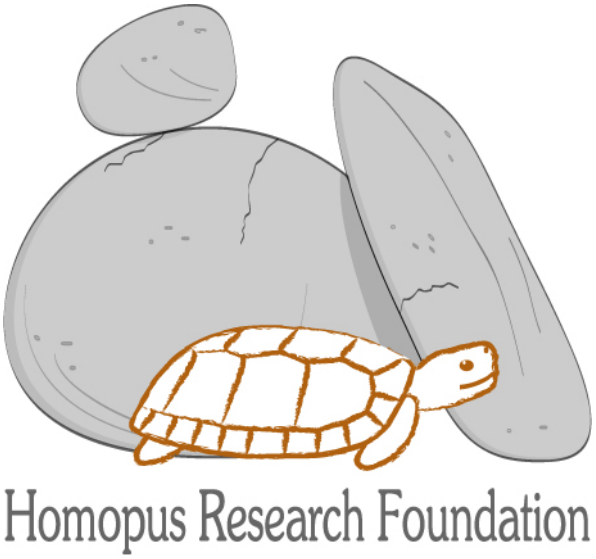
Homopus Research Foundation



Annual Report

2012

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1. INTRODUCTION AND ACHIEVEMENTS IN 2012

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 2012, several activities contributed to this aim. The current report presents an overview of achievements in 2012, as well as activities planned for 2013 and thereafter. Moreover, the actual studbook populations for *Homopus areolatus*, *Homopus femoralis* and *Homopus signatus* are described, focussing on changes that occurred in 2012. All previous annual reports can be found on the website of the Homopus Research Foundation, http://www.homopus.org, section Publications.

The 2011 annual report anticipated on several results for 2012. The following table summarises these plans, with results obtained in 2012.

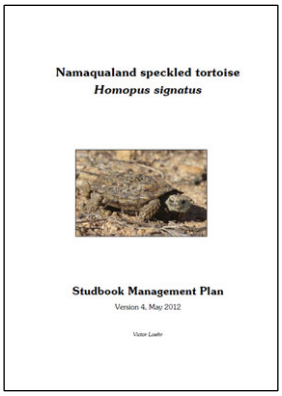
Result	**Due**
Project proposal (permit application) for a study on thermoregulation in wild *H. signatus* (2012-2013) drawn up and submitted	30-04-2012
2012: Project proposal drawn up and submitted, and permits granted. See Paragraph 1.2.	
Fieldwork conducted on *H. signatus* thermoregulation	Aug-2012
2012: Fieldwork conducted in August-September. See Paragraph 1.2.	
Detailed studbook management plan *H. signatus* finalised	31-12-2012
2012: Studbook management plan finalised, except for several comments from the Northern Cape Department of Environment and Nature Conservation (South Africa). See Paragraph 1.1.	
Form distributed to all studbook participants to indicate which contact details should be revealed to other participants, to facilitate information exchange	01-06-2012
2012: Form distributed several times in 2012.	
Manuscript submitted on:	
• Ecological characteristics of wild *H. femoralis*	31-12-2012
2012: A scientific paper on activity in *H. femoralis* was submitted and accepted in 2012. In addition, a scientific note on reproduction in *H. femoralis* was submitted. Further papers were submitted on husbandry and breeding of *H. areolatus*. See Chapter 6.	

Further progress that is worth listing:

- Six studbook participants have visited natural habitats of *Homopus* spp. in South Africa and Namibia.
- Possibilities were explored for Knoxville Zoo, and possibly other USA-based zoos, to help realise the studbook management plan for *H. signatus*. This will be discussed further once the management plan will have been finalised (see Paragraph 1.1).
- The Dutch Platform Verantwoord Huisdierbezit (organisation encouraging responsible husbandry practises) requested cooperation for a news bulletin on Dutch television. Unfortunately the request was at too short notice.
- Several zoos, expositions and private tortoise keepers in Belgium, Denmark, Germany, Hungary, Italy, Netherlands, Poland and USA asked to obtain *Homopus* spp. Some of them received *H. signatus* in 2012.
- Information about *Homopus* spp. and the Homopus Research Foundation was distributed over various internet forums and other social networks.
- Information requests were received regarding:
    - Construction and decoration of enclosures for *Homopus* spp. (e.g., visual barriers at nesting sites for *H. signatus*)
    - Overgrowth of beaks and wear of plastrons in *H. signatus*
    - Presence of tortoise research or breeding centres in the Western Cape, South Africa
    - Husbandry of *Psammobates tentorius* in Portugal
- Reprint requests for *Homopus* papers were received from:
    - James Cook University, Australia
    - Leningrad Zoo, Russia
    - British Trust for Ornithology, UK

  - Tennessee Safari Park, USA
  - Fish and Wildlife Service, USA
  - Several private individuals (France, USA)
- Review requests were received from:
  - Journal of Thermal Biology
- Photographic material was provided to:
  - Science North (a science centre) in Sudbury, Ontario, Canada, for an exhibition on small animal species
  - Website http://www.testudines.org
- Presentations were held:
  - Research on the behaviour of *H. signatus* (Dutch-Belgian Turtle and Tortoise Society, and Dutch herpetological society Lacerta, Netherlands)
  - *Malacochersus tornieri*, with notes on incubation conditions for *H. areolatus* and *H. signatus* (Dutch-Belgian Turtle and Tortoise Society, Belgium)
- The website of the Homopus Research Foundation was updated with new publications, actual studbook overviews, the final studbook management plan *H. signatus*, and fieldwork photos.

1.1. Long-term studbook management plan Homopus signatus



The development of the studbook management plan for *H. signatus* from 2008 till 2011 was summarised in the 2011 annual report. In 2012, all comments resulting from the studbook participants' meeting in Isernhagen were processed, resulting in a conservation-orientated management plan. This new plan was sent to the Northern Cape Department of Environment and Nature Conservation for a formal review.

In November 2012, the review by the department was completed, requiring several final adjustments to the plan. It was agreed that the final plan will be resent to the department as soon as the changes will have been implemented. Simultaneously, a draft memorandum of understanding will be sent to the department. This memorandum should lay down the responsibilities of the department and the Homopus Research Foundation to ensure the realisation of the studbook management plan.

The process to develop a long-term studbook management plan for a private breeding programme was described and submitted in an abstract for the symposium of the Herpetological Association of Africa, at Pretoria Zoo in February 2013.

