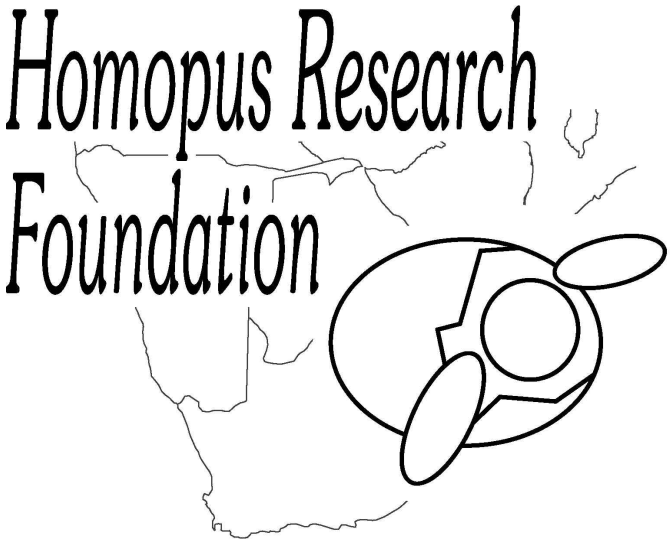
Homopus Research Foundation



Annual Report

2008

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CONTENTS

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1. INTRODUCTION AND ACHIEVEMENTS IN 2008

The Homopus Research Foundation aims to facilitate the long-term survival of *Homopus* spp. in the wild, by gathering and distributing information about their biologies and by the formation of genetically healthy *ex situ* populations. In 2008, several activities have contributed to this aim. The current report presents an overview of the achievements in 2008, as well as activities planned for 2009 and thereafter. Moreover, the actual studbook populations for *Homopus areolatus*, *Homopus femoralis* and *Homopus signatus signatus* are described, focussing on changes that occurred in 2008. All previous annual reports can be found on the website of the Homopus Research Foundation, http://www.homopus.org, section Publications.

Major achievements in 2008 were the publication of a PhD dissertation on *H. s. signatus* (see Chapter 6; full dissertation may be downloaded at http://www.homopus.org, section Publications), and the long awaited start of a field study on *H. femoralis* (see paragraph 1.2). In captivity, 2008 produced the first-ever captive-bred *H. femoralis*. In addition, important steps were taken towards a long-term studbook management plan for *H. s. signatus*. Because of the complicated process to develop this plan, progress is detailed in paragraph 1.1.

The 2007 annual report specified several plans for 2008. The following table summarises these activities, as well as the results for 2008. Activities in the 2007 report that were scheduled for 2009 and later are listed in Chapter 2.

Activity	**Due**
Drawing up studbook management plan *H. s. signatus*	31-12-2008
2008: A draft was produced, but the complicated process to finalise it (see paragraph 1.1) required a rescheduled due date 31-12-2009.	
Drawing up research proposal for *in situ H. femoralis* study, and posted on website	01-04-2008
2008: The research proposal was finalised and posted at http://www.homopus.org, section Research - Field ecology of *H. femoralis*.	
Fieldwork *H. femoralis*	Nov-Dec-08
2008: Fieldwork was conducted from 01-12-2008 till 14-12-2008 (see paragraph 1.2).	
Manuscripts submitted on:	
• Annual variation in reproduction of wild *H. s. signatus*	31-12-2008
• Natural oviposition and incubation in *H. s. signatus*	31-12-2008
• Annual fluctuations of the relative humidity in the habitat of *H. s. signatus*	01-04-2008
• Population density and dynamics of wild *H. s. signatus*	31-12-2008
2008: The first three manuscripts were submitted, two of which were also published in 2008. The fourth manuscript has not yet been drafted and was rescheduled due 31-12-2009.	
Presentation held at symposium Herpetological Association of Africa:	Nov-08
• Annual variation in reproduction of wild *H. s. signatus*	
2008: Presentation was held.	
Applied for ANBI (Dutch tax exempt) status Homopus Research Foundation	31-12-2008
2008: One condition for the ANBI status is that a board consisting of more than one person leads the organisation. The Homopus Research Foundation has a single board member. Although additional board members would be welcomed, potential candidates were unavailable in 2008. Therefore, application for ANBI status was postponed.	

Further achievements that are worth listing:

- One additional presentation was held:
  - General lecture about the work of the Homopus Research Foundation at the 22nd Reptile Taxon Advisory Group meeting at the European Association of Zoos and Aquaria (EAZA) Annual Conference, Belgium
- In the Netherlands, an expert session on illegal trade in reptiles and amphibians, organised by the Public Prosecutor, was attended.
- University of KwaZulu-Natal (South Africa) was provided with a copy of a 2006 presentation to train field staff to recognise tortoise poachers in the field.

- A final review was performed on a scientific manuscript about environmental factors affecting modelled current and future distributions of *H. signatus*, co-authored by the Homopus Research Foundation.
- The Nama Karoo Foundation (South Africa) has a book in preparation that was reviewed by the Homopus Research Foundation.
- In response to a request to produce *Homopus* species accounts for inclusion in a new book, previously (2003) prepared unpublished accounts for Mertensiella were submitted as basis for new accounts (see also Chapter 6).
- A request to co-produce an account on *H. s. signatus* for Chelonian Research Monographs was accepted, provided that the lead is taken by another organisation.
- Full records of all *Homopus boulengeri* inventories conducted in 2005, 2006 and 2008 were submitted for a conservation assessment performed in South Africa.
- One field assistant who worked on *H. s. signatus* in 2003 was provided with a recommendation for inclusion in the Smithsonian Research training program (U.S.A.).
- Reprints provided:
    - University of Göttingen, Germany
    - University of Pisa, Italy
    - Ministry of Natural Resources and Fauna, France
    - Several private individuals (France, U.K., U.S.A.)
- Photographic material provided:
    - Mobile Sprachbuch 4 (book for primary school, Germany)
    - Http://www.cheloniolophilie.com
    - Http:// www.schildpadden.net
    - Additional websites
- Advices produced:
    - Thread-trailing in *Terrapene* sp.
    - Correction of locality data for *H. s. cafer* in the database of the South African Reptiles Assessment (SARCA)
    - Discussion input regarding listing of tortoises allowed to be kept in Belgium
    - Inclusion in the studbook (not) of a U.K. confiscated *H. signatus* female of unknown origin
    - Destination for two captive *Stigmochelys pardalis* in Richmond, South Africa
    - Husbandry methods for *Homopus solus* in Windhoek, Namibia, after unexpected deaths
    - Husbandry methods for *Psammobates* sp. in Messina, South Africa
    - Suitable location for a European captive group of *Testudo kleinmanni*
    - Computer-controlled climate systems for reptiles at the Veterinary Department of Utrecht University
- Again, one studbook location found a naturally hatched *H. s. signatus* in an indoor enclosure, indicating suitable conditions.
- In Gran Canaria, a tortoise keeper requested *Homopus* spp. for an experimental outdoor set-up.
- An increase was noted in the number of brief and very direct e-mail messages offering money for *Homopus* spp.
- The website was updated with photographs of the 2008 fieldwork (see http://www.homopus.org, section Research - Photographic fieldwork impression). Minor changes were made to other pages.

1.1. Long-term studbook management plan Homopus signatus signatus

Prior to drafting the long-term studbook management plan for *H. s. signatus*, all participants in the studbook were requested for assistance. Unfortunately, assistance was not available when the studbook co-ordinator drafted the plan in May. The Taxon Management Group Proposal Outline and Guidelines by the Turtle Survival Alliance formed the basis of the plan, along with examples for species that already have studbook management plans.

