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SECOND RECORD OF *CRYPTOTIS PARVA* (SORICIDAE: INSECTIVORA) IN NEW MEXICO, WITH REVIEW OF ITS STATUS ON THE LLANO ESTACADO

The least shrew, *Cryptotis parva*, has been recorded from five localities on the Llano Estacado (Staked Plain) of western Texas (Stickel and Stickel, 1948; Packard and Garner, 1964; Packard and Judd, 1968; Davis, 1974). All of these localities are in the northeastern part of the Llano Estacado, and none is more than 40 km from the eastern edge of the caprock (Fig. 1). Two new specimens reported herein extend the known distribution of *C. parva* on the Llano Estacado westward into New Mexico and provide additional information concerning habitat association of this mammal.

Stickel and Stickel (1948) recorded remains of three *C. parva* from 118 barn owl (*Tyto alba*) pellets taken from a building near Old Mobeetie, Wheeler County (Locality 1, Fig. 1). The vegetation around the ranch house was chiefly shin oak, sagebrush, and grass, and the locality is five or six km north of the North Fork of the Red River.

Blair (1954) recorded five specimens from a locality 14.5 km E of Stinnet, Hutchinson Co. (Locality 2, Fig. 1). This is north of the South Canadian River, about 30 km from the Llano Estacado. One of the specimens was found in a rattlesnake; four (one male and three females) were found together on the floodplain of a creek, and Blair commented: "The distribution of the little short-tailed shrew in the Kansan province probably follows the stream systems, for all of the records are from the vicinity of major streams."

Packard and Garner (1964) collected a single female from 3.2 km N of South Plains, Floyd County (Locality 3 (northeast), Fig. 1) under leaf litter alongside a roadway. In the same paper Packard and Garner reported two specimens of *Notiosorex crawfordi* from near the base of a utility building 0.4 km NW Lubbock, Lubbock County (Locality 3 (southwest), Fig. 1). We have examined these specimens and found them both to be *Cryptotis parva*; this would have represented the western distribution record in Texas for *Cryptotis* at the time of publication.

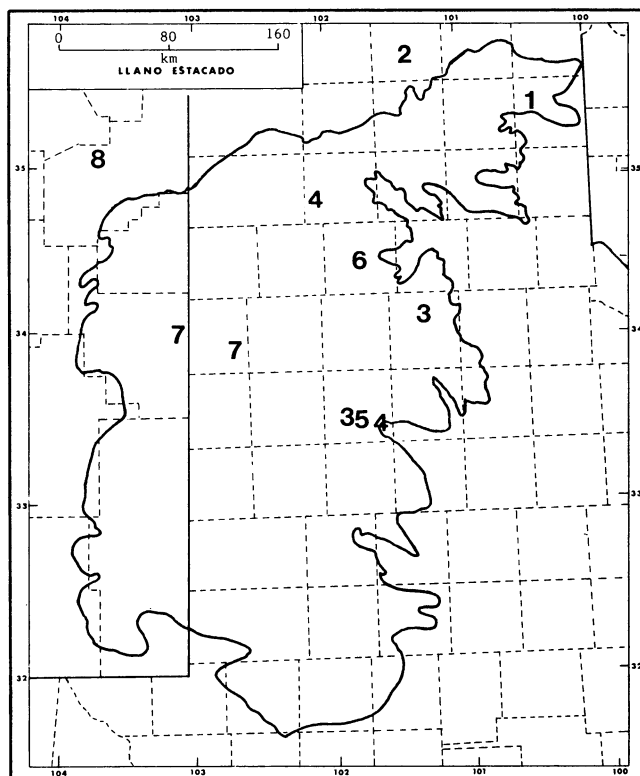


FIG. 1.—Locality records for *Cryptotis parva* on and near the Llano Estacado (Texas and adjacent New Mexico): (1) Stickel and Stickel, 1948; (2) Blair, 1954; (3) Packard and Garner, 1964 (including specimens reported as *Notiosorex*); (4) Packard and Judd, 1968; (5) this paper (collected by J. Beecham, 1967); (6) Davis, 1974; (7) this paper; (8) Hoditschek et al., 1985.

