

# Discussing the future of the studbook on *Homopus signatus*

## Final report

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### Introduction

On 3 December 2011, 16 (including 4 ex/aspirant) participants in the studbook on *Homopus signatus* gathered in Isernhagen, Germany, to discuss the long-term future of this studbook. The central question was what the long-term aim of the studbook should be, so that the draft studbook management plan (dated May 2008) might be altered and finalised accordingly.

The meeting date was selected after consultation with all studbook participants one year earlier. On 2 September 2011, a discussion paper was drawn up and distributed among all studbook participants, and participants who were unable to attend the meeting were invited to send a response by e-mail. The Isernhagen meeting location was selected to equalise the travel distance for all participants in Belgium, Czech, France, Germany, Italy, Netherlands, and Sweden. During the meeting, English and German languages were used to facilitate the involvement of all participants.

### Programme

The meeting programme consisted of two parts. In the morning, a discussion was lead by Sergé Bogaerts to determine what the long-term studbook aim should be. In the afternoon, three lectures on *Homopus* were presented.

### Discussion

#### Part one

The discussion paper was presented, including three potential long-term studbook aims. First, the strict policies (e.g., little breeding, genetic management, non-commercial) of the current studbook were discussed and motivated.

It was questioned whether it will be feasible to maintain these strict policies in the future. It will be a matter of time until legal(ised) *H. signatus* will appear in the commercial trade, to compete with studbook tortoises for locations and space. Although this will be a challenge for the studbook, the conditions under which the South African authorities have granted our collecting permits do not allow us to relax most conditions. All founders and genetically related offspring will have to remain registered in the studbook, and commercial trade with such tortoises cannot be permitted.

The studbook will require idealistically motivated participants willing to contribute to conservation. The majority of tortoise keepers might not be interested in studbook tortoises, but this is not necessarily a problem: Aspirant studbook participants are requested to sign an agreement with the Homopus Research Foundation, and should not sign if they find the strict policies problematic. At this moment, the waiting list for *H. signatus* indicates the availability of idealistically motivated aspirants. Moreover, it was argued that the current success of the studbook, compared to many other studbooks, is mostly a result of the strict management.



A related question was whether privately owned *H. signatus* might be incorporated in the studbook. Two aspects were discussed: When privately owned *H. signatus* would be combined with studbook tortoises, the South African permit conditions require that all offspring is registered in the studbook and will not be used for commercial purposes. Secondly, tortoises with unknown origin should not be mixed with the current, location-specific, captive population, because the taxonomy of *H. signatus* remains unresolved, and location-specific tortoises may still be collected in South Africa. There is no reason to suspect that the wild donor population suffers from genetic depletion. This means that very few privately-owned *H. signatus* will be available for incorporation in the studbook.



The South African response to the draft studbook management plan requires us to involve all South African stakeholders if we were to collect and export additional founders. The authorities should be able to justify why tortoises are being removed to foreign countries. It was discussed that South African reptile dealers serve (inter)national customers that have a different purpose for tortoises (i.e., terrarium-keeping, commercial trade) compared to the studbook (conservation). Nevertheless, dealers may be involved if additional founders are collected, by collaborating in the work involved.

During the discussion, it was found that the three potential long-term aims (i.e., conservation-orientated, terrarium, or zoo studbook) in the discussion paper could be expanded with intermediate forms. For example, A conservation-orientated studbook could have a core of genetically valuable tortoises, supplemented with genetically less valuable tortoises for which genetic management might be less important. Furthermore, a conservation-orientated studbook could have a portion of the population in zoos, or a zoo studbook could have a portion of the population housed at private individuals. It was also discussed that a terrarium studbook would eventually have to reduce breeding to ensure manageability of the population, so that this aim would still have strict policies.

#### *Part two*

The second part of the discussion aimed to select a long-term studbook aim. To this extent, all participants were invited to ventilate their preferences. Unanimously, it was decided that the studbook should continue to have a conservation aim. Nevertheless, this aim should have different nuances compared to the description in the draft studbook management plan:

1. If 50 wild-caught founders would be imported at the same time, the risk of not finding suitable locations would be too high. Therefore, new founders should be imported in smaller numbers (e.g., 10 tortoises).
2. In case it will be impossible to find sufficient locations, quality should go over quantity. Trustworthy locations are required, and if a location is not trustworthy it is better to accept a slightly smaller studbook population.
3. Carefully separate genetically valuable from less valuable individuals. House valuable tortoises at the most trustworthy and dedicated locations. Provide less trustworthy locations and (in general) zoos with less valuable tortoises.
4. Breeding restrictions should not be placed upon founders. In order to maintain a large genetic diversity, founders should produce as many offspring as feasible. Offspring should be transferred to other locations as soon as possible to spread risks.
5. Continue to emphasise the non-commercial studbook setup. This avoids many problems seen in other studbooks, and raises much needed respect from relevant authorities.
6. Explore the possibility to compare possible unknown-origin tortoises genetically with the studbook population.

Finally, it was recommended to improve the gathering and exchange of information on *H. signatus*. For example, participants should be expected to have a post-mortem conducted on deceased animals, and post-mortems should be shared to avoid similar problems at other locations. The husbandry information in the annual reports should be supplemented with direct contacts between participants.

## Lectures

### *Keeping and breeding of Homopus areolatus (Frank van Loon)*

This lecture provided an overview of husbandry and incubation conditions over nearly 10 years. It focussed on difficulties that were encountered, and tried to find causes for these difficulties. Although breeding results with *H. areolatus* were limited, the lecture provided important data on the relationship between high incubation temperatures and egg mortality, and on threshold temperatures to incubate female *H. signatus*.

### *Adapting Homopus signatus to captivity (Mark Klerks)*

The second lecture summarised how a wild-caught couple *H. signatus* was adjusted to captive conditions. Particularly, the provoking of feeding and drinking was explained. This (published) information will be important when additional founders are imported in the future. The lecture ended with an humorous overview of personal sacrifices that the lecturer had brought to enable studbook participants to keep this species in captivity.

### *Veterinary aspects of keeping Homopus in studbooks (Julian Schlömer)*

The last lecture highlighted veterinary aspects that are important in a captive *Homopus* population. Besides infectious and non-infectious problems that may occur in the colony, it emphasised the risks and methods when wild founders are incorporated in the existing population, and in case of possible reintroductions. It also recommended that spreading of infectious diseases from affected locations to other locations might be avoided by transferring eggs rather than tortoises.