A first draft of the plan was reviewed by the Genetic Advisory Board of the European Studbook Foundation, and revised accordingly. In the end of May, the updated draft was sent to all studbook participants for review. In addition, the South African authorities received a copy for review. In August, a reminder was distributed.

The most important consequences of the strategy proposed in the long-term plan, envisaging formation of a genetically healthy assurance colony, would be that (1) a considerable number of wild-caught couples should be added to the captive population within a limited time frame, and (2) generation time in the captive population should be lengthened by reducing breeding efforts and increasing longevity. The main responses from studbook participants were the following:

- The number of offspring envisaged per breeding pair is too small (i.e., when a few offspring die, the bloodline may go extinct)
- The current sex ratio of the offspring is too unbalanced (male-biased) to justify the small number per breeding pair
- It will be hard to find studbook participants if breeding should be reduced; participants may breed "illegally"
- The South African authorities should be requested to allow commercial trade in *H. s. signatus* (use financial gains for field projects)
- It is not useful to breed a location-specific captive population, when the wild population may become extinct in the next decades
- House new wild-caught couples at locations that have gathered experience when keeping offspring *H. s. signatus*

These comments will be addressed in further correspondence and in an updated plan. However, the input from the South African authorities is essential in the development of a final plan. For example, if additional founders cannot be added to the captive population, the final goal and long-term strategy would change drastically. In addition, resolving some of the issues raised by studbook participants requires South African input. Unfortunately, temporal changes in staff have delayed a response from the South African authorities. At this point, it is uncertain when a response will be received.

While awaiting a response from South Africa, participants will be proposed to discard eggs produced by F1 individuals, unless eggs will be used in experiments to shift the sex ratio towards females (e.g., incubating eggs in a strictly controlled environment at relatively high temperatures).

1.2. Progress long-term field study Homopus femoralis

This study was permitted by CapeNature (South Africa). The permits require annual progress updates for CapeNature. Because this information may be informative for *Homopus* studbook participants, it will be included in the annual reports of the Homopus Research Foundation.

The 2008 fieldwork took place from 1 December till 14 December. Two persons methodically searched the study site for tortoises daily between 8:00-19:00 hrs (2-7 hours). Very few tortoises were found: one juvenile, two active females after rain, and one inactive female in a rock crevice that we used for temperature recordings. We measured and marked all tortoises prior to release. The field was extremely dry, which was confirmed by rainfall measurements. It appeared that tortoise activity was low due to drought and food shortage.

Arrangements were made with the local hospital for the radiography of female tortoises, and two of the females were radiographed. Neither of them contained calcified eggs. No food plants were recorded or collected.

Interestingly, we found the remains of 11 tortoise nests, probably *H. femoralis*. Egg numbers and sizes were recorded. These data might warrant a life history note.

In order to reduce the risk of drought and low tortoise activity in upcoming field seasons, fieldwork will be rescheduled later in the rainfall season, i.e. February-March.

2. PLANS FOR 2009 AND THEREAFTER

The following activities are prevailing, with progress indicated:

Activity	Due	Current status
Drawing up studbook management plan *H. s. signatus*	31-12-2009	Draft has been prepared and reviewed by participants; awaiting feedback from South African authorities
Drawing up studbook management plan *H. areolatus*	31-12-2010	Not yet started
Manuscripts submitted on:		
• Population density and dynamics of wild *H. s. signatus*	31-12-2009	Data available and statistically analysed
• Consequences of aridification to the conservation of *H. s. signatus*	31-12-2009	Data available, analysed, and manuscript in preparation
• Captive husbandry of *H. femoralis*	31-12-2009	Data accumulation in progress, and manuscript in preparation
• Annual fluctuations of the temperature and relative humidity in the habitat of *H. femoralis*	31-12-2010	Data accumulation in progress
• Thermoregulation of wild *H. s. signatus*	31-12-2010	Data available
Fieldwork *H. femoralis*	Feb-2010	In preparation
Presentation held at symposium Herpetological Association of Africa	2010	Not yet started

3. STUDBOOK SUMMARIES

To keep the studbook registrations up to date, it is vital that all studbook participants keep the coordinator informed about any changes. In the studbooks on *H. femoralis* and *H. s. signatus*, each participant has accepted this obligation in a formal agreement between participant and coordinator. Regardless of the agreements, most participants are very motivated and inform the coordinator spontaneously when changes occur throughout the year. Others choose to wait until information is requested by the coordinator in the end of each year. However, some participants remain silent for an entire year or longer, despite repeated messages from the studbook coordinator. In order to keep track of where these communication flaws occur, the annual reports will include a list of unresponsive locations. This will make it easier for the reader to assess the validity of studbook information per location, and will facilitate the coordinator when approaching a silent participant. In 2008, no locations have been unresponsive.

Homopus areolatus
Live specimens on 1 January 2008: 30 (excluding 6 specimens lost to follow-up)
Number of locations on 1 January 2008: 8 (4 countries, 1 zoo; excluding 1 location lost to follow-up)
New registrations: 18 (all captive-bred)
Births: 4
Deaths: 2
Live specimens on 31 December 2008: 50 (excluding 6 specimens lost to follow-up)
Number of locations on 31 December 2008: 10 (5 countries, 1 zoo; excluding 1 location lost to follow-up)
Interpretation of changes:

The studbook population grew considerably, due to the fact that existing location A46 registered its captive-bred *H. areolatus* born between 1999 and 2008. Five of these individuals were transferred to location A56 in 2006, and five individuals (2 died in 2008) were transferred to location A54 in 2008. Breeding results at location A46 were obtained in outdoor facilities in Namibia.

Despite very successful breeding at location A46, the remaining studbook locations (including previously successful locations A16, A37

and A45) did not produce offspring in 2008. At location A44 female 37 was examined by means of ultrasound and radiography on several occasions. Eventually, this female developed egg-retention and five eggs were produced after veterinary treatment with Oxytocin and calcium. One is currently developing.

Captive reproduction of *H. areolatus* remains problematic, at least in Europe, but low mortality and occasional breeding at several locations suggests that structural breeding should be possible. Ongoing experimenting to optimise husbandry and breeding techniques may improve future results.

Homopus femoralis
Live specimens on 1 January 2008: 6
Number of locations on 1 January 2008: 3 (2 countries)
New registrations: 0
Births: 1
Deaths: 0
Live specimens on 31 December 2008: 7
Number of locations on 31 December 2008: 3 (2 countries)
Interpretation of changes:

The studbook population *H. femoralis* is minute, but the introduction of three females in 2006, first egg-production in 2007, and first birth of offspring in 2008 demonstrates rapid development. Egg-production was limited to a single location. The female kept at location A10 has a small body size and may not yet be mature.

Homopus signatus signatus
Live specimens on 1 January 2008: 61 (excluding 13 specimens lost to follow-up)
Number of locations on 1 January 2008: 20 (6 countries, 2 zoos; excluding 1 location lost to follow-up)
New registrations: 0
Births: 5, at 3 locations
Deaths: 3, at 3 locations
Live specimens on 31 December 2008: 63 (excluding 13 specimens lost to follow-up)
Number of locations on 31 December 2008: 24 (7 countries, 1 zoo; excluding 1 location lost to follow-up)
Interpretation of changes:

In comparison to previous years, breeding results were low, but several locations destroyed eggs to avoid inbreeding or breeding of surplus animals. The long-term studbook plan (in preparation) will further regulate growth of the studbook population. Offspring number 101 (28 mm, 6.5 g, damaged yolk sac and eyes closed) was found in the adult enclosure and is the second inbred individual bred at location A08. These two individuals will not be used for further breeding, and an arrangement was made with the keeper to avoid that the tortoises might be used for breeding at future locations.