1.2. Progress thermoregulation field study Homopus signatus

This study was permitted by the Northern Cape Department of Environment and Nature Conservation. The permits that were issued require periodic updates for the department. Because this information may be informative for *Homopus* studbook participants, it is included in the annual reports of the Homopus Research Foundation.

Fieldwork was conducted from 21 August till 17 October 2012, and attended by three participants in the studbook on *H. signatus*. Near Springbok, 37 live *H. signatus* were located, including many individuals marked in 2000-2004. Twelve females were equipped with transmitters and iButtons, and 8 males were equipped with iButtons. Unfortunately, encountered males were not large enough to carry a transmitter. Consequently, the behavioural study included only females. Tortoise models were placed in the field according to the experimental design described in the project proposal.

The behavioural data are currently processed, and a manuscript will be prepared in 2013. Thermoregulation data will be collected from the field in September 2013 and processed thereafter. The state of the research materials (i.e., transmitters, iButtons, tortoise models) might allow extension of the study from 2013 to 2014, measuring finer scale temperature data for winter and spring.

The side study near Pofadder was unsuccessful. The region was visited twice, but dry conditions appeared to prevent any tortoise activity. This side study was terminated.

2. PLANS FOR 2013 AND THEREAFTER

The table below lists results anticipated for 2013 and thereafter, with progress indicated:

Result	Due	Current status
Manuscript submitted on:		
• Behaviour in wild *H. signatus*	31-12-2013	Data available
• Feeding on mealworms in captive *H. signatus*	31-12-2013	In preparation
• Thermoregulation in wild *H. signatus*	31-12-2015	Not yet started
Permit for study on thermoregulation in wild *H. signatus* (2012-2013) renewed	01-09-2013	Not yet started
Fieldwork conducted on *H. signatus* thermoregulation	Sep-2013	Not yet started
Detailed studbook management plan *H. signatus* finalised	01-06-2013	Plan finished but comments from Northern Cape Department of Environment and Nature Conservation need be implemented (see Paragraph 1.1).
Memorandum of understanding with Northern Cape Department of Environment and Nature Conservation drafted and submitted	01-06-2013	Not yet started
Permit application to collect and export 5.5 wild *H. signatus* drawn up and submitted	31-12-2013	Conditional for the application are the studbook management plan and memorandum of understanding.
Setup for studbook management plan *H. areolatus* drafted	31-12-2013	Not yet started
Presentations held:		
• Thermoregulation in *H. signatus* (symposium Herpetological Association of Africa)	Feb-2013	Abstract submitted, see Paragraph 1.2
• Studbook *H. signatus* (symposium Herpetological Association of Africa)	Feb-2013	Abstract submitted, see Paragraph 1.1
Fieldwork conducted on *H. signatus* thermoregulation	Sep-2014	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 of any changes. In the studbooks on *H. femoralis* and *H. signatus*, each participant has accepted this obligation in a formal agreement between participant and the Homopus Research Foundation. 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 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 2012, locations A45, A78 and PRAHA were unresponsive. Location A42, which was unresponsive in 2011, resumed its active participation.

Homopus areolatus
Live specimens on 1 January 2012: 76 (excluding 6 specimens lost to follow-up)
Number of locations on 1 January 2012: 16 (6 countries, 1 zoo; excluding 1 location lost to follow-up)
New registrations: 0
Births: 13, at 3 locations
Deaths: 1
Live specimens on 31 December 2012: 90 (excluding 4 specimens lost to follow-up)
Number of locations on 31 December 2012: 21 (6 countries, 2 zoos; excluding 1 location lost to follow-up)
Interpretation of changes:

Besides structurally breeding locations A16 and A46, location A44 resumed breeding in 2012. Both females produced eggs, but one of them died from pneumonia after producing a clutch of six eggs (none

hatched). Two wild-caught adults were recovered after being lost to follow-up in 2004. Location A54 produced eggs that failed to develop. Survival of *H. areolatus* remains high, with only one death despite a relatively large population size.

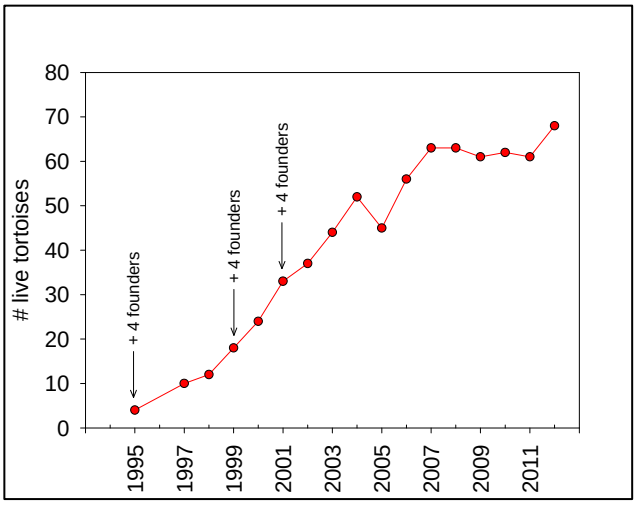
The number of locations grew considerably in 2012, including a second professional institution, in the USA. Many locations are keeping genetically related offspring from location A46. The genes from the founders at the latter location are heavily over-represented in the captive population, and it will be a matter of time until inbreeding will start. Bloodline 16 x 17 forms the other cornerstone of the population, and offspring from this couple might be used to avoid inbreeding in the second generation. However, this will require a studbook management plan supported by all locations. In 2013, a setup for this plan will be drafted.

Homopus femoralis
Live specimens on 1 January 2012: 10
Number of locations on 1 January 2012: 3 (2 countries)
New registrations: 0
Births: 0
Deaths: 1
Live specimens on 31 December 2012: 9
Number of locations on 31 December 2012: 3 (2 countries)
Interpretation of changes:

Breeding results at location HRF remain discontinuous (2008, 2010, 2011), and no eggs were produced in 2012. All three locations are exchanging information to find an explanation for the breeding pattern. One juvenile born in 2011 died from unknown causes. Location A08 produced a clutch of two eggs that is currently being incubated.

Risks associated with the accumulation of individuals at location HRF were partly mitigated by improved climate control (see Chapter 5, Location HRF).

