

Studbook breeding programme

Cuora mccordi

(McCord's box turtle)



Photo by Henk Zwartepoorte

Annual report 2011

Henk Zwartepoorte, studbook keeper

Elmar Meier, co studbook keeper



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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 72 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 private collections is very welcome so is the arrival of two new specimens from the Atlanta Zoo in the USA as an exchange with two Munster Zoo/IZS born specimens.

Additional captive born specimens from non ESF studbook 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 2012 the total studbook population consists of 6.17.49 (72) specimens. This is a growth of the studbook population compared to December 31, 2010 of 11 specimens. Remarkable is the unequal balance between males and females. Certainly an increase of males would be very welcome.

3. Locations:

March 2012 the number of participants counts 9 collections including 3 zoos (Munster/IZS, Whipsnade and Rotterdam). Because for privacy reasons the names of the private collections are not mentioned into the studbook but replaced by codenames/numbers.

4. Births:

During 2011 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 by 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. Of the 6 2009 born hatchlings all Dams and Sires are known. They are born from 4 Dams and 2 Sires. Of the 2010 born specimens of 4 both Dams and Sires are known, of 5 both Dams and Sires are Mult2 and of 2 the Sire is known but the Dams are Mult3. The 2011 born specimens are born from 8 combinations either a pair combination or a mult combination; in all combinations 3 Sires (studbook nos 000003, 000005 and 000011) and 5 Dams (studbook nos 000006, 000002, 000004, 000009, 000011) are involved. 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 is very good and stable and splitting up good breeding groups is something not done so quickly.

5. Imports:

February 2011 two 2007 captive born females are imported into the EU. Both animals are born at the Atlanta Zoo in the United States and are exchanged for two captive born females from the Munster Zoo/IZS. One of the Atlanta born females remained at the Munster Zoo/IZS and the second was transferred to the Rotterdam Zoo March 2011. This exchange of females was initiated by Ray Farrell from the Turtle Survival Alliance. Disappointing to note is the fact that the paperwork took around 4 years. Our thanks to Ray Farrell and the Atlanta Zoo for their cooperation. Perhaps this first exchange between the USA and Europe is a first step to improved future cooperation and exchanges of turtles.

6. Deaths:

During 2011 no deaths are reported. 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.

7. Transfers:

During 2011 several transfers were carried out within the studbook. 2 Munster Zoo/IZS specimens, born during 2011 were transferred to a private participant. This private location becomes studbook participant. One Atlanta Zoo born female was transferred from the Munster Zoo/IZS to the Rotterdam Zoo on March 1, 2011. Several other transfers have taken place during the end of 2011 and the beginning of 2012 but are not yet reported to the studbook.

8. 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. The studbook keeper established a good contact with TSA *Cuora* coordinator Ray Farrell in the USA who coordinated the exchange between the USA and Europe and was the TSA liaison with the Atlanta Zoo. Good development is the involvement and cooperation with private keepers. The total number of current active participants (zoos and privates) increased to 6. 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.

Recent (April 2012) publications indicate that at the next CITES COP a proposal by the United States will be done to upgrade all *Cuora* species to CITES appendix 1. This is a good step forward for a number of *Cuora* species in which international trade is still existing such as *Cuora amboinensis*. For a number of other *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. Upgrading to CITES 1 will certainly hamper and delay the international exchange of studbook/breeding program specimens. Law enforcement in the countries of origin desperately needs improvement.

During the end of 2011 and the early months of 2012 at the Rotterdam Zoo a significant part of the Asian turtles collection and their offspring is moved to another section behind the scenes within the zoo. This due to renovations of the Rivierahall where the main collection of reptiles was kept until the year 2012. With financial support of private individuals and a large energy producing company tanks and equipment such as Eheim-filters could be purchased. Also for the Rotterdam Zoo itself this operation was a large investment in these financially difficult times.



Some impressions of the new behind the scenes holding area.

Fotos by Henk Zwartepoorte

9. Activities planned for 2012:

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 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.
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 by Henk Zwartepoorte

4. Further improvement of the efforts exchanging specimens with TSA members in the USA. See under point 8. 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.



Photo by Richard Struijk.

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Henk Zwartepoorte. ESF *Cuora mccordi* studbook keeper.