Mortality remained relatively low. Unfortunately, one of the two tortoises that died was a wild-caught female (number 3), imported in 1995. Genetically, this individual is well represented in the studbook population, but its death causes an increased responsibility for keepers of this bloodline (i.e., locations A08, A10, A16, A39, A42, A50, A55, A61, A62 and PRAHA) to ensure its survival. The spreading of this bloodline over many different locations will contribute to its survival chances. The carcass of female number 3 has been deposited at the Natural History Museum in Leiden, Netherlands.

The second death was a captive-bred juvenile. The third an adult captive-bred female. For all tortoises, it was not possible to determine the cause of death. The juvenile may have been stressed by its tank mates.

4. ACTUAL STUDBOOK OVERVIEWS

Homopus areolatus: Total studbook population. MULTX are groups of unregistered specimens at locations outside of the studbook. UNKX are specimens at locations outside of the studbook. ltf means that a specimen is lost to follow-up.

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date	Local ID	Event
A03								
1	F	????	WILD	WILD	KRAAIFONT	~ Jul 1997	______	Transfer
					HRF	21 Nov 1997	I	Transfer
					A03	14 Dec 1997	HZ0525	Transfer
						9 Nov 1998		Death
2	F	????	WILD	WILD	KRAAIFONT	~ Jul 1997	______	Transfer
					HRF	21 Nov 1997	II	Transfer
					A03	14 Dec 1997	______	Transfer
						13 Aug 1999		Death
6	M	????	MULT1	MULT2	KRAAIFONT	????	______	Hatch
					HRF	21 Nov 1997	VI	Transfer
					A03	14 Apr 2001	HZ0738	Loan to
						~12 Sep 2007		Death
7	M	????	WILD	WILD	ROTTERDAM	????	______	Transfer
					A03	????	HZ0457	Loan to
						5 Jul 1998		Death
32	F	????	WILD	WILD	A29	~ Jun 2000	______	Transfer
					A03	15 Jun 2001	HZ0752	Transfer
						16 May 2002		Death
33	F	????	WILD	WILD	LONDON RP	????	______	Transfer
					A03	23 Dec 2001	HZ0793	Transfer
						28 Jul 2003		Death
45	M	14 Dec 1999	58	UNK5	A46	14 Dec 1999	______	Hatch
					HRF	4 Nov 2004	V3	Transfer
					A03	5 Nov 2004	HZ0989	Loan to
						25 Mar 2006		Death
Totals: 3.4.0 (7)								
A10								
4	F	????	MULT1	MULT2	KRAAIFONT	????	______	Hatch
					HRF	21 Nov 1997	IV	Transfer
					A10	27 Oct 2004	______	Loan to
5	M	????	MULT1	MULT2	KRAAIFONT	????	______	Hatch
					HRF	21 Nov 1997	V	Transfer
					A10	27 Oct 2004	______	Loan to
62	F	~25 Nov 2007	5	4	A10	~25 Nov 2007	______	Hatch
					HRF	~25 Nov 2007	______	Ownership
Totals: 1.1.1 (3)								
A12								
8	F	????	WILD	WILD	KRAAIFONT	????	______	Transfer
					A12	~16 Sep 1999	A1	Transfer
						19 Mar 2000		Death
9	F	????	WILD	WILD	A13	????	______	Transfer
					A12	~16 Sep 1999	BLACKY	Transfer
						30 Apr 2000		Death
13	M	????	WILD	WILD	KRAAIFONT	????	______	Transfer
					A12	~16 Sep 1999	A7	Transfer
						15 Feb 2000		Death

15	F	????	WILD	WILD	A13	????	______		Transfer
					A12	~16 Sep 1999	A4		Transfer
						15 Feb 2000			Death
19	?	5 Feb 2000	MULT3	11	A12	5 Feb 2000	______		Hatch
						5 Feb 2000			Death
20	?	16 Mar 2000	MULT3	11	A12	16 Mar 2000	______		Hatch
						16 Mar 2000			Death
21	?	16 Mar 2000	MULT3	11	A12	16 Mar 2000	______		Hatch
						16 Mar 2000			Death

Totals: 1.3.3 (7)

A16

16	M	????	WILD	WILD	A16	30 Aug 1994	______		Transfer
17	F	????	WILD	WILD	A16	30 Aug 1994	______		Transfer
18	M	23 May 2000	16	17	A16	23 May 2000	______		Hatch
						30 Mar 2003			Death
38	F	5 Apr 2003	16	17	A16	5 Apr 2003	______		Hatch
						28 Nov 2006			Death
39	M	9 Apr 2003	16	17	A16	9 Apr 2003	______		Hatch
48	M	23 Mar 2004	16	17	A16	23 Mar 2004	______		Hatch
49	F	25 Mar 2004	16	17	A16	25 Mar 2004	______		Hatch
50	F	8 Aug 2004	16	17	A16	8 Aug 2004	______		Hatch
51	M	19 Aug 2004	16	17	A16	19 Aug 2004	______		Hatch
52	F	25 Aug 2004	16	17	A16	25 Aug 2004	______		Hatch
54	?	10 Jun 2005	16	17	A16	10 Jun 2005	______		Hatch
55	?	27 Jun 2005	16	17	A16	27 Jun 2005	______		Hatch
56	?	6 Oct 2005	16	17	A16	6 Oct 2005	______		Hatch
57	?	3 Nov 2005	16	17	A16	3 Nov 2005	______		Hatch
61	?	17 Dec 2006	16	17	A16	17 Dec 2006	______		Hatch
						~ 9 May 2007			Death

Totals: 5.5.5 (15)

A26

27	M	????	WILD	WILD	KRAAIFONT	????	______		Transfer
					A26	9 Jul 2001	______	ltf	Transfer
28	F	????	WILD	WILD	KRAAIFONT	????	______		Transfer
					A26	9 Jul 2001	______	ltf	Transfer

Totals: 1.1.0 (2)

A27

29	M	????	WILD	WILD	KRAAIFONT	????	______		Transfer
					A27	9 Jul 2001	______		Transfer
						9 Nov 2001			Death
30	F	????	WILD	WILD	KRAAIFONT	????	______		Transfer
					A27	9 Jul 2001	______		Transfer
						11 Nov 2001			Death

Totals: 1.1.0 (2)

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A37
    22    M       ????        WILD    WILD  A20           ????     ______     Transfer
                                            A21        17 Oct 2000 ______     Transfer
                                            A37        15 Sep 2002      1     Transfer

    23    F       ????        WILD    WILD  A20           ????     ______     Transfer
                                            A21        17 Oct 2000 ______     Transfer
                                            A37        15 Sep 2002      2     Transfer

    24    F         ~ 1993    UNK1    UNK2  A20             ~ 1993 ______     Hatch
                                            A21        17 Oct 2000 ______     Transfer
                                            A37        15 Sep 2002      3     Transfer

    46    ?    30 Sep 2004      22      24  A37        30 Sep 2004 ______     Hatch
Totals: 1.2.1 (4)
-------------------------------------------------------------------------------------

A42
    35    M     9 Jul 2002      16      17  A16         9 Jul 2002 ______     Hatch
                                            A42       ~30 Sep 2005 ______     Loan to
Totals: 1.0.0 (1)
-------------------------------------------------------------------------------------

