

# Studbook breeding program

## Cuora mccordi

(McCord's box turtle)



Photo by: Henk Zwartepoorte

## Annual report 2012

**Henk Zwartepoorte, studbook keeper**

**Elmar Meier, co studbook keeper**



KvK nr. 41136106  
[www.studbooks.eu](http://www.studbooks.eu)

## **Contents:**

- 1. Introduction**
- 2. Studbook population**
- 3. Locations**
- 4. Living population**
- 5. Births**
- 6. Imports**
- 7. Deaths**
- 8. Transfers**
- 9. Discussions**
- 10. Activities planned for 2013**
- 11. References**

## **1. Introduction:**

*Cuora mccordi* was described by Ernst (1988), based on a series of 12 specimens collected in the early 1980's. All specimens were derived from the Hong Kong turtle dealer, Oscar Shiu.

They were reported to have been purchased from locals near the city of Baise/Bose/ Paise

in south-western Guangxi Province, China, close to the border of Yunnan Province, China.

The locals claimed to have collected them in the surrounding "Highlands" of that city. Since those years there is an ongoing discussion about possible sightings in the wild, however concrete information on this is not available. By many the species is supposed to be extinct in the wild.

During 2008 a field trip was made by Ting Zhou, Torsten Blanck, William P. McCord and Pi-Peng Li in search of the natural habitat of the species. No living specimens have been found, but reliable information from local people were gathered (2008). Additional field trips were planned.

Also with respect to the pure status of the species for a long time there has been disagreement and confusion. Genetic analyses during the past 8 years however indicate that *C.mccordi* is not a hybrid, but a valid species with proof of wild origin still pending. (Stuart and Parham, 2004; Stuart and Parham, 2006; Spinks and Shaffer, 2006).

What is for sure is the fact that the captive population in both the USA and Europe is still very small with few founder animals. Reproduction in Europe so far is only officially reported by the International Centre for Conservation of Turtles (IZS) in the Munster Zoo in Germany and a very limited number of

private breeders who unfortunately but understandably did not publish their data. The basis for this ESF studbook consists mainly of the three founder groups in the Munster Zoo/IZS and possibly a few privately born animals. All three groups at the Munster Zoo/IZS are producing offspring on a regular basis since 2004.

Within the studbook population there are several specimens born at private locations; exact details on founder animals however are unknown. Positive element since the start of the studbook is the growth from 15 animals to a total of 100 specimens mainly caused by the good breeding results at the Munster Zoo/IZS.

But the arrival during the past few years of 4 specimens born at one private collection and 6 at A Cupulata on Corsica/France are very welcome. Additional captive born specimens from non ESFstudbook population related source have been reported to the studbook but the legal status has not been proven so far. So entering them into the studbook has not yet been executed.

## **2. Studbook population:**

March 2013 the total studbook population consists of 9.26.65 (100) specimens. This is a growth of the studbook population compared to December 31, 2011 of 25 specimens. Remarkable is the unequal balance between males and females. Certainly an increase of males would be very welcome.

## **3. Living population:**

March 2013 the living studbook population consists of 7.26.59 (92) specimens. These 92 specimens are kept at 6 private collections (5 in Germany and 1 in France) and at 3 EAZA institutions and A Cupulata on Corsica/France.

## **4. Locations:**

March 2013 the number of participants counts 10 collections; 7 private collections (5 in Germany and 1 in France) and 3 EAZA zoos (Munster/IZS, Whipsnade and Rotterdam), the Natural History Museum in Dresden/Germany and the turtle park A Cupulata on Corsica/France. For privacy reasons the names of the private collections are not mentioned in this annual report.

## **5. Births:**

During 2012 11 specimens are born at the Munster Zoo/IZS. In the annual report 2008/2009 it was written that of the Munster Zoo/IZS births the exact dams and sires were unknown. Partly this is still true but due to improvement of administration and communication within the Munster Zoo/IZS for a part the exact dams and sires could be traced although for another part the hatchlings still have so called mult parents as the animals are born in groups with several

possible Dams and Sires. The 11 2012 captive born animals at the Munster zoo have 3 different Sires and 6 different Dams. The fact that in a small captive population not all Dams and Sires related to the offspring are known is not a desirable situation. However in the Munster zoo/IZS breeding center the reproduction is very good and stable and splitting up good breeding groups is something not done so quickly.

## **6. Imports:**

There has been no reported imports into the studbook during 2012.

## **7. Deaths:**

During 2012 2 deaths are reported. These concerned animals that has been out on loan from the Munster zoo to a private studbook location. These animals were returned to the Munster zoo where they died shortly after arrival. The cause of death has not been assessed. In general the death rate within the studbook is remarkably very low which is a positive element. Just on one incidental case a deformed hatchling had to be euthanized.

