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## LOCALITY, HABITAT, AND ELEVATION RECORDS FOR THE DESERT SHREW, *NOTIOSOREX CRAWFORDI*

Russell Davis<sup>1</sup> and Ronnie Sidner<sup>1</sup>

ABSTRACT.—Two specimens of *Notiosorex crawfordi* (Coues) were obtained from the Rincon Mountains in southeastern Arizona. Elevations were 2,438 and 2,618 m. At the lower-elevation site the habitat was a meadow in a ponderosa pine forest.

The desert shrew, *Notiosorex crawfordi* (Coues), is known to occur in a wide variety of habitats ranging from desert gravel to ponderosa-pinyon pine woodlands, and at elevations from sea level to 2,100 m (Armstrong and Jones 1972).

On 14 August 1985, while trapping rodents on top of Spud Rock (elevation 2,618 m by bench mark) in the Rincon Mountains of Saguaro National Monument near Tucson, Arizona, we found a dead specimen of this shrew. While there is not much vegetation on the top of Spud Rock itself, it is surrounded below by a fir forest to the north and east and a ponderosa pine (*Pinus ponderosa*) forest to the south and west (Marshall 1956).

The dead shrew was lying exposed on a large rock, and the skin was dry with some minor damage (the skull was partially exposed). This suggested the possibility that this individual might have been caught by an owl or other predator in a lower-elevation habitat and carried to this site. A 32-km radius should encompass virtually the entire area from which the prey of raptors would be obtained, and most prey are taken within 5 km of a site (Harris 1977). But in this case, because of local topography in this small mountain range, these distances (whether considered horizontally or vertically) could extend through habitats ranging from desert shrub to montane conifer forest.

During early summer of 1985 we placed 25 plastic can traps in a grass-fern meadow that was surrounded by ponderosa pines near Manning Camp (elevation 2,438 m by Park Service sign), about 2 km south of the Spud Rock site. These can traps, with holes in the

bottoms for drainage, were checked in late summer 1985 and early summer 1986 without success. They then remained unattended until removed on 2 June 1988. At that time one of the traps, located adjacent to a rotting log in a dry, grassy portion of this meadow, contained a decomposed specimen of *Notiosorex crawfordi*, the only mammal caught in these traps throughout the three-year period.

This specimen establishes the fact that a small population of the desert shrew does occur at least in one meadow within a ponderosa pine forest in these mountains. If an owl (or other predator) were responsible for the other specimen found dead on Spud Rock, it may not have been carried for any appreciable distance nor was it necessarily obtained from some habitat different from that occurring near its discovery site.

Findley (1969) has shown that *Tamias dorsalis* occurs from the bottom to the top of certain southwestern mountains in the absence of other species of chipmunks (as is the case in the Rincons), but that it is restricted to lower portions when these species are present. Perhaps the elevational and habitat distribution of *Notiosorex crawfordi* expands comparably in the absence of other species of shrews.

Rodents collected at both study sites include *Sigmodon ochrognathus* (see Davis and Ward 1988), *Peromyscus boylii*, and *Neotoma mexicana*. Whitetail deer (*Odocoileus virginianus*) and 14 species of bats occasionally occur in the meadow, pocket gopher mounds are abundant, and *Sciurus aberti*, *Spermophilus variegatus*, and *Tamias dorsalis* have been seen in the vicinity. Except for the two

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specimens reported here, no other shrews are known from the Rincon Mountains.

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