A43
    10    M       ????        WILD    WILD  A13           ????     ______     Transfer
                                            A12       ~16 Sep 1999  ERNST     Transfer
                                            A43         ~ May 2004 ______ ltf Loan to

    11    F       ????        WILD    WILD  KRAAIFONT     ????     ______     Transfer
                                            A12       ~16 Sep 1999     A5     Transfer
                                            A43         ~ May 2004 ______ ltf Loan to

    12    F       ????        WILD    WILD  KRAAIFONT     ????     ______     Transfer
                                            A12       ~16 Sep 1999     A6     Transfer
                                            A43         ~ May 2004 ______ ltf Loan to

    14    F       ????        WILD    WILD  KRAAIFONT     ????     ______     Transfer
                                            A12        16 Sep 1999   BABY     Transfer
                                            A43         ~ May 2004 ______ ltf Loan to
Totals: 1.3.0 (4)
-------------------------------------------------------------------------------------

A44
    37    F     7 Aug 2003       5       4  HRF         7 Aug 2003   IV-3     Hatch
                                            A10        21 Aug 2004 ______     Loan to
                                            HRF        27 Oct 2004   IV-3     Transfer
                                            A44        31 Oct 2004 ESMERA     Loan to

    47    M     ~ Jun 1993    UNK3    UNK4  A47         ~ Jun 1993 ______     Hatch
                                            A48             ~ 2000 ______     Transfer
                                            A44        21 Nov 2004   HUGO     Transfer
Totals: 1.1.0 (2)
-------------------------------------------------------------------------------------

A45
    25    F    15 Sep 2001       5       4  HRF        15 Sep 2001   IV-1     Hatch
                                            A10        24 May 2003 ______     Loan to
                                            A16         4 Dec 2004 ______     Loan to
                                            A45        27 Feb 2005 ______     Loan to

    34    M    30 Jun 2002      16      17  A16        30 Jun 2002 ______     Hatch
                                            A45        27 Feb 2005 ______     Loan to

    53    ?    12 Jun 2005      34      25  A45        12 Jun 2005 ______     Hatch
Totals: 1.1.1 (3)
-------------------------------------------------------------------------------------

A46
    58    M       ????        WILD    WILD  A46         9 Sep 1997     03     Transfer

    59    F       ????        WILD    WILD  A46         9 Sep 1997     01     Transfer

    60    F       ????        WILD    WILD  A46        25 Mar 1999     02     Transfer
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64	?	12 Dec 1999	58	59	A46	12 Dec 1999	_____	Hatch
67	?	8 Apr 2004	58	MULT4	A46	8 Apr 2004	_____	Hatch
68	?	8 Apr 2004	58	MULT4	A46	8 Apr 2004	_____	Hatch
70	?	14 Mar 2004	58	MULT4	A46	14 Mar 2004	_____	Hatch
75	M	6 Jan 2004	58	59	A46	6 Jan 2004	_____	Hatch
76	?	11 Jan 2004	58	59	A46	11 Jan 2004	_____	Hatch
77	?	14 Feb 2005	58	MULT4	A46	14 Feb 2005	_____	Hatch
78	?	23 Mar 2005	58	MULT4	A46	23 Mar 2005	_____	Hatch
84	?	~ 7 Feb 2008	58	MULT4	A46	~ 7 Feb 2008	_____	Hatch
85	?	~ 7 Feb 2008	58	MULT4	A46	~ 7 Feb 2008	_____	Hatch
86	?	~ 7 Feb 2008	58	MULT4	A46	~ 7 Feb 2008	_____	Hatch
87	?	~25 Feb 2008	58	MULT4	A46	~25 Feb 2008	_____	Hatch

Totals: 2.2.11 (15)

A54

79	?	~15 Mar 2007	58	MULT4	A46	~15 Mar 2007	_____	Hatch
					A54	~15 Jun 2008	_____	Transfer
80	?	~15 Mar 2007	58	MULT4	A46	~15 Mar 2007	_____	Hatch
					A54	~15 Jun 2008	_____	Transfer
						~ 1 Jul 2008		Death
81	?	~15 Mar 2007	58	MULT4	A46	~15 Mar 2007	_____	Hatch
					A54	~15 Jun 2008	_____	Transfer
82	?	~15 Mar 2007	58	MULT4	A46	~15 Mar 2007	_____	Hatch
					A54	~15 Jun 2008	_____	Transfer
83	?	~15 Mar 2007	58	MULT4	A46	~15 Mar 2007	_____	Hatch
					A54	~15 Jun 2008	_____	Transfer
						~ 1 Jul 2008		Death

Totals: 0.0.5 (5)

A56

69	?	23 Apr 2004	58	MULT4	A46	23 Apr 2004	_____	Hatch
					A56	~15 Jun 2006	_____	Transfer
71	?	14 Mar 2004	58	MULT4	A46	14 Mar 2004	_____	Hatch
					A56	~15 Jun 2006	_____	Transfer
72	?	14 Mar 2004	58	MULT4	A46	14 Mar 2004	_____	Hatch
					A56	~15 Jun 2006	_____	Transfer
73	?	14 Mar 2004	58	MULT4	A46	14 Mar 2004	_____	Hatch
					A56	~15 Jun 2006	_____	Transfer
74	?	14 Mar 2004	58	MULT4	A46	14 Mar 2004	_____	Hatch
					A56	~15 Jun 2006	_____	Transfer

Totals: 0.0.5 (5)

HRF

3	?	????	MULT1	MULT2	KRAAIFONT	????	_____	Hatch
					HRF	21 Nov 1997	III	Transfer
						29 Oct 1999		Death
26	?	15 Oct 2001	5	4	HRF	15 Oct 2001	IV-2	Hatch
						26 Apr 2002		Death

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    31    ?    11 Nov 2001       5       4  HRF        11 Nov 2001 ______     Hatch
                                                       11 Nov 2001            Death

    36    ?    12 Oct 2002       5       4  HRF        12 Oct 2002 ______     Hatch
                                                       12 Oct 2002            Death
Totals: 0.0.4 (4)
--------------------------------------------------------------------------------

WUPPERTAL
    40    M       ????        WILD    WILD  WUPPERTAL  28 Mar 1991 91586A     Transfer

    41    M       ????        WILD    WILD  WUPPERTAL  28 Mar 1991 91586B     Transfer

    42    F    22 Feb 1999      58   MULT4  A46        22 Feb 1999 ______     Hatch
                                             HRF         4 Nov 2004 NOMARK    Transfer
                                             WUPPERTAL   9 Nov 2004 91586C    Loan to
                                                        14 Apr 2005           Death

    43    F    21 Dec 1999      58   MULT4  A46        21 Dec 1999 ______     Hatch
                                             HRF         4 Nov 2004    CR1    Transfer
                                             WUPPERTAL   9 Nov 2004 91586D    Loan to
                                                        26 Mar 2005           Death

    44    F    20 Dec 2001      58   MULT4  A46        20 Dec 2001 ______     Hatch
                                             HRF         4 Nov 2004    CL2    Transfer
                                             WUPPERTAL   9 Nov 2004 91586E    Loan to
                                                         4 Nov 2005           Death
Totals: 2.3.0 (5)
--------------------------------------------------------------------------------
================================================================================
TOTALS: 21.27.32 (80)
```

Homopus femoralis: Total studbook population.

