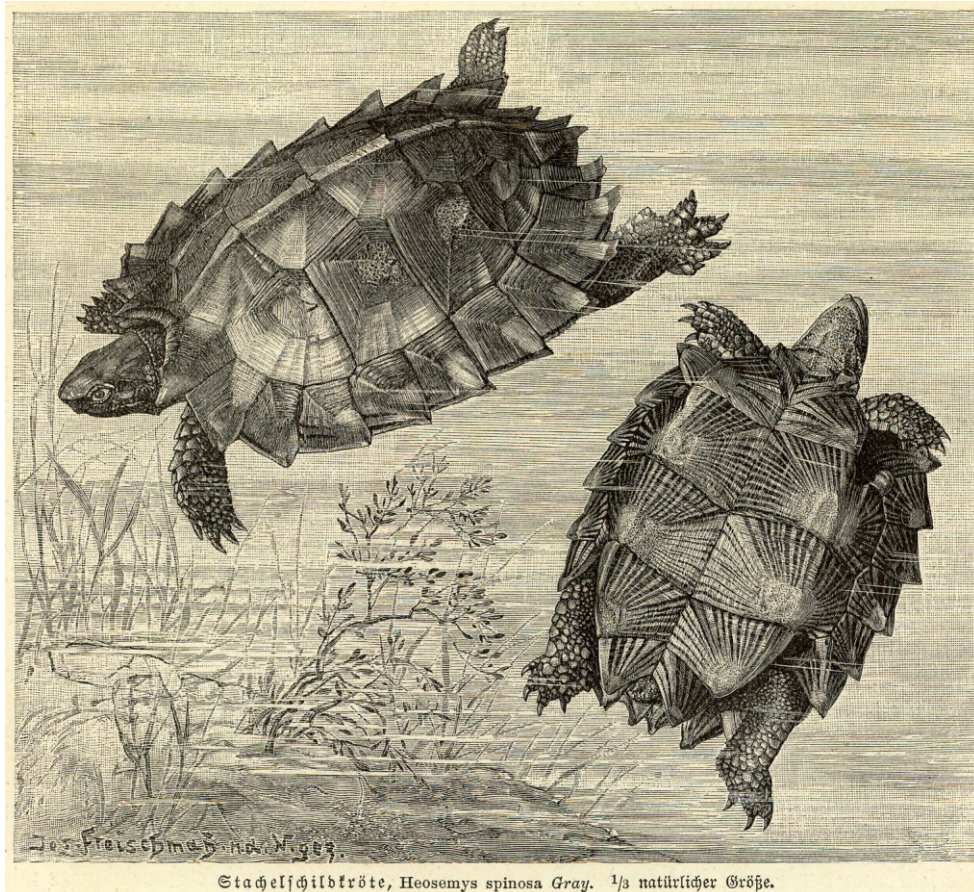


Studbook breeding programme

Heosemys spinosa (Spiny hill turtle)



Annual report 2014

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European
Studbook
Foundation

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www.studbooks.eu

Introduction

In 2012 an article has been published in which a notification is made of two suggested lineages. This research is very positive for the lack of knowledge about *Heosemys spinosa*. Due to this research the studbook got more knowledge about suggested subspecies. Within the studbook research about these suggested lineages started at the end of 2013 and continued in 2014. From all animals blood samples were taken and send to the USA for additional research.

CITES Appendix II
ESF type A - High protection
Endangered



Breeding advice has been shared with several breeders (3 zoos and one private).

Studbook population

The total population;

Date	Locations	Specimens	Birth	Death
31-12-2011	6	24 (8, 14, 2)	0	
31-12-2012	6 (+/- 0)	23 (8, 13, 2)	0	1
31-12-2013	6 (+/- 0)	20 (7, 11, 0)	0	3
31-12-2014	5 (+1 -2)	27 (6 1 , 13 7 , 8 8) ^{*)}	0	2

^{*)} *The small red numbers are unsure*

Locations contain Germany and The Netherlands. The population is increasing which could be explained because of the new animals from Durrell Zoo.

A few participants reported some eggs but none hatched. For the first time in years one egg was vertilized but died before birth.

For 2014;

- 2 death were reported from 2 different locations;
- no birth was reported;
- 9 new animals are reported, all from Durrell Zoo to ESF participants;
- 15 transfers were reported of totally 12 animals;
- 1 new participant is reported;
- 2 participants stopped because the last animal died or all animals moved to another location.

Except the numbers from above also 1 new juvenile animal from Cyprus is participating.

Research

In 2012 an article (Spinks et al) has been published about *Heosemys spinosa* in which a notification is made of two suggested lineages. For conservation actions it is advisable to split those two suggested lineages. If those suggested lineages are mixed this could be the reason of no success on breeding or this could lead to unwanted hybrids. Keepers of *Heosemys spinosa* should be advised to split their animals according the suggested lineages. To implement this advice some additional research should be done to get more knowledge about the studbook population and different lineages within the studbook. The studbook keeper contacted the main author of the article, Phillip Spinks, and he is willing to expand his DNA research with the ESF population of *Heosemys spinosa*. For this research blood samples were taken and send to the University of California to expend the former research.

Over the past years some differences between animals have been noticed;

- Carapax; flat versus convex
- Iris colour; light versus dark
- Females; with versus without spurs
- Females; limited versus endveloped hinge



Example of a brown iris and a yellow iris.



Example of spurs and a limited hinge.

Discussion

The number of animals is increasing but still critical.

It's known that over the past years many animals died without a known common reason.

In the past some eggs are laid which were not fertilized. It is unknown why those were not fertilized, maybe caused by mixing different lineages. The studbook contains 8 hatchlings and 3 adults from Durrell Zoo, so totally 40% are originally from Durrell Zoo and could be related to each other.

Planned activities 2015

Most important for 2015 are the results of the DNA research. For this research knowledge will be shared with the American studbook to get clear if suggested lineages occur within the current studbook population. If possible some extra, formerly died and still available, animals will be sampled. Also shell sizes could be measured to compare with the American results.

May 2015

Merijn Kerlen, Species coordinator

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