Homopus signatus
Live specimens on 1 January 2012: 61 (excluding 17 specimens lost to follow-up)
Number of locations on 1 January 2012: 26 (6 countries, 1 zoo; excluding 1 location lost to follow-up)
New registrations: 0
Births: 7, at 3 locations
Deaths: 2, at 2 locations
Live specimens on 31 December 2012: 67 (excluding 16 specimens lost to follow-up)
Number of locations on 31 December 2012: 33 (10 countries, 3 zoos; excluding 1 location lost to follow-up)
Interpretation of changes:



After a number of years with a constant or decreasing population size, the live population increased again in 2012. This was due to a relatively large number of hatchlings at the same three locations as in previous years, and a recovered tortoise that had been lost to follow-up in 2004. At location A55, a dead hatchling was recovered from the adult enclosure. Location A18 produced an egg that died at an early stage.

One male and one female died, at different locations. At location A37, an adult captive-bred male was found dead in its enclosure unexpectedly. At location A33, an adult captive-bred female died as a result of soil compaction in the digestive tract. The soil in the enclosure had already been adjusted in response to another death from the same cause in 2011, but this appeared too late for the female.

Many tortoises were transferred to new locations. Since mates are not currently available for most of these tortoises, they are housed solitarily for the time-being. Mates should become available when the studbook management plan will be effectuated (see Paragraph 1.1). Two new locations are professional institutions in the Netherlands and the USA.

As was recommended previously, it is important that locations A18, A40 and A57 start breeding to fortify the presence of the genes of (deceased) bloodline 1 x 2 in the captive population. Currently, only location A18 produces eggs. Location A40 will move the tortoises to an improved enclosure in 2013, and the female at location A57 is not yet large enough to produce eggs.

Similarly, the presence of the genes of (lost to follow-up) female 60 should be fortified in the population. This will be done by combining offspring from female 60 (e.g., 92) with offspring from bloodline 35 x 36 (e.g., 121, 128) when a female will become available.

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
117	?	6 Sep 2010	5	4	A10	6 Sep 2010	______	Hatch
					HRF	6 Sep 2010	______	Ownership
					A10	4 Dec 2010		Death
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	M	10 Jun 2005	16	17	A16	10 Jun 2005	______		Hatch
55	M	27 Jun 2005	16	17	A16	27 Jun 2005	______		Hatch
56	F	6 Oct 2005	16	17	A16	6 Oct 2005	______		Hatch
57	F	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
108	M	8 Mar 2010	47	37	A44	8 Mar 2010	______		Hatch
					A16	4 Jun 2010	______		Transfer
109	F	8 Mar 2010	47	37	A44	8 Mar 2010	______		Hatch
					A16	4 Jun 2010	______		Transfer
115	?	30 May 2010	16	17	A16	30 May 2010	______		Hatch
116	?	31 May 2010	16	17	A16	31 May 2010	______		Hatch
122	?	2 Jul 2011	16	17	A16	2 Jul 2011	______		Hatch
134	?	27 Apr 2012	16	17	A16	27 Apr 2012	______		Hatch
135	?	25 Aug 2012	16	17	A16	25 Aug 2012	______		Hatch

Totals: 8.8.6 (22)

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

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Totals: 1.1.0 (2)
-------------------------------------------------------------------------------------

A37
    22    M       ????        WILD    WILD  UNKNOWN       ????       NONE     Capture
                                            A20           ????       ______   Transfer
                                            A21        17 Oct 2000   ______   Transfer
                                            A37        15 Sep 2002      1     Transfer

    23    F       ????        WILD    WILD  UNKNOWN       ????       NONE     Capture
                                            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

   107    F     8 Mar 2010      47      37  A44         8 Mar 2010   ______   Hatch
                                            A37         5 May 2010   ______   Transfer

   111    F    29 Mar 2010      47      37  A44        29 Mar 2010   ______   Hatch
                                            A37         7 Jun 2010   ______   Transfer
Totals: 1.2.3 (6)
-------------------------------------------------------------------------------------

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
    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: 0.2.0 (2)
-------------------------------------------------------------------------------------

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
                                                       14 Feb 2012            Death

    41    M       ????        WILD    WILD  WUPPERTAL  28 Mar 1991 91586B    Transfer
                                            A44        27 Aug 2010 H.BERT     Loan to

    47    M     ~ Jun 1993    UNK3    UNK4  A47           ~ Jun 1993   ______   Hatch
                                            A48             ~ 2000     ______   Transfer
                                            A44        21 Nov 2004    HUGO    Transfer

    62    F   ~25 Nov 2007       5       4  A10       ~25 Nov 2007   ______   Hatch
                                            HRF       ~25 Nov 2007   ______   Ownership
                                            A44        27 Mar 2011   ______   Loan to

    94    M     7 Jul 2009      16      17  A16         7 Jul 2009   ______   Hatch
                                            A44         5 Jun 2010   AUGUST   Transfer

   113    M    30 Mar 2010      47      37  A44        30 Mar 2010   ______   Hatch
                                            HRF        30 Mar 2010   ______   Ownership
                                            A44        20 Aug 2010            Death

   114    M    30 Mar 2010      47      37  A44        30 Mar 2010   ______   Hatch
                                            HRF        30 Mar 2010   ______   Ownership
                                            A44        26 Aug 2010            Death

   130    ?    16 Mar 2012      94      62  A44        16 Mar 2012   ______   Hatch

   131    ?    27 May 2012      94      62  A44        27 May 2012   ______   Hatch
                                            HRF        27 May 2012   ______   Ownership