```
================================================================================
Stud # | Sex | Hatch Date | Sire  | Dam   | Location | Date      | Local ID | Event    |
================================================================================

A08
     1    M       ????        WILD    WILD  A28         ~ Jan 2001 ______     Transfer
                                             HRF        23 Dec 2001      I     Loan to
                                             A08        17 Apr 2002 ______     Loan to

     6    F       ????        WILD    WILD  BEAUF W    16 Mar 2006   NONE     Capture
                                             HRF        19 Mar 2006 ______     Transfer
                                             A08         2 Apr 2006 ______     Loan to
Totals: 1.1.0 (2)
--------------------------------------------------------------------------------

A10
     2    M       ????        WILD    WILD  A28         ~ Jan 2001 ______     Transfer
                                             A08        23 Dec 2001 ______     Loan to
                                             A10        30 Jul 2006 ______     Loan to

     5    F       ????        WILD    WILD  BEAUF W    16 Mar 2006   NONE     Capture
                                             HRF        19 Mar 2006 ______     Transfer
                                             A10        30 Jul 2006 ______     Loan to
Totals: 1.1.0 (2)
--------------------------------------------------------------------------------

HRF
     3    M       ????        WILD    WILD  A28         ~ Jan 2001 ______     Transfer
                                             HRF        23 Dec 2001    III     Loan to

     4    F       ????        WILD    WILD  BEAUF W    16 Mar 2006   NONE     Capture
                                             HRF        19 Mar 2006 ______     Transfer

     7    ?     7 Jun 2008       3       4  HRF         7 Jun 2008 ______     Hatch
Totals: 1.1.1 (3)
--------------------------------------------------------------------------------
================================================================================
TOTALS: 3.3.1 (7)
```

Homopus signatus signatus: Total studbook population. MULT1 are specimens 18 and 19, MULT2 specimens 20 and 21. UNK1 and UNK2 are unknown specimens outside of the studbook. ltf means that a specimen is lost to follow-up. Specimens number 95 and 101 are inbred and not available for further breeding.

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date	Local ID	Event
A07								
35	M	????	WILD	WILD	SPRINGBOK	4 Oct 2001	NONE	Capture
					HRF	6 Oct 2001	______	Transfer
					A07	16 Dec 2001	______	Loan to
36	F	????	WILD	WILD	SPRINGBOK	3 Oct 2001	NONE	Capture
					HRF	6 Oct 2001	______	Transfer
					A07	16 Dec 2001	______	Loan to
97	?	15 Sep 2007	35	36	A07	15 Sep 2007	______	Hatch
					HRF	15 Sep 2007	______	Ownership
102	?	28 Jun 2008	35	36	A07	28 Jun 2008	______	Hatch
					HRF	28 Jun 2008	______	Ownership
103	?	10 Aug 2008	35	36	A07	10 Aug 2008	______	Hatch
					HRF	10 Aug 2008	______	Ownership
Totals: 1.1.3 (5)								
A08								
41	M	25 Jul 2002	1	3	HRF	25 Jul 2002	III-14	Hatch
					A08	19 Apr 2003	______	Loan to
42	F	20 Aug 2002	1	2	HRF	20 Aug 2002	II-11	Hatch
					A08	19 Apr 2003	______	Loan to
95	?	18 Sep 2007	41	42	A08	18 Sep 2007	______	Hatch
					HRF	18 Sep 2007	______	Ownership
101	?	10 Nov 2008	41	42	A08	10 Nov 2008	______	Hatch
					HRF	10 Nov 2008	______	Ownership
Totals: 1.1.2 (4)								
A10								
6	M	8 Nov 1996	1	3	HRF	8 Nov 1996	III-2	Hatch
					A10	4 Aug 2001	______	Loan to
					A31	7 May 2002	______	Loan to
					A10	8 Dec 2002	______	Loan to
7	F	24 Dec 1996	1	3	HRF	24 Dec 1996	III-3	Hatch
					A06	22 Nov 1998	______	Loan to
					A07	5 Jul 2000	______	Loan to
					A18	14 Dec 2001	______	Loan to
					A31	6 May 2002	______	Loan to
					A10	8 Dec 2002	______	Loan to
44	M	31 Oct 2002	35	36	A07	31 Oct 2002	______	Hatch
					HRF	31 Oct 2002	______	Ownership
					A10	24 Jul 2004	______	Loan to
77	F	13 Jul 2006	44	7	A10	13 Jul 2006	______	Hatch
					HRF	13 Jul 2006	______	Ownership
78	M	10 Jun 2006	44	7	A10	10 Jun 2006	______	Hatch
					HRF	10 Jun 2006	______	Ownership
80	?	10 Sep 2006	44	7	A10	10 Sep 2006	______	Hatch
					HRF	10 Sep 2006	______	Ownership
					A10	1 Mar 2007		Death

```
    81    ?     3 Sep 2006      44       7  A10         3 Sep 2006 ______     Hatch
                                            HRF         3 Sep 2006 ______     Ownership
                                            A10         8 Apr 2008            Death

    93    ?    30 Jul 2007      44       7  A10        30 Jul 2007 ______     Hatch
                                            HRF        30 Jul 2007 ______     Ownership

    94    ?    27 Aug 2007      44       7  A10        27 Aug 2007 ______     Hatch
                                            HRF        27 Aug 2007 ______     Ownership
Totals: 2.1.6 (9)
-------------------------------------------------------------------------------------

A12
    45    ?     ~ Jun 2002   MULT1      20  A12         ~ Jun 2002 ______     Hatch
                                                       ~ Jun 2002            Death

    46    ?     ~ Jun 2002   MULT1      20  A12         ~ Jun 2002 ______     Hatch
                                                       ~ Jun 2002            Death

    48    ?     ~ Jul 2002   MULT1      20  A12         ~ Jul 2002 ______     Hatch
                                                       ~ Jul 2002            Death

    49    ?     ~ Jul 2002   MULT1      20  A12         ~ Jul 2002 ______     Hatch
                                                       ~ Jul 2002            Death
Totals: 0.0.4 (4)
-------------------------------------------------------------------------------------

A16
    11    M    10 Nov 1997       1       3  HRF        10 Nov 1997  III-4     Hatch
                                            A06        22 Nov 1998 ______     Loan to
                                            A07         5 Jul 2000 ______     Loan to
                                            A16        16 Sep 2000 ______     Loan to

    14    M    22 Oct 1998       1       3  HRF        22 Oct 1998  III-5     Hatch
                                            A07        22 Nov 1998 ______     Loan to
                                            A16        16 Sep 2000 ______     Loan to
Totals: 2.0.0 (2)
-------------------------------------------------------------------------------------

A18
    15    F    20 Sep 1999       1       2  HRF        20 Sep 1999   II-6     Hatch
                                            A31         6 May 2002 ______     Loan to
                                            A18         8 Dec 2002 ______     Loan to

    69    M     9 May 2005      37      38  HRF         9 May 2005  HSS69     Hatch
                                            A33        28 May 2006   NURI     Loan to
                                            A18         3 Sep 2007 ______     Loan to
Totals: 1.1.0 (2)
-------------------------------------------------------------------------------------

A25
     1    M       ????        WILD    WILD  SPRINGBOK  27 Sep 1995   NONE     Capture
                                            HRF        30 Sep 1995      I     Transfer
                                            A25        12 Jun 2004 ______     Loan to

     3    F       ????        WILD    WILD  SPRINGBOK  26 Sep 1995   NONE     Capture
                                            HRF        30 Sep 1995    III     Transfer
                                            A25        12 Jun 2004 ______     Loan to
                                                       22 Aug 2008            Death
Totals: 1.1.0 (2)
-------------------------------------------------------------------------------------