## **8. Transfers:**

During 2012 several transfers were carried out within the studbook. These transfers exclusively concerned transfers from the Munster zoo to privates and on one occasion the return of privately out on loan animals returning to the Munster zoo.

## **9. Discussions:**

As indicated earlier the accurate assessment of all founder animals was not easy. However now all individual specimens are identified and photographed. Also the turtle administration of the Munster zoo/IZS is very well improved due to the great work of the Munster zoo/IZS conservation officer Martina Raffel and Elmar Meier. Good development is the involvement and cooperation with private keepers. The total number of current active participants (zoos and privates) increased to 7. At present still a limited number of EAZA zoos is involved in active breeding programs for *Cuora* species. At EAZA meetings this situation will get more attention soon in order to include zoos more actively in this.

At the March 2013 CITES Conference Of Parties all *Cuora* species (with an exception for *Cuora amboinensis*) remained listed as CITES appendix 2 with a zero export quota. However for *C.amboinensis* the situation remained unchanged although international trade in this species still exists. For a number of *Cuora* species international legal trade is non existing and of some species such as *C. mccordi*, *C. yunnanensis*, *C. zhoui* occurrence in the wild is highly

doubted. Illegal trade however is ongoing. The zero export quota will certainly hamper the international exchange of studbook animals within legal and well respected studbook breeding programs by EAZA, AZA and ESF. Exception in a sense of quicker and easier application and issuing of CITES documents for these species need to be investigated. Furthermore law enforcement in the countries of origin desperately needs improvement.

#### **10. Activities planned for 2013:**

1. Drafting and publishing husbandry and breeding guidelines. This action point was already included in former reports. But we definitely hope to carry it out this year. This point is a repetition of last years plan but due to lack of time this is postponed.

2. Search for additional studbook specimens. This point is still slowly improving. A few Munster zoo/IZS born animals were transferred to private collections creating and improving zoo/private cooperation. How many private animals are kept outside the studbook is still unknown but it can be expected that as soon as private keepers become aware of the fact that species conservation is not just a zoo matter they will soon follow and seek contact with the ESF studbook. Contact about participation is in progress with keepers in France, Germany and the Netherlands.

3. Incubation temperature experiments with respect to producing males. These experiments are currently running and next year certainly results of these can be expected. In the USA experiments with *Cuora flavomarginata* egg incubation showed that incubation at 23 degrees Centigrade resulted in a majority of males. By one non studbook participating breeder in Europe incubation at low (23 degrees C) temperatures resulted in a higher death of embryos. This indicates that these experiments need to be carried out very carefully and perhaps low incubation at 22 to 24 must be done only during the sex determining period between 3 and 4 weeks after laying.

A strongly to be recommended apparatus for incubation at lower temperatures is the Lucky Reptile incubator which is sold Europe wide for reasonable prices. At the Rotterdam Zoo there are good experiences with that.



Photo: Henk Zwartepoorte

4. Further improvement of the efforts exchanging specimens with TSA members in the USA.

But given the difficult legal procedures this aim will remain difficult and slow.

5. Gathering and compiling of all relevant literature.

6. Completion of the studbook specimens photo archive. This aim is finished and all new entries will be photographed. All studbook specimens are photo documented. See below the ESF *C. mccordi* studbook keepers at work photographing and numbering Munster Zoo/IZS *Cuora* specimens.

7. At the EAZA 2013 reptile and amphibian midyear meeting in Leipzig/Germany by the ESF studbook keeper/turtle RCP officer/EAZA RTAG vice chair for turtles Zwartepoorte a proposal was done to form a *Cuora* task force consisting out of a number of representatives from EAZA and ESF.



Photo: Richard Struijk.

## 11. References:

SPINKS, P. & H. B. SHAFFER. 2006. Conservation phylogenetics of the Asian box turtles (Geoemydidae, *Cuora*): mitochondrial introgression, numts, and inferences from multiple nuclear loci. *Conservation Genetics* 8(3):641–657.

STUART, B. L. & J. F. PARHAM. 2004. Molecular phylogeny of the critically endangered Indochinese box turtle *Cuora galbinifrons*. *Molecular Phylogenetics and Evolution* 31:164–177.

Stuart, B.L. & J.F. Parham. 2006. Recent hybrid origin of three rare Chinese turtles.  
Conservation Genetics 8(1):169–175.

Ting Zhou, Torsten Blanck, William P. McCord and Pi-Peng Li. 2008.

Tracking *Cuora mccordi* Ernst, 1988: The first record of its natural habitat; a re-description; with data on captive populations and its vulnerability.

Hamadryad Vol. 32, No. 1, pp. 57 – 69, 2008.

Copyright 2008 Centre for Herpetology, Madras Crocodile Bank Trust.

May 10, 2013.

Henk Zwartepoorte. ESF *Cuora mccordi* studbook keeper.

-----