Evidence of sperm storage in Schreiber's Fringe-fingered Lizard, *Acanthodactylus schreiberi schreiberi*, from Cyprus

(Reptilia: Lacertidae)

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Abstract. Four females of Schreiber's Fringe-fingered Lizard, *Acanthodactylus schreiberi schreiberi* Boettger, 1878, from the Troodos Mountains in Cyprus were captured after mating in the field and moved into isolated terraria in the laboratory. Three of them laid two clutches and the fourth one laid four clutches without any further mating with males. The last oviposition was observed 90 days after capture in the field. This indicates that females of this species are capable of storing functional sperms for at least a period of three months. This ability may have played an important role in the distribution of the lizard into the inner island and the Troodos Mountains where it can be found in sparse populations.

Key words. Captive observation, functional sperm storage, reproduction, clutch characteristics, multiple clutches.

Introduction

The ability of females to store sperm in their reproductive tract has been described in past research for several animals including reptiles (CALSBEEK et al. 2007, CUELLAR 1966a, FOX 1963, OLSSON et al. 2007, ORTEGA-LEÓN et al. 2009, SAINT GIRONS 1962, SEVER & HAMLETT 2002, VILLAVERDE & ZUCKER 1998), amphibians (SEVER 2002, SEVER et al. 1999, 2001, STEINFARTZ et al. 2006), fish (POTTER & KRAMER 2000, STORRIE et al. 2008, VILA et al. 2007), birds (BIRKHEAD 1998, PARKER et al. 1989) and mammals (RASWEILER IV 1987, RODGER & BEDFORD 1982, SELWOOD & MCCALLUM 1987). BIRKHEAD & MOLLER (1993) reviewed the available (till then) information regarding sperm storage, while HOLT & LLOYD (2010) assessed several relative essays in an effort to understand the way sperm storage works.

The ways to detect sperm storage are (a) observation of the production of fertile clutches by females after isolation from males, (b) noted asynchrony between copulation and ovulation, and (c) histological observation of sperm within the oviduct (see MURPHY-WALKER & HALEY 1996). Relative observations on sperm storage in the family Lacertidae have been made on females of *Takydromus stejnegeri* from Taiwan (CHUN-FU et al. 2004) that were found to have the ability to store sperm for a period of 41 days and on females of the related species *Acanthodactylus scutellatus* (BOU-RESLI et al. 1981) that with the help of sperm storage crypts were able to keep fertile sperm for a period of four months.

Usually sperm stores are kept inside females for a period of a few days or for some months (BIRKHEAD & MOLLER 1993), but in some cases this period can be exceptionally extended to

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