A31
    22    M    19 Jun 2000       1       2  HRF        19 Jun 2000   II-7     Hatch
                                            A31         6 May 2002 ______     Loan to
                                                       14 Sep 2002            Death

    29    ?    15 Jul 2001       1       3  HRF        15 Jul 2001  III-9     Hatch
                                            A31         6 May 2002 ______     Loan to
                                                       14 Aug 2002            Death
Totals: 1.0.1 (2)
-------------------------------------------------------------------------------------
```

```
A33
    53    F    20 Jul 2003      13       5  HRF        20 Jul 2003 030720     Hatch
                                             A51        16 Sep 2006 ______     Loan to
                                             A33        30 Dec 2007 ______     Loan to

    63    M     6 Jul 2004      35      36  A07         6 Jul 2004 ______     Hatch
                                             HRF         6 Jul 2004 ______     Ownership
                                             A51        14 Aug 2006 ______     Loan to
                                             A33        30 Dec 2007 ______     Loan to

    66    F     6 Aug 2004      13       5  HRF         6 Aug 2004 040806     Hatch
                                             A51         2 Jun 2006 ______     Loan to
                                             A33        30 Dec 2007 ______     Loan to
Totals: 1.2.0 (3)
-------------------------------------------------------------------------------------

A35
    31    M     3 Aug 2001       1       2  HRF         3 Aug 2001  II-10     Hatch
                                             A31         6 May 2002 ______     Loan to
                                             A35        30 Nov 2002 ______     Loan to
                                                         ~ Jul 2006            Death

    34    M    30 Sep 2001       1       3  HRF        30 Sep 2001 III-11     Hatch
                                             A31         6 May 2002 ______     Loan to
                                             A35        30 Nov 2002 ______     Loan to
                                                       ~ 1 Apr 2007            Death
Totals: 2.0.0 (2)
-------------------------------------------------------------------------------------

A36
    12    M    21 Nov 1997       1       2  HRF        21 Nov 1997   II-4     Hatch
                                             A07        22 Nov 1998 ______     Loan to
                                             A18        14 Dec 2001 ______     Loan to
                                             A31         6 May 2002 ______     Loan to
                                             A36         8 Dec 2002 ______     Loan to
                                                        20 Oct 2003            Death
Totals: 1.0.0 (1)
-------------------------------------------------------------------------------------

A37
    33    M    19 Aug 2001       1       3  HRF        19 Aug 2001 III-10     Hatch
                                             A31         6 May 2002 ______     Loan to
                                             A37        11 Dec 2002 ______     Loan to
                                                        26 Dec 2003            Death

    60    F       ????        WILD    WILD  A37       ~15 Mar 2003 ______     Transfer

    61    M     7 Oct 2003    WILD      60  A37         7 Oct 2003 ______     Hatch

    62    F     5 Jun 2004    WILD      60  A37         5 Jun 2004 ______     Hatch

    67    M     5 Aug 2004    WILD      60  A37         5 Aug 2004 ______     Hatch

    82    M    26 Dec 2005      25      60  A37        26 Dec 2005 ______     Hatch
                                             HRF        26 Dec 2005 ______     Ownership

    83    ?   ~15 Jan 2006      25      60  A37       ~15 Jan 2006 ______     Hatch
                                                       ~15 Jan 2006            Death

    84    ?   ~15 Feb 2006      25      60  A37       ~15 Feb 2006 ______     Hatch
                                                       ~15 May 2006            Death

    85    ?   ~15 Mar 2006      25      60  A37       ~15 Mar 2006 ______     Hatch
                                                       ~20 Mar 2006            Death

    86    M   ~20 Apr 2006      25      60  A37       ~20 Apr 2006 ______     Hatch

    87    M   ~15 Oct 2005      25      60  A37       ~15 Oct 2005 ______     Hatch

    88    M   ~15 Nov 2005      25      60  A37       ~15 Nov 2005 ______     Hatch
                                             HRF       ~15 Nov 2005 ______     Ownership

    89    M    18 Jan 2007      25      60  A37        18 Jan 2007 ______     Hatch
```

```
    92    M    10 Aug 2007      25      60  A37        10 Aug 2007 ______     Hatch
                                            HRF        10 Aug 2007 ______     Ownership

    98    M    29 Dec 2007      25      60  A37        29 Dec 2007 ______     Hatch
Totals: 10.2.3 (15)
-------------------------------------------------------------------------------------

A39
    40    M     2 Jul 2002       1       3  HRF         2 Jul 2002 III-13     Hatch
                                            A39        12 Apr 2003 ______     Loan to
Totals: 1.0.0 (1)
-------------------------------------------------------------------------------------

A40
    43    F    29 Sep 2002       1       2  A40         6 Jun 2003 ______     Loan to
Totals: 0.1.0 (1)
-------------------------------------------------------------------------------------

A42
    54    F     5 Sep 2003       1       3  HRF         5 Sep 2003 III-17     Hatch
                                            A42         7 Nov 2003 THEODO     Loan to

    55    ?     3 Sep 2003       1       2  HRF         3 Sep 2003  II-14     Hatch
                                            A42         7 Nov 2003 ______     Loan to
                                                       13 Mar 2004            Death
Totals: 0.1.1 (2)
-------------------------------------------------------------------------------------

A43
    17    M       ????        WILD    WILD  A12         8 Sep 1999 ______     Transfer
                                            A43         ~ May 2004 ______ ltf Loan to

    18    M       ????        WILD    WILD  SPRINGBOK ~16 Sep 1999   NONE     Capture
                                            A12       ~16 Sep 1999  VIEJO     Transfer
                                            A43         ~ May 2004 ______ ltf Loan to

    19    M       ????        WILD    WILD  SPRINGBOK ~16 Sep 1999   NONE     Capture
                                            A12       ~16 Sep 1999 STUMPY     Transfer
                                            A43         ~ May 2004 ______ ltf Loan to

    20    F       ????        WILD    WILD  SPRINGBOK ~16 Sep 1999   NONE     Capture
                                            A12       ~16 Sep 1999  MIDGE     Transfer
                                            A43         ~ May 2004 ______ ltf Loan to

    21    F       ????        WILD    WILD  SPRINGBOK ~16 Sep 1999   NONE     Capture
                                            A12       ~16 Sep 1999 BERTHA     Transfer
                                            A43         ~ May 2004 ______ ltf Loan to

    27    ?    17 Oct 2000   MULT1   MULT2  A12        17 Oct 2000  SASHI     Hatch
                                            A43         ~ May 2004 ______ ltf Loan to

    28    ?    15 Nov 2000   MULT1   MULT2  A12        15 Nov 2000 PEANUT     Hatch
                                            A43         ~ May 2004 ______ ltf Loan to

    30    ?    26 Jul 2001   MULT1      20  A12        26 Jul 2001 ______     Hatch
                                            A43         ~ May 2004 ______ ltf Loan to

    32    ?    10 Aug 2001   MULT1      20  A12        10 Aug 2001 ______     Hatch
                                            A43         ~ May 2004 ______ ltf Loan to

    47    M       ????        UNK1    UNK2  A12         ~ Jan 2002  ERNST     Transfer
                                            A43         ~ May 2004 ______ ltf Loan to

    56    ?    22 Aug 2003   MULT1      20  A12        22 Aug 2003 ______     Hatch
                                            A43         ~ May 2004 ______ ltf Loan to

    57    ?    17 Sep 2003   MULT1      20  A12        17 Sep 2003 ______     Hatch
                                            A43         ~ May 2004 ______ ltf Loan to

