (23.0–27.7, 21.4–23.8); length of nasals, 15.3, 13.5 (14.0–18.1, 12.5–14.7); length of rostrum, 18.2, 16.1 (14.1–20.2, 14.7–17.7); length of maxillary toothrow, 8.2, 8.0 (7.5–9.0, 6.8–8.9); and palatofrontal depth, 16.0, 14.6 (15.0–17.5, 13.7–15.9—Baker and Genoways 1975).

DISTRIBUTION. *Geomys knoxjonesi* occurs in Cochran, Yoakum, Terry, Gaines, Martin, Andrews, Winkler, and Ward counties in western Texas and in Chavez, Eddy, and Lea counties in southeastern New Mexico (Fig. 3; Baker and Genoways 1975). Fossils of *Geomys* are common from the Pleistocene in the Great Plains from mid-Texas through Oklahoma, Nebraska, and South Dakota to the north and eastward into Illinois, southern Wisconsin, and northern Missouri (Russell 1968).

FOSSIL RECORD. *Geomys bursarius* is known from the Wisconsinan in Texas (Hart 1978; Kurtén and Anderson 1980; Russell 1968). Because specific locality data are lacking for these fossils, some may be *G. knoxjonesi*.

FORM AND FUNCTION. Jones's pocket gopher is sexually dimorphic (Davis 1940; Honeycutt and Schmidly 1979; Pembleton and Baker 1978). Mean sizes of both external and cranial features were greater among males (Baker and Genoways 1975). Dental formula is i 1/1, c 0/0, p 1/1, m 3/3, total 20; all teeth are rootless (Baker and Williams 1974).

ONTOGENY AND REPRODUCTION. Gestation is probably ca. 23 days, indicating delayed implantation or sperm storage by females. Young are weaned at 3–4 weeks of age (Bradley and Baker 1999). Reproductive activity occurs from late October to early April (Pembleton and Baker 1978). Average testicular length (17 mm) increased in October, reached peak size (18.5 mm) during January and February, and began to decrease (11 mm) in early April (Pembleton and Baker 1978). Pregnant Jones's pocket gophers were found in February and March (number of embryos not given—Pembleton and Baker 1978).

ECOLOGY. *Geomys knoxjonesi* is restricted to deep sandy soil in contrast to *G. b. major*, which occurs in hard loamy soil (Baker et al. 1973, 1989; Bradley et al. 1991; Davis 1986; Pembleton and Baker 1978). Jones's pocket gophers feed on tubers, roots, and stems of plants such as yucca, sunflowers, and grasses (Bradley and Baker 1999).

BEHAVIOR. *Geomys knoxjonesi* is territorial, tolerating contact with the opposite sex only during mating (Bradley and Baker 1999). Jones's pocket gopher is active year round and does not hibernate.

GENETICS. *Geomys knoxjonesi* has 2n = 70 chromosomes and a fundamental number (FN) = 68 autosomal arms in Texas and 70 autosomal arms in New Mexico (Baker and Genoways 1975; Baker et al. 1973; Qumiseyeh et al. 1988). Populations in New Mexico and Texas are separate chromosomal races (Baker and Genoways 1975). The X chromosome is the largest element of the karyotype. Samples from New Mexico have a medium- to small-sized acrocentric Y chromosome, whereas samples from Texas have entirely acrocentric chromosomes, with the 3 smallest pairs having secondary constrictions (Baker and Genoways 1975; Hart 1978). The biarmed element is distinctly larger compared to other autosomes (Baker et al. 1973).

Minimal interbreeding occurs between *G. knoxjonesi* and *G. b. major* along a narrow contact zone in New Mexico (Davis 1986; Pembleton and Baker 1978). The resulting hybrids are located in habitat that is intermediate to the hard loamy soil associated with *G. b. major* and the deep sandy soil associated with *G. knoxjonesi* (Pembleton and Baker 1978).

REMARKS. Although Davis (1986) first recommended *G. knoxjonesi* be elevated to species status, Baker et al. (1989) were the first to suggest that *G. b. major* and *G. knoxjonesi* acted as biological species. The specific name *knoxjonesi* is a patronymic in honor of J. Knox Jones, Jr.

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