   132    ?    18 Jul 2012      94      62  A44        18 Jul 2012   ______   Hatch

   133    ?    13 Aug 2012      94      62  A44        13 Aug 2012   ______   Hatch
                                            HRF        13 Aug 2012   ______   Ownership
Totals: 5.2.4 (11)
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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	M	12 Jun 2005	34	25	A45	12 Jun 2005	______	Hatch
Totals: 2.1.0 (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
	100	?	3 Feb 2010	58	MULT4	A46	3 Feb 2010	______	Hatch
							25 Sep 2010		Death
	103	?	3 Apr 2010	58	MULT4	A46	3 Apr 2010	______	Hatch
							18 Sep 2010		Death
	104	?	3 Mar 2010	58	MULT4	A46	3 Mar 2010	______	Hatch
							13 May 2010		Death
	106	?	9 Apr 2010	58	MULT4	A46	9 Apr 2010	______	Hatch
							16 Sep 2010		Death
	123	?	23 Jan 2012	58	MULT4	A46	23 Jan 2012	______	Hatch
	124	?	24 Jan 2012	58	MULT4	A46	24 Jan 2012	______	Hatch
	125	?	31 Jan 2012	58	MULT4	A46	31 Jan 2012	______	Hatch
	126	?	1 Feb 2012	58	MULT4	A46	1 Feb 2012	______	Hatch
	127	?	2 Feb 2012	58	MULT4	A46	2 Feb 2012	______	Hatch
	128	?	3 Feb 2012	58	MULT4	A46	3 Feb 2012	______	Hatch
	129	?	4 Feb 2012	58	MULT4	A46	4 Feb 2012	______	Hatch
Totals: 1.2.11 (14)									
A48									
	90	M	3 Feb 2009	47	37	A44	3 Feb 2009	______	Hatch
						A48	3 Feb 2009	______	Ownership
							10 Feb 2009	______	Transfer
	93	M	7 Jul 2009	16	17	A16	7 Jul 2009	______	Hatch
						A44	5 Jun 2010	______	Transfer
						A48	13 Jun 2010	______	Transfer
Totals: 2.0.0 (2)									
A54									
	79	M	~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
							15 Oct 2008		Death
	81	F	~15 Mar 2007	58	MULT4	A46	~15 Mar 2007	______	Hatch
						A54	~15 Jun 2008	______	Transfer
	82	F	~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
							15 Oct 2008		Death
Totals: 1.2.2 (5)									
A56									
	67	F	8 Apr 2004	58	MULT4	A46	8 Apr 2004	______	Hatch
						A56	~15 Jun 2008	______	Transfer
	70	F	14 Mar 2004	58	MULT4	A46	14 Mar 2004	______	Hatch
						A56	~15 Jun 2008	______	Transfer
							8 May 2009		Death

73	M	14 Mar 2004	58	MULT4	A46	14 Mar 2004	_____	Hatch
					A56	~21 May 2006	_____	Transfer
75	M	6 Jan 2004	58	59	A46	6 Jan 2004	_____	Hatch
					A56	~15 Jun 2008	_____	Transfer
76	F	11 Jan 2004	58	59	A46	11 Jan 2004	_____	Hatch
					A56	~15 Jun 2008	_____	Transfer
78	F	23 Mar 2005	58	MULT4	A46	23 Mar 2005	_____	Hatch
					A56	~15 Jun 2008	_____	Transfer
99	?	17 Feb 2010	75	67	A56	17 Feb 2010	_____	Hatch
118	?	13 Nov 2010	75	67	A56	13 Nov 2010	_____	Hatch

Totals: 2.4.2 (8)

A66

68	M	8 Apr 2004	58	MULT4	A46	8 Apr 2004	_____	Hatch
					A56	~15 Jun 2008	_____	Transfer
					A66	18 Sep 2009	_____	Transfer
77	F	14 Feb 2005	58	MULT4	A46	14 Feb 2005	_____	Hatch
					A56	~15 Jun 2008	_____	Transfer
					A66	18 Sep 2009	_____	Transfer
86	M	~ 7 Feb 2008	58	MULT4	A46	~ 7 Feb 2008	_____	Hatch
					A56	23 May 2011	_____	Transfer
					A66	9 Sep 2011	_____	Transfer
89	M	6 Feb 2009	58	MULT4	A46	6 Feb 2009	_____	Hatch
					A56	23 May 2011	_____	Transfer
					A66	9 Sep 2011	_____	Transfer
92	M	~ 7 Mar 2009	58	MULT4	A46	~ 7 Mar 2009	_____	Hatch
					A56	23 May 2011	_____	Transfer
					A66	9 Sep 2011	_____	Transfer

Totals: 4.1.0 (5)

A70

110	?	8 Mar 2010	47	37	A44	8 Mar 2010	_____	Hatch
					HRF	8 Mar 2010	_____	Ownership
					A70	5 Sep 2010	_____	Loan to
112	?	30 Mar 2010	47	37	A44	30 Mar 2010	_____	Hatch
					HRF	30 Mar 2010	_____	Ownership
					A70	5 Sep 2010	_____	Loan to

Totals: 0.0.2 (2)

A73

69	M	~22 Apr 2004	58	MULT4	A46	~22 Apr 2004	_____	Hatch
					A56	~21 May 2006	_____	Transfer
					A73	19 Jun 2010	_____	Transfer
71	F	~ 6 Mar 2004	58	MULT4	A46	~ 6 Mar 2004	_____	Hatch
					A56	~21 May 2006	_____	Transfer
					A73	19 Jun 2010	_____	Transfer

Totals: 1.1.0 (2)

A74

74	M	~11 Feb 2004	58	MULT4	A46	~11 Feb 2004	_____	Hatch
					A56	~21 May 2006	_____	Transfer
					A74	~ Mar 2009	_____	Transfer

Totals: 1.0.0 (1)

A77

84	M	~ 7 Feb 2008	58	MULT4	A46	~ 7 Feb 2008	_____	Hatch
					A77	2 Jun 2011	_____	Transfer
85	M	~ 7 Feb 2008	58	MULT4	A46	~ 7 Feb 2008	_____	Hatch
					A77	2 Jun 2011	_____	Transfer

Totals: 2.0.0 (2)

A86

72	M	14 Mar 2004	58	MULT4	A46	14 Mar 2004	_____	Hatch
					A56	~21 May 2006	_____	Transfer
					A86	~2012 +/-1yr	_____	Transfer