    58    ?    20 Sep 2003   MULT1      20  A12        20 Sep 2003 ______     Hatch
                                            A43         ~ May 2004 ______ ltf Loan to
Totals: 4.2.7 (13)
-------------------------------------------------------------------------------------
```

```
A50
     5    F    27 Feb 1996    WILD       3  HRF        27 Feb 1996  III-1     Hatch
                                           A50        16 Sep 2006 ______     Loan to

    13    M    26 Sep 1998       1       2  HRF        26 Sep 1998   II-5     Hatch
                                           A07        22 Nov 1998 ______     Loan to
                                           A18        14 Dec 2001 ______     Loan to
                                           A31         6 May 2002 ______     Loan to
                                           HRF         8 Dec 2002   II-5     Transfer
                                           A50        16 Sep 2006 ______     Loan to

    64    M    29 Jul 2004       1       3  HRF        29 Jul 2004 III-19     Hatch
                                           A50        17 Apr 2005 ______     Loan to
Totals: 2.1.0 (3)
-------------------------------------------------------------------------------------

A52
    70    M    24 Jun 2005       1       3  A25        24 Jun 2005 DOPPIE     Hatch
                                           HRF        24 Jun 2005 ______     Ownership
                                           A52         5 Jan 2007 ______     Loan to
                                                      11 Jun 2007            Death
Totals: 1.0.0 (1)
-------------------------------------------------------------------------------------

A54
    75    M     9 May 2006      13       5  HRF         9 May 2006 ______     Hatch
                                           A54        24 Mar 2007 ______     Loan to

    76    F    20 Jun 2006      13       5  HRF        20 Jun 2006    V-4     Hatch
                                           A54        24 Mar 2007 ______     Loan to
Totals: 1.1.0 (2)
-------------------------------------------------------------------------------------

A55
    74    M    31 Jul 2005       1       3  A25        31 Jul 2005 ______     Hatch
                                           HRF        31 Jul 2005 ______     Ownership
                                           A55        24 Mar 2007 ______     Loan to
Totals: 1.0.0 (1)
-------------------------------------------------------------------------------------

A57
    10    M    22 Oct 1997       1       2  HRF        22 Oct 1997   II-3     Hatch
                                           A10         4 Aug 2001 ______     Loan to
                                           A31         7 May 2002 ______     Loan to
                                           A33         8 Nov 2002  UHURU     Loan to
                                           A57         6 Apr 2008 ______     Loan to
Totals: 1.0.0 (1)
-------------------------------------------------------------------------------------

A58
    71    M    25 Jun 2005      44       7  A10        25 Jun 2005 ______     Hatch
                                           HRF        25 Jun 2005 ______     Ownership
                                           A58         6 May 2008 ______     Loan to
Totals: 1.0.0 (1)
-------------------------------------------------------------------------------------

A59
    51    M     1 Jul 2003       1       2  HRF         1 Jul 2003  II-13     Hatch
                                           A41         2 Nov 2003 ______     Loan to
                                           A59        13 Sep 2008 ______     Loan to
Totals: 1.0.0 (1)
-------------------------------------------------------------------------------------

A60
    68    M    14 Aug 2004      35      36  A07        14 Aug 2004 ______     Hatch
                                           HRF        15 Aug 2004 ______     Ownership
                                           A61         8 Oct 2006 ______     Loan to
                                           A60        18 Sep 2008 ______     Loan to
Totals: 1.0.0 (1)
-------------------------------------------------------------------------------------
```

```
A61
    59    M    10 Jun 2004       1       3  HRF        10 Jun 2004 III-18     Hatch
                                             A61        17 Apr 2005 ______     Loan to

    96    ?    30 Jul 2007      35      36  A07        30 Jul 2007 ______     Hatch
                                             HRF        30 Jul 2007 ______     Ownership
                                             A61        13 Apr 2008 ______     Loan to
Totals: 1.0.1 (2)
-------------------------------------------------------------------------------------

A62
    25    M    12 Sep 2000       1       3  HRF        12 Sep 2000  III-8     Hatch
                                             A31         6 May 2002 ______     Loan to
                                             A37        11 Dec 2002 ______     Loan to
                                             A62       ~ 9 Oct 2008 ______     Loan to
Totals: 1.0.0 (1)
-------------------------------------------------------------------------------------

HRF
     2    F       ????        WILD    WILD  SPRINGBOK  26 Sep 1995   NONE     Capture
                                             HRF        30 Sep 1995     II     Transfer
                                                        14 May 2004            Death

     4    M       ????        WILD    WILD  SPRINGBOK  28 Sep 1995   NONE     Capture
                                             HRF        30 Sep 1995     IV     Transfer
                                                        24 Dec 1995            Death

     8    ?    26 Jan 1997       1       2  HRF         2 Feb 1997            Death

     9    F    30 Nov 1996       1       2  HRF        30 Nov 1996   II-1     Hatch

    16    ?     4 Oct 1999       1       3  HRF         4 Oct 1999  III-6     Hatch
                                                         4 Oct 1999            Death

    23    ?    19 Jul 2000       1       2  HRF        19 Jul 2000   II-8     Hatch
                                                        29 Jun 2001            Death

    24    ?     2 Aug 2000       1       3  HRF         2 Aug 2000  III-7     Hatch
                                                         2 Aug 2000            Death

    37    M       ????        WILD    WILD  SPRINGBOK   3 Oct 2001   NONE     Capture
                                             HRF         6 Oct 2001 ______     Transfer
                                             A25         6 Oct 2001 ______     Loan to
                                             HRF        12 Jun 2004 0612-I     Transfer

    38    F       ????        WILD    WILD  SPRINGBOK   3 Oct 2001   NONE     Capture
                                             HRF         6 Oct 2001 ______     Transfer
                                             A25         6 Oct 2001 ______     Loan to
                                             HRF        12 Jun 2004 612-II     Transfer

    39    ?    11 Jun 2002       1       3  HRF        11 Jun 2002 III-12     Hatch
                                                        20 Jun 2002            Death

    72    M    24 Jul 2005   MULT3   MULT4  HRF        24 Jul 2005    ?-1     Hatch

    73    F     2 Aug 2005      37      38  HRF         2 Aug 2005  HSS73     Hatch

    79    ?     9 Aug 2006      37      38  HRF         9 Aug 2006 ______     Hatch

    90    ?    29 May 2007      37      38  HRF        29 May 2007 ______     Hatch
                                                         8 Jul 2007            Death

    91    ?     3 Aug 2007      37      38  HRF         3 Aug 2007 ______     Hatch

    99    ?    21 May 2008      37      38  HRF        21 May 2008 ______     Hatch

   100    ?    24 Jun 2008      37      38  HRF        24 Jun 2008 ______     Hatch
Totals: 3.4.10 (17)
-------------------------------------------------------------------------------------

