RESEARCH ARTICLE

Notes on the Testicular Cycle of the Mexican Hooknose Snake, *Ficimia streckeri* (Serpentes, Colubridae)

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Ficimia streckeri Taylor, 1931 ranges from the lower Rio Grande Valley in south Texas, south to the Mexican states of Hidalgo, Puebla and Veracruz (Ernst and Ernst 2003). The biology of *F. streckeri* is summarized in Hardy (1976). In this note I provide the first information on the testicular cycle of *F. streckeri* by reporting the results of a histological examination of *F. streckeri* testes using museum specimens. Utilization of museum specimens for obtaining reproductive data avoids removing additional animals from the wild.

Nine males of *F. streckeri* from Texas (n = 5) and Tamaulipas, Mexico (n = 4) mean snout-vent length, SVL = 252 mm ± 54 SD, range = 173–331 mm, were borrowed from the Natural History Museum of Los Angeles County (LACM), Los Angeles, California (n = 1, LACM 59091, Tamaulipas, Mexico); Texas Cooperative Wildlife Collection (TCWC), Texas A&M University, College Station, Texas (n = 6, TCWC 27369, Texas, Starr County; TCWC 31535, Texas, La Salle County; TCWC 49909, 58119, Tamaulipas, Mexico; TCWC 84818, Texas, Cameron County; TCWC 85206, Texas, Karnes County); University of Colorado, Museum of Natural History (UCM), Boulder, Colorado (n = 1, UCM 64269, Texas Duval County); University of Michigan, Museum of Zoology (UMMZ), Ann Arbor, Michigan (n = 1, UMMZ 10128, Tamaulipas, Mexico). *Ficimia streckeri* were collected 1949 to 2002. The snout-vent length (SVL) of each specimen was measured in mm from the tip of the snout to the posterior margin of the vent. The left testis was removed and embedded in paraffin. Histological sections were cut at 5 µm and stained with hematoxylin followed by eosin counterstain (Presnell and Schreibman 1997). Histology slides were deposited at respective museums.

Testicular histology was similar to that reported by Goldberg and Parker (1975) for the colubrid snakes, *Masticophis taeniatus* and *Pituophis catenifer* (as *P. melanoleucus*). Testes of all *F. streckeri* males exhibited spermiogenesis in which the seminiferous tubules were lined by sperm or clusters of metamorphosing spermatids. Monthly samples of spermiogenic males were: February (n = 1), April (n = 1), May (n = 2), June (n = 3), July (n = 1), October (n =1). The smallest reproductively active male (spermiogenesis) measured 173 mm SVL (LACM 59091).

The testicular cycle of *F. streckeri* exhibits a prolonged period of sperm formation (spermiogenesis) and, in this respect, is similar to tropical snakes which produced sperm during all months from which samples were available; see for example: *Dendrophidion* sp., *Erythrolamprus bizona* and *E. mimus*, *Mastiogodryas melanolomus* and *Ninia maculata* from Costa Rica (Goldberg 2003, 2004a, 2004b, 2006). Goldberg (2016) reported males of the congener *F. publia* examined from opposite ends of the year (March, April, versus November) also exhibited spermiogenesis in all months, suggesting, it may, like *F. streckeri* have a prolonged period of reproduction. It is more typical for snakes from North America to exhibit aestival spermatogenesis (*sensu* Saint Girons 1982) with late summer-fall sperm formation, followed by spring mating utilizing sperm stored over winter in the vasa deferentia.

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