Totals: 1.0.0 (1)

```
A87
    88    ?     5 Feb 2009      58   MULT4  A46         5 Feb 2009 ______     Hatch
                                           A56        23 May 2011 ______     Transfer
                                           A87        23 Jul 2011 ______     Transfer

    97    ?    27 Jan 2010      75      67  A56        27 Jan 2010 ______     Hatch
                                           A87       ~11 Jun 2011 ______     Transfer
Totals: 0.0.2 (2)
-------------------------------------------------------------------------------------

A88
    87    ?   ~25 Feb 2008      58   MULT4  A46       ~25 Feb 2008 ______     Hatch
                                           A56        23 May 2011 ______     Transfer
                                           A88         ~ Apr 2012 ______     Transfer

    91    ?    12 Feb 2009      58   MULT4  A46        12 Feb 2009 ______     Hatch
                                           A56        23 May 2011 ______     Transfer
                                           A88         6 Apr 2012 ______     Transfer
Totals: 0.0.2 (2)
-------------------------------------------------------------------------------------

A89
    95    ?   ~15 Jan 2010      58   MULT4  A46       ~15 Jan 2010 ______     Hatch
                                           A89        ~ 1 Jun 2012 ______     Transfer

    96    ?   ~18 Jan 2010      58   MULT4  A46       ~18 Jan 2010 ______     Hatch
                                           A89        ~ 1 Jun 2012 ______     Transfer

    98    ?    11 Feb 2010      58   MULT4  A46        11 Feb 2010 ______     Hatch
                                           A89        ~ 1 Jun 2012 ______     Transfer

   101    ?   ~12 Feb 2010      58   MULT4  A46       ~12 Feb 2010 ______     Hatch
                                           A89        ~ 1 Jun 2012 ______     Transfer

   102    ?   ~24 Feb 2010      58   MULT4  A46       ~24 Feb 2010 ______     Hatch
                                           A89        ~ 1 Jun 2012 ______     Transfer

   105    ?   ~ 3 Apr 2010      58   MULT4  A46        ~ 3 Apr 2010 ______     Hatch
                                           A89        ~ 1 Jun 2012 ______     Transfer

   119    ?   ~20 Jan 2011      58   MULT4  A46       ~20 Jan 2011 ______     Hatch
                                           A89        ~ 1 Jun 2012 ______     Transfer

   120    ?   ~21 Jan 2011      58   MULT4  A46       ~21 Jan 2011 ______     Hatch
                                           A89        ~ 1 Jun 2012 ______     Transfer

   121    ?   ~ 2 Feb 2011      58   MULT4  A46        ~ 2 Feb 2011 ______     Hatch
                                           A89        ~ 1 Jun 2012 ______     Transfer
Totals: 0.0.9 (9)
-------------------------------------------------------------------------------------

HRF - Homopus Research Foundation
     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

    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)
-------------------------------------------------------------------------------------

TCBCC - Turtle Conservancy Behler Chelonian Center
    10    M       ????        WILD    WILD  A13           ????      ______     Transfer
                                           A12       ~16 Sep 1999   ERNST     Transfer
                                           A43         ~ May 2004 ______     Loan to
                                           TCBCC        7 Oct 2005 AREO02     Transfer

    11    F       ????        WILD    WILD  KRAAIFONT      ????      ______     Transfer
                                           A12       ~16 Sep 1999      A5     Transfer
                                           A43         ~ May 2004 ______     Loan to
                                           TCBCC        7 Oct 2005 AREO01     Transfer
Totals: 1.1.0 (2)
-------------------------------------------------------------------------------------

WUPPERTAL - Wuppertal Zoological Garten
    40    M       ????        WILD    WILD  WUPPERTAL  28 Mar 1991 91586A     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: 1.3.0 (4)

TOTALS: 41.39.51 (131)

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 - Homopus Research Foundation								
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	M	7 Jun 2008	3	4	HRF	7 Jun 2008	______	Hatch
8	F	30 Jun 2010	3	4	HRF	30 Jun 2010	______	Hatch
9	?	26 May 2011	3	4	HRF	26 May 2011	______	Hatch
						27 Dec 2012		Death
10	?	28 May 2011	3	4	HRF	28 May 2011	______	Hatch

Totals: 2.1.3 (6)

TOTALS: 4.3.3 (10)

Homopus 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. Specimen number 95 is inbred and not available for further breeding.

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date	Local ID	Event
A07								
103	M	10 Aug 2008	35	36	A07	10 Aug 2008	______	Hatch
					HRF	10 Aug 2008	______	Ownership
					A07	27 Feb 2009		Death
108	?	~27 Sep 2009	35	36	A07	~27 Sep 2009	______	Hatch
					HRF	~27 Sep 2009	______	Ownership
					A07	~15 Dec 2009		Death
116	?	12 Aug 2010	35	36	A07	12 Aug 2010	______	Hatch
					HRF	12 Aug 2010	______	Ownership
					A07	16 Nov 2010		Death

```
Totals: 1.0.2 (3)
-------------------------------------------------------------------------------------

A08
    42    F    20 Aug 2002       1       2  HRF        20 Aug 2002  II-11     Hatch
                                             A08        19 Apr 2003 ______     Loan to

    73    M     2 Aug 2005      37      38  HRF         2 Aug 2005  HSS73     Hatch
                                             A08        18 Apr 2009 ______     Loan to

    95    M    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
                                             A08       ~24 Nov 2008            Death
Totals: 2.1.1 (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
                                                         5 Sep 2009            Death

    35    M       ????        WILD    WILD  SPRINGBOK   4 Oct 2001   NONE     Capture
                                             HRF         6 Oct 2001 ______     Transfer
                                             A07        16 Dec 2001 ______     Loan to
                                             A10        26 Oct 2012 ______     Loan to

    36    F       ????        WILD    WILD  SPRINGBOK   3 Oct 2001   NONE     Capture
                                             HRF         6 Oct 2001 ______     Transfer
                                             A07        16 Dec 2001 ______     Loan to
                                             A10        26 Oct 2012 ______     Loan to

    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

   120    ?   ~19 Sep 2011      44       7  A10       ~19 Sep 2011 ______     Hatch
                                             HRF       ~19 Sep 2011 ______     Ownership
Totals: 2.1.3 (6)
-------------------------------------------------------------------------------------

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

    97    F    15 Sep 2007      35      36  A07        15 Sep 2007 ______     Hatch
                                             HRF        15 Sep 2007 ______     Ownership
                                             A16        14 Mar 2010 ______     Loan to
Totals: 2.1.0 (3)
-------------------------------------------------------------------------------------

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
     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: 0.1.0 (1)
-------------------------------------------------------------------------------------

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
                                                       12 Nov 2011 ______     Death

    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
                                                        ~ Apr 2012 ______     Death
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  UNKNOWN       ????       NONE     Capture
                                            A37       ~15 Mar 2003 ______ ltf Transfer

    61    M     7 Oct 2003    WILD      60  A37         7 Oct 2003 ______     Hatch
                                                       18 Dec 2011 ______ ltf Transfer

    62    F     5 Jun 2004    WILD      60  A37         5 Jun 2004 ______     Hatch
                                                       18 Dec 2011 ______ ltf Transfer

    67    M     5 Aug 2004    WILD      60  A37         5 Aug 2004 ______     Hatch
                                                       18 Dec 2011 ______ ltf Transfer