PRAHA
    50    M    17 Jun 2003       1       3  HRF        17 Jun 2003 III-15     Hatch
                                             PRAHA      20 Dec 2003 ______     Loan to
```

52	F	9 Jul 2003	1	3	HRF	9 Jul 2003	III-16	Hatch
					PRAHA	20 Dec 2003	_____	Loan to
65	M	31 Jul 2004	35	36	A07	31 Jul 2004	_____	Hatch
					HRF	31 Jul 2004	_____	Ownership
					PRAHA	31 Aug 2006	_____	Loan to

Totals: 2.1.0 (3)

WUPPERTAL

26	F	7 Oct 2000	1	2	HRF	7 Oct 2000	II-9	Hatch
					A31	6 May 2002	_____	Loan to
					WUPPERTAL	18 Dec 2002	_____	Loan to
						2 Jun 2008		Death

Totals: 0.1.0 (1)

==========

TOTALS: 44.21.38 (103)

5. SPECIFIC INFORMATION FROM STUDBOOK PARTICIPANTS

Location A07

The adult couple was fed very much during winter 2007-2008, also after the first egg was produced. In 2008, the female produced three eggs, presumably due to the high food availability. The eggs that were produced first and last hatched. Feeding was reduced thereafter, targeting production of two eggs per season.

Location A08

During summer (from the end of April), adult tortoises 41 and 42 were housed in a naturally decorated outdoor enclosure (1.6 x 1.6 m, well-drained and on a slope) covered with glass. They were kept together with one couple *Uromastyx acanthinura*. Temperatures reached above 35°C, enabling tortoises to reach sufficient body temperature.

Location A16

Some of the smaller *H. areolatus* were kept outside during summer and they did fine. For the future, additional outdoor enclosures will be constructed. Tortoises numbers 54 and 55 were housed together for a while, but started to fight. As a result, number 54 has some shell damage. They appear to be two males, although sexual characteristics are not pronounced.

Homopus s. signatus was less active in winter compared to previous winters, probably due to lower temperatures this year.

Location A25

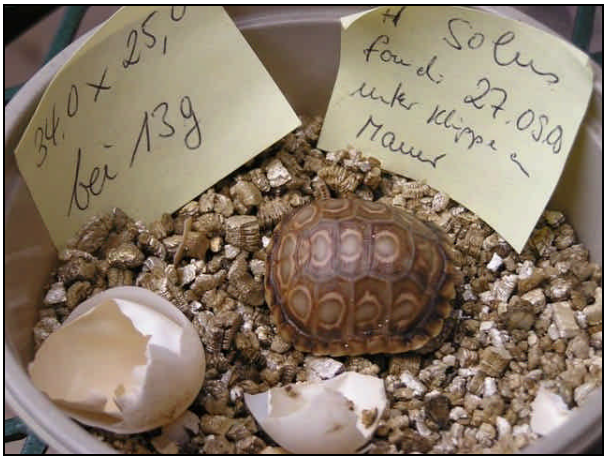
This location did not produce offspring in 2007. However, after the finalisation of the 2007 annual report, an egg with a dead young was found. Apparently, the young had been unable to break the eggshell.

This result, along with other undetected *H. s. signatus* eggs at other locations, shows that females are often successful in hiding eggs for keepers. It is important to monitor female behaviour in late winter and spring to detect egg-laying.

Location A46

The photographs below show 2008 offspring *H. areolatus* in their outdoor enclosure.

Although there is no formal studbook for this species, the following photographs show some husbandry results on *Homopus solus*: adult enclosure, offspring, and offspring enclosure.



6. NEW PUBLICATIONS

The following overview summarises all manuscripts and articles that were submitted, accepted, or published in 2008.

Subject	Submitted	Accepted	Published	Journal
Husbandry and breeding account *Homopus* spp.	2003/2008			Mertensiella (English), resubmitted for inclusion in a book edited by Prof. W. Sachsse in 2008
The ecology of the world's smallest tortoise, *Homopus signatus signatus*: effects of rainfall	2007	2008	2008	PhD dissertation, University of the Western Cape, South Africa (English)

Subject	Submitted	Accepted	Published	Journal
Eerste Belgische nakweek met *Homopus s. signatus* / First Belgium breeding of *Homopus s. signatus*	2007	2008	2008	Terra (Dutch)
Kweken met *Homopus s. signatus* / Breeding *Homopus s. signatus*	2007	2007	2008	Terra (Dutch)
Annual variation of the relative humidity in a rock crevice in the natural habitat of the Namaqualand speckled padloper, *Homopus signatus signatus*	2008	2008	2008	Radiata (English and German)
Homopus signatus signatus (Gmelin, 1789), Namaqualand speckled padloper, natural oviposition and incubation	2008	2008	2008	African Herp News (English)
First captive breeding of the greater padloper, *Homopus femoralis*	2008	2008		Turtle and Tortoise Newsletter (English)
Annual variation in reproduction of wild *H. s. signatus*	2008			Copeia (English)

7. FINANCIAL REPORT

The available funds grew in 2008, as a result of several donations and low expenses. A small amount was used for the field project on *Homopus femoralis*. Particularly the amount used for radiographs was much lower than anticipated, due to the lack of tortoise activity (i.e., few females could be radiographed, see paragraph 1.2). Radiotelemetry is scheduled from February 2010 to February 2011, so that funding of radiotransmitters will represent most of the expenses in 2009. The available funding for the *Homopus femoralis* field project does not yet suffice to cover the entire project. See the project proposal at http://www.homopus.org, section Research - Field ecology of *Homopus femoralis* for a detailed financial plan.

Financial report Homopus Research Foundation 2008

Revenues		***Expenses***	
Net amount €	**Item**	**Amount €**	**Item**
Project H. femoralis 2006-2011		*Project H. femoralis 2006-2011*	
2,043	Remaining funds 2007	167	Various equipment (balance, batteries, tortoise storage)
466	Donations private individuals	6	Radiograph
80	Donation Westermann.de	1,000	Reservation rebatterying radiotransmitters
5	Interest bank account	1,200	Reservation purchase additional radiotransmitters
		220	Reservation other project expenses
2,594	Subtotal	2,594	Subtotal
Other		*Other*	
49	Donation V. Loehr to cover non-project expenses	27	Chamber of Commerce 2007
		22	Annual costs bank account
49	Subtotal	49	Subtotal
2,642	Total	2,642	Total

8. PERMIT OVERVIEW

The activities reported in this document would not have been possible without the following permits issued by the South African and Namibian authorities:

Exporting of H. areolatus

- Exporting permit 49683 (Ministry of Environment and Tourism, Namibia)

- CITES exporting permit 8830 (Ministry of Environment and Tourism, Namibia)
- CITES exporting permit 3558 (Ministry of Environment and Tourism, South Africa)
- Health certificate 13\1\4\2\ 09/2- 1676/04 (Ministry of Agriculture, Water and Rural Development, Namibia)
- Various additional permits issued to individual studbook participants (Namibia)

Collecting and exporting of H. femoralis

- Collecting permit AAA004-00010-0035 (CapeNature, South Africa)
- CITES exporting permit 58679 (Department of Environmental Affairs and Tourism, South Africa)
- Health declaration dated 17-03-06 (Department of Agriculture, South Africa)

Collecting and exporting of H. s. signatus

- Collecting permit 331/95 (Western Cape Nature Conservation Board, South Africa)
- Collecting permit 28/2001 (Northern Cape Nature Conservation, South Africa)
- CITES exporting permits 16579 and 281/95C (Department of Environmental Affairs and Tourism, South Africa)
- Permit to move animals/animal products 2001/10/3/A (Department of Agriculture, South Africa)

Field study on H. boulengeri

- Research permits 755/05, 43/2005 and 35/2005 (Northern Cape Nature Conservation, South Africa)

Field study on H. femoralis

- Research permit AAA-004-000214-0035

Field studies on H. s. signatus and H. s. cafer

- Research permits 137/99, 84/99, 019/2001, 010/2001, 46/2003, 26/2003, 8/2003, 168/2003, 43/2003, 158/2003, 633/2003, 25/2003, 158/2004 and 633/2004 (Northern Cape Nature Conservation, South Africa)
- Research permits 428/2002 and 41/2002 (Western Cape Nature Conservation Board, South Africa)