

## LATE FALL REPRODUCTION IN THE DESERT SHREW

There are few published data pertaining to the reproductive season of the desert shrew, *Notiosorex crawfordi*. Hoffmeister (The Southwestern Nat., 7: 236-282, 1962) reported early and late summer reproduction in Arizona and suggested that it might occur at other times. Clark (J. Mamm., 34: 117, 1953) collected a pregnant female in southeastern Oklahoma on 6 September 1950. Preston (J. Mamm., 44: 268, 1963) noted reproduction in southwestern Oklahoma in July and August only; none was observed in December. On 8 April 1906, a female containing three embryos was collected in San Diego, California, (Dixon, J., J. Mamm. 5: 1, 1924). References to late fall reproduction in *Notiosorex* have not been found.

Two pregnant female *N. c. crawfordi* were collected 4 miles S and 1½ miles W Hollis, Harmon County, Oklahoma, on 14 November 1964. One was in an early stage of pregnancy. The other contained five embryos 12-13 mm in crown-rump length. Weight of the female prior to removal of the embryos was 5.9 g; weight of the five embryos after removal of the extraembryonic membranes was 1.4 g, about ½ the weight of the mother. Although the reproductive cycle of *N. crawfordi* may show seasonal and geographic variation, it apparently encompasses the period from April to late November.

The late November pregnancies may be atypical for the species and induced in part by a prolonged period of mild weather that occurred in October and November 1964.

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## NORTHERNMOST RECORDS OF SOME NEOTROPICAL BAT GENERA

Among mammals recently collected by us along the Río Yaqui, at approximately 29° N lat in central Sonora, are four species of bats each representing a genus not previously recorded this far north. In addition 14 other species of bats were collected in this area in eight nights of netting.

This region along the Río Yaqui is characterized by low elevations (slightly more than 1,000 ft), generally warm temperatures and abundant summer rainfall, all of which permit the existence of vegetative conditions resembling those 2° farther south near Alamos, Sonora. Even in the dry season (April) and in midwinter (January) some trees in riparian situations retain green leaves. July and August rains result in luxurious vegetative growth and in flowering, some of which persists until midwinter. We visited the Río Yaqui near the site of El Novillo Dam, approximately 80 miles E and 8 miles S Hermosillo, Sonora, in September 1963 and in January and April 1964. In September hillsides as well as riparian situations were green, though leaves on some trees were beginning to turn yellow. Running streams provided numerous sites for bat netting. In January the landscape presented an arid aspect. Many upland trees were leafless, though a few, such as the morning glory tree (*Ipomea*), still bloomed. Stream beds were dry, and the river below El Novillo Dam consisted of a series of large ponds. In April most trees and shrubs were leafless, except some, such as figs (*Ficus*), growing along watercourses. Kapok fruits still clung to the trees, and a few *Ipomea* were in bloom. Stream beds were dry.

During each visit we collected mammals at Rebeico Dam, 28 miles by road E Mazatán (71 miles E and 8 miles S Hermosillo) and on east and west (September only) banks of the Río Yaqui, approximately 1 mile S El Novillo (80 miles E and 8 miles S Hermosillo).

*Glossophaga soricina*.—A male (MSB 18584) was netted below Rebeico Dam on 27 January 1964. Northernmost published records are at San Bernardo (Burt and Hooper, 1941) and San Carlos Bay (Villa, 1963), Sonora.

*Sturnira lilium*.—A male and a female (MSB 18339-18340) were netted over a running tributary on the east side of the Río Yaqui on 5 September 1963. The female contained an embryo 20 mm in crown-rump length. Northernmost published records are at Río Septen-