    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
```

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    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

    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
                                                      7 May 2012 ______     Death
Totals: 8.2.3 (13)
-------------------------------------------------------------------------------------

A39
    40    M     2 Jul 2002       1       3  HRF         2 Jul 2002 III-13     Hatch
                                               A39        12 Apr 2003 ______     Loan to

    88    M   ~15 Nov 2005      25      60  A37       ~15 Nov 2005 ______     Hatch
                                               HRF    ~15 Nov 2005 ______     Ownership
                                               A69        30 Aug 2010 ______     Loan to
                                               A39        24 Nov 2011 ______     Loan to

   111    F    13 May 2010      37      38  HRF        13 May 2010 ______     Hatch
                                               A39         3 Dec 2011 ______     Loan to
Totals: 2.1.0 (3)
-------------------------------------------------------------------------------------

A40
    43    F    29 Sep 2002       1       2  HRF        29 Sep 2002 ______     Hatch
                                               A40         6 Jun 2003 ______     Loan to

    91    M     3 Aug 2007      37      38  HRF         3 Aug 2007 ______     Hatch
                                               A40        14 Nov 2009 ______     Loan to
Totals: 1.1.0 (2)
-------------------------------------------------------------------------------------

A42
    41    M    25 Jul 2002       1       3  HRF        25 Jul 2002 III-14     Hatch
                                               A08        19 Apr 2003 ______     Loan to
                                               A60        12 Oct 2009 ______     Loan to
                                               A42        22 Jan 2010 ______     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: 1.0.1 (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

    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: 4.1.7 (12)									
A50									
	1	M	????	WILD	WILD	SPRINGBOK	27 Sep 1995	NONE	Capture
						HRF	30 Sep 1995	I	Transfer
						A25	12 Jun 2004	_____	Loan to
						A50	8 Mar 2009	_____	Loan to
	5	F	27 Feb 1996	WILD	3	HRF	27 Feb 1996	III-1	Hatch
						A50	16 Sep 2006	_____	Loan to
							24 Mar 2009		Death
	13	M	26 Sep 1998	1	2	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
							15 Sep 2010		Death
	64	M	29 Jul 2004	1	3	HRF	29 Jul 2004	III-19	Hatch
						A50	17 Apr 2005	_____	Loan to
							25 Mar 2009		Death
Totals: 3.1.0 (4)									
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									
	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
						A54	~16 Apr 2011	_____	Loan to
							~17 Oct 2011		Death
	75	M	9 May 2006	13	5	HRF	9 May 2006	_____	Hatch
						A54	24 Mar 2007	_____	Loan to
							~27 Oct 2010		Death
	102	M	28 Jun 2008	35	36	A07	28 Jun 2008	_____	Hatch
						HRF	28 Jun 2008	_____	Ownership
						A54	2 Jan 2010	_____	Loan to
							~27 Oct 2010		Death
Totals: 3.0.0 (3)									
A55									
	74	M	31 Jul 2005	1	3	A25	31 Jul 2005	_____	Hatch
						HRF	31 Jul 2005	_____	Ownership
						A55	24 Mar 2007	_____	Loan to
	96	F	30 Jul 2007	35	36	A07	30 Jul 2007	_____	Hatch
						HRF	30 Jul 2007	_____	Ownership
						A61	13 Apr 2008	_____	Loan to
						A64	10 May 2009	_____	Loan to
						A55	12 Sep 2009	_____	Loan to
	122	?	31 May 2012	74	96	A55	31 May 2012	_____	Hatch
						HRF	31 May 2012	_____	Ownership
	125	?	7 Jul 2012	74	96	A55	7 Jul 2012	_____	Hatch
						HRF	7 Jul 2012	_____	Ownership
	127	?	~ Sep 2012	74	96	A55	~ Sep 2012	_____	Hatch
						HRF	12 Sep 2012	_____	Ownership
Totals: 1.1.3 (5)									
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
	79	F	9 Aug 2006	37	38	HRF	9 Aug 2006	_____	Hatch
						A57	5 Nov 2009	_____	Loan to
Totals: 1.1.0 (2)									

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--------------------------------------------------------------------------------

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

   113    F    16 Jun 2010      37      38  HRF        16 Jun 2010 ______     Hatch
                                            A59         3 Dec 2011 ______     Loan to
Totals: 1.1.0 (2)
--------------------------------------------------------------------------------

A60
    54    F     5 Sep 2003       1       3  HRF         5 Sep 2003 III-17     Hatch
                                            A42         7 Nov 2003 THEODO     Loan to
                                            A60        22 Jan 2010 ______     Loan to
                                                       29 May 2010 ______     Death
Totals: 0.1.0 (1)
--------------------------------------------------------------------------------

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
                                                        2 Jan 2009 ______     Death
Totals: 1.0.0 (1)
--------------------------------------------------------------------------------

A63
    77    F    13 Jul 2006      44       7  A10        13 Jul 2006 ______     Hatch
                                            HRF        13 Jul 2006 ______     Ownership
                                            A63        14 Aug 2010 ______     Loan to

    78    M    10 Jun 2006      44       7  A10        10 Jun 2006 ______     Hatch
                                            HRF        10 Jun 2006 ______     Ownership
                                            A63         7 Mar 2009 ______     Loan to
                                                       23 Jul 2010 ______     Death

    93    M    30 Jul 2007      44       7  A10        30 Jul 2007 ______     Hatch
                                            HRF        30 Jul 2007 ______     Ownership
                                            A63        14 Aug 2010 ______     Loan to
Totals: 2.1.0 (3)
--------------------------------------------------------------------------------

A65
     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
                                            A65        11 Nov 2012 ______     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
                                            A65        11 Nov 2012 ______     Loan to

    72    M    24 Jul 2005   MULT3   MULT4  HRF        24 Jul 2005    ?-1     Hatch
                                            A65        17 Oct 2009 ______     Loan to
Totals: 2.1.0 (3)
--------------------------------------------------------------------------------

A67
    76    F    20 Jun 2006      13       5  HRF        20 Jun 2006    V-4     Hatch
                                            A54        24 Mar 2007 ______     Loan to
                                            A67        25 Jun 2012 ______     Loan to

   106    M    20 May 2009      35      36  A07        20 May 2009 ______     Hatch
                                            HRF        20 May 2009 ______     Ownership
                                            A67        13 Mar 2010 ______     Loan to

   107    M    21 Jul 2009      35      36  A07        21 Jul 2009 ______     Hatch
                                            HRF        21 Jul 2009 ______     Ownership
                                            A67        13 Mar 2010 ______     Loan to

   121    ?    23 Sep 2011      35      36  A07        23 Sep 2011 ______     Hatch
                                            HRF        23 Sep 2011 ______     Ownership