Packard and Judd (1968) reported two new specimens from the Llano Estacado (Localities 4, Fig. 1): a male was taken from the vicinity of Buffalo Lake Wildlife Refuge, Randall County, from a draw in a buffalo-blue grama-yucca association; a female from 7.2 km N of Slaton in Yellowhouse Canyon, Lubbock Co., was obtained in similar habitat in a shallow draw. An additional (heretofore unreported) specimen was collected on 14 May 1967 by J. Beecham at a locality 1.6 km E Lubbock, Lubbock County (Locality 5, Fig. 1). This specimen (TTU 3945) is a well-preserved mummy of undetermined sex. These specimens together suggest that the species may be more common on the Llano Estacado than previously suspected, especially in areas where native grasses remain. The Randall County specimen represents the westernmost record of *C. parva* on the Llano Estacado, as well as the locality farthest from the edge of the Llano.

Davis' (1974) distribution map for the least shrew indicated a record from an unidentified place in Swisher County (Locality 6, Fig. 1). No mention is made in the narrative, however, concerning the locality or habitat of this specimen.

We recently obtained two specimens (Localities 7, Fig. 1) that provide new information concerning the distribution and habitat of *Cryptotis parva* on the Llano Estacado. One of these (TTU 41007, sex undetermined), was obtained on 10 March 1982 by Allan Jones on the Muleshoe National Wildlife Refuge, about 9.7 km S of Needmore, Bailey Co., Texas. This is in the westernmost tier of counties in the Texas panhandle, and is roughly in the center of the Llano Estacado. The other specimen (TTU 41008, a female) was taken on 3 January 1982 by Donald Haley on the Grulla National Wildlife Refuge in eastern Roosevelt County, New Mexico. This

represents the second record of *Cryptotis* for New Mexico (see Hoditschek et al., 1985) and is the westernmost record for *C. parva* on the Llano Estacado.

The specimen from Muleshoe Refuge was taken from a ditch a few hundred meters north of White Lake, in an area where the primary (and virtually only) plant is alkali sacaton (*Sporobolus airoides*), a grass commonly found on moist alkaline soils (Stefferd, 1948:694-695). The Grulla Refuge specimen was found within a few hundred meters of the north edge of Salt Lake, in an area dominated by alkali sacaton, grama (*Bouteloua* sp.) and some forbs. In both of these places the prevailing southerly winds, in connection with summer drying conditions, create salt blowouts on the north side of the playas. Armstrong (1972:52-53), in his account of *C. parva* in Colorado, noted that a westward shift in distribution may have been made possible by the favorable and relatively stable habitat created by extensive irrigation. Large portions of the Llano Estacado have been extensively irrigated for the past 20-30 years, and this practice may have allowed *C. parva* to extend its range westward from the canyons and draws of the eastern edge of the caprock. The Llano Estacado is dotted with numerous playas, an occasional one of which is permanent or nearly so. These typically are also refugia for native grass associations, as they virtually are the only uncultivated areas on the rural Llano Estacado. The natural playas of the Llano Estacado may provide slightly mesic native grass associations capable of supporting populations of *Cryptotis parva*, and (perhaps only recently) these shrews may have been able to reach these refugia from the riparian habitats (east of the Llano Estacado) with which least shrews are more typically associated. We expect that *C. parva* will be found with increasing frequency on the Llano Estacado in the vicinity of permanent playas, particularly those (such as on wildlife refuges) that are associated with substantial areas of uncultivated land supporting native vegetation.

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HABITAT DIVERSITY IN THE WHIPTAIL LIZARD *CNEMIDOPHORUS GULARIS GULARIS* (TEIIDAE) IN SOUTHERN OKLAHOMA

The nominal subspecies of *Cnemidophorus gularis* has an enormous latitudinal range which extends from Hidalgo and Veracruz in southern Mexico to southern Oklahoma, and a sizeable longitudinal range from the Gulf coast to the Sierra Madre Oriental in Mexico and from the ecotone of eastern deciduous forest in parts of Texas to desert in southeastern New Mexico. In