## Some Notes on Reproduction in the Red Bat,

## Lasiurus borealis<sup>1</sup>

## BRYAN P. GLASS, Oklahoma State University, Stillwater

The red bat, Lasiurus borealis, is a nomadic tree-dweller, which makes it a difficult subject for planned life studies. Much of the knowledge of its habits has been acquired either through examination of dead individ-uals, or from chance observations. This paper presents two such serendipitous observations. It has been known for over 50 years (Murphy & Nichols, 1913; Dearborn, 1946; Stuewer, 1948) that red bats may attempt to copulate while in flight. On 8 August 1957, Mr. Russell Allen observed such an event at the University of Oklahoma Biological Station. A pair of red bats in typical copulatory embrace fell to the pavement in front of Mr. Allen as he left the laboratory building at approximately 1 AM. The one in the superior position, presumably a male, disengaged and flew off, but the female was stunned by the fall and was picked up. Examination the next morning was inconclusive as to whether or not copulation was completed. The events recorded by the authors mentioned above are all of matings that were interrupted by the pair falling to the ground. It seems that such behavior comes to human attention only through aerodynamic accident, and the presumption is strong that successful copulation while on the wing is a usual habit in this species.

<sup>&</sup>lt;sup>4</sup>Contribution #420, Department of Zoology, Oklahoma State University. This study was supported, in part, by the Oklahoma State University Research Foundation and the National Institutes of Health, Grant E-819.

Observations on parturition in this species are apparently nil, On 7 June 1955, I was collecting bats with a shotgun at Honobia on the Little River in southern LeFlore County. At approximately 9 PM, a female red hat was shot while engaged in what seemed to be a normal foraging flight. She fell into the edge of the stream and was recovered immediately. Upon examination she was found to be in the midst of labor, with a fetus occupying the birth canal, and partially emerged from the fully distended vaginal orifice. The bat's body was not appreciably torn by the charge of shot, so that the condition appears to have been entirely natural. There were no other fetuses in the uterus, nor were there any clinging to the body. This species habitually bears three or four young per litter, but it is not known in this case whether there were young that were dislodged by the fall and lost in the water, or whether ones born earlier might have been left in a tree during the natal flight. Red bats often leave older young behind on foraging flights, but temporary abandonment of newborn has not been recorded, although it is common in many gregarious cave-dwelling species. It is possible, although considered unlikely, that the one observed being born was a singleton.

If the assumptions based on those observations are actually true, the red bat certainly is the most truly aerially-adapted of all bats, sessile copulation and parturition being the rule in the Chiroptera, insofar as such activities have been observed and recorded.

## LITERATURE CITED

Dearborn, Ned. 1946. Miscellaneous notes. J. Mamm. 27: 178.

- Murphy, Robert C. and John T. Nichols. 1913. Long Island flora and fauna I — the bats. Mus. Brooklyn Inst. Arts & Sci., Sci. Bull. 2: 1-15.
- Stuewer, F. W. 1948. A record of red bats mating. J. Mamm. 29: 180-181.