                                            A67        18 Nov 2011 ______     Loan to
Totals: 2.1.1 (4)
--------------------------------------------------------------------------------

A68
    99    M    21 May 2008      37      38  HRF        21 May 2008 ______     Hatch
                                            A68         5 Jun 2010 ______     Loan to
```

```
   100    M    24 Jun 2008      37      38  HRF        24 Jun 2008 ______     Hatch
                                            A68         5 Jun 2010 ______     Loan to
Totals: 2.0.0 (2)
--------------------------------------------------------------------------------

A71
    82    M    26 Dec 2005      25      60  A37        26 Dec 2005 ______     Hatch
                                            HRF        26 Dec 2005 ______     Ownership
                                            A71        30 Aug 2010 ______     Loan to
Totals: 1.0.0 (1)
--------------------------------------------------------------------------------

A72
   105    M    27 Jul 2009      37       9  HRF        27 Jul 2009 ______     Hatch
                                            A72        29 Oct 2010 ______     Loan to
Totals: 1.0.0 (1)
--------------------------------------------------------------------------------

A75
    59    M    10 Jun 2004       1       3  HRF        10 Jun 2004 III-18     Hatch
                                            A61       ~17 Apr 2005 ______     Loan to
                                            A64        10 May 2009 ______     Loan to
                                            A75        27 Apr 2011 PANSER     Loan to
Totals: 1.0.0 (1)
--------------------------------------------------------------------------------

A76
   114    M     4 Jul 2010      37       9  HRF         4 Jul 2010 ______     Hatch
                                            A76       ~27 Jun 2011 ______     Loan to
Totals: 1.0.0 (1)
--------------------------------------------------------------------------------

A78
    71    M    25 Jun 2005      44       7  A10        25 Jun 2005 ______     Hatch
                                            HRF        25 Jun 2005 ______     Ownership
                                            A58         6 May 2008 ______     Loan to
                                            A10        22 Jan 2012 ______     Loan to
                                            A78        10 Mar 2012 ______     Loan to
Totals: 1.0.0 (1)
--------------------------------------------------------------------------------

A79
   118    F     1 May 2010      44       7  A10         1 May 2010 ______     Hatch
                                            HRF       ~ 1 May 2010 ______     Ownership
                                            A58        10 Nov 2011 ______     Loan to
                                            A10        22 Jan 2012 ______     Loan to
                                            A79        22 Feb 2012 ______     Loan to
Totals: 0.1.0 (1)
--------------------------------------------------------------------------------

A80
   109    F     3 Feb 2010      44       7  A10         3 Feb 2010 ______     Hatch
                                            HRF       ~ 3 Feb 2010 ______     Ownership
                                            A58        10 Nov 2011 ______     Loan to
                                            A10        22 Jan 2012 ______     Loan to
                                            A80        17 Mar 2012 ______     Loan to
Totals: 0.1.0 (1)
--------------------------------------------------------------------------------

A81
   110    F    23 Mar 2010      44       7  A10        23 Mar 2010 ______     Hatch
                                            HRF       ~23 Mar 2010 ______     Ownership
                                            A58        10 Nov 2011 ______     Loan to
                                            A10        22 Jan 2012 ______     Loan to
                                            A81        22 Feb 2012 ______     Loan to
Totals: 0.1.0 (1)
--------------------------------------------------------------------------------

A82
    94    M    27 Aug 2007      44       7  A10        27 Aug 2007 ______     Hatch
                                            HRF       ~27 Aug 2007 ______     Ownership
                                            A82        10 Mar 2012 ______     Loan to
Totals: 1.0.0 (1)
--------------------------------------------------------------------------------

A83
   112    M     8 Jun 2010      37       9  HRF         8 Jun 2010 ______     Hatch
                                            A72        29 Oct 2010 ______     Loan to
                                            A83        16 Aug 2012 ______     Loan to
Totals: 1.0.0 (1)
--------------------------------------------------------------------------------

A84
   119    ?   ~20 Apr 2011      44       7  A10       ~20 Apr 2011 ______     Hatch
                                            HRF       ~20 Apr 2011 ______     Ownership
                                            A84         8 Sep 2012 ______     Loan to
Totals: 0.0.1 (1)
--------------------------------------------------------------------------------
```

```
A85
   128    ?    15 Jun 2012      35      36  A07        15 Jun 2012 ______      Hatch
                                            HRF        15 Jun 2012 ______      Ownership
                                            A85        20 Oct 2012 ______      Loan to
Totals: 0.0.1 (1)
-------------------------------------------------------------------------------------

AMSTERDAM - Artis Zoo
   115    ?     6 Jul 2011      37       9  HRF         6 Jul 2011 ______      Hatch
                                            AMSTERDAM   6 Nov 2012 R12043     Loan to

   117    ?    12 Jun 2011      37       9  HRF        12 Jun 2011 ______      Hatch
                                            AMSTERDAM   6 Nov 2012 R12042     Loan to
Totals: 0.0.2 (2)
-------------------------------------------------------------------------------------

HRF - Homopus Research Foundation
     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

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

   104    M     4 Jun 2009      37      38  HRF         4 Jun 2009 ______      Hatch

   123    ?    24 Jun 2012      37      38  HRF        24 Jun 2012 ______      Hatch

   124    ?    30 Jun 2012      37       9  HRF        30 Jun 2012 ______      Hatch

   126    ?    16 Aug 2012      37       9  HRF        16 Aug 2012 ______      Hatch
Totals: 3.4.8 (15)
-------------------------------------------------------------------------------------

PRAHA - Zoo Praha
    50    M    17 Jun 2003       1       3  HRF        17 Jun 2003 III-15     Hatch
                                            PRAHA      20 Dec 2003 ______      Loan to
                                                        3 Dec 2010            Death

    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)
-------------------------------------------------------------------------------------

TCBCC - Turtle Conservancy Behler Chelonian Center
    20    F       ????        WILD    WILD  SPRINGBOK  16 Sep 1999   NONE     Capture
                                            A12       ~17 Sep 1999  MIDGE     Transfer
                                            A43         ~ May 2004 ______      Loan to
                                            TCBCC        7 Jan 2005 SIGN01     Transfer
Totals: 0.1.0 (1)
-------------------------------------------------------------------------------------
```

```
WUPPERTAL - Wuppertal Zoological Garten
    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: 60.30.38 (128)
```

