

ABILITY TO STORE SPERM BY ACHAEARANEA TEPIDARIORUM (C.L.Koch)

FEMALES (ARANEAE : THERIDIIDAE)

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Some earlier writers have stated that parthenogenesis is a common method of reproduction in spiders, but they were probably misled by the fact that the mature females can store sperm in their spermathecae for a certain period of time.

During a study on the biology of Achaearanea tepidariorum in Costa Rica, a female of this species was collected and kept in a jar, completely isolated from other specimens and fed regularly. After a total of 80 days, as shown in Table 1, the spider was still laying fertilized eggs. At this date the stored supply of sperm cells became exhausted, but the spider kept on building sacs to fill them with unfertilized eggs. When collected, the spider already had a fresh egg sac (I) with fertilized eggs, but I do not know when she had copulated last.

Considering that the females of A.tepidariorum are very aggressive and a large percentage of males are killed right after copulation, this large storage capacity of the spermathecae must be a very important method of survival for the species: this female produced at least 230 spiderlings with no need of additional copulation.

Number of days after spider was collected	Egg sac	Total number of eggs	Number of fertilized eggs	Percentage of fertilization
0	I	*	*	-
23	II	73	60	82.19
37	III	100	20	20.00
52	IV	107	80	74.77
60	V	88	45	51.14
69	VI	95	10	10.53
80	VII	80	15	18.75
93	VIII	72	0	0.00
101	IX	*	0	0.00

* Not recorded

Table 1. Fertilization of eggs using sperms stored in the spermathecae by a female of Achaearanea tepidariorum (C.L.Koch).