5. SPECIFIC INFORMATION FROM STUDBOOK PARTICIPANTS

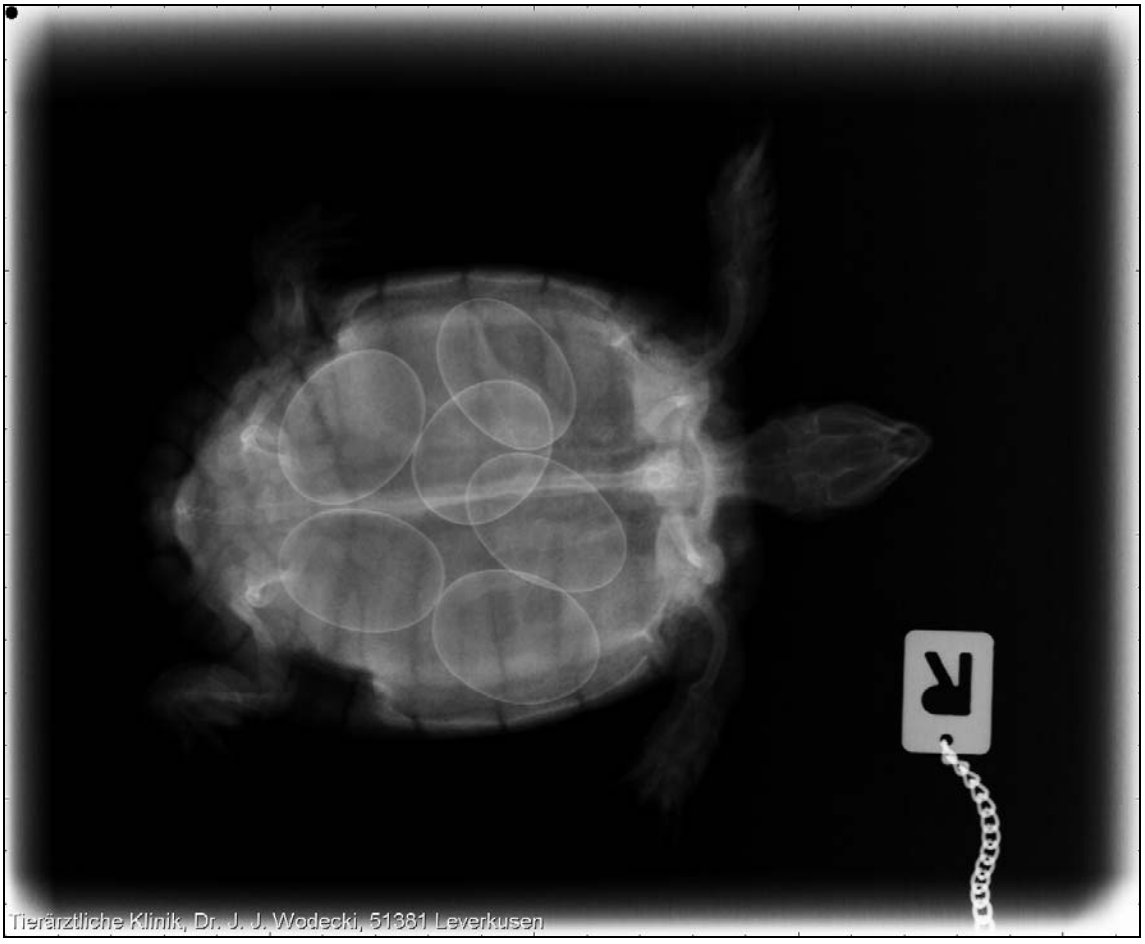
Location A16

One of the hatchlings *H. areolatus* hatched in the adult enclosure. The hatchling appears strong and has a rigid shell.

The female *H. signatus* did not produce any eggs yet, despite an attempt to switch males.

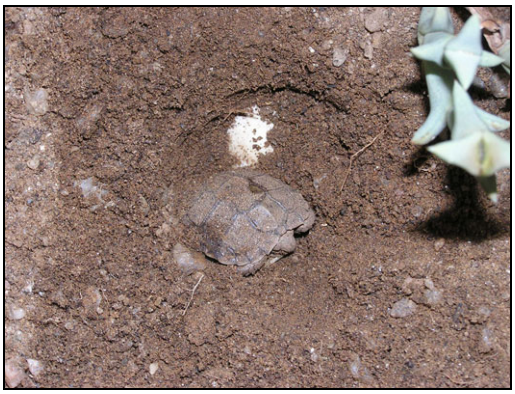
Location A44

Homopus areolatus female number 37 developed a clutch of six eggs (see photo), and did not appear to do well. The animal died from pneumonia after producing the eggs.



Location A46

The photo at the right shows a *H. areolatus* hatchling hatching under semi-natural conditions in Namibia.



Location A63

After the conventional lighting had been changed to UV lighting, *H. signatus* appeared to be more active and initiate activity (basking) sooner after switching the lights on in the morning. UV lamps used are Lucky Reptile 70 Watts UV desert HID, and Osram Biolux 18 Watts.

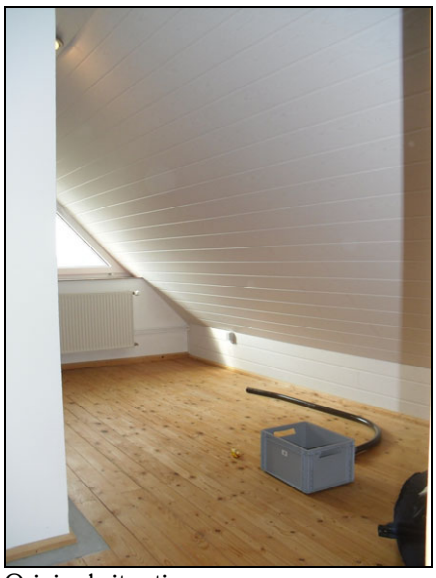
Homopus signatus increasingly preferred dry food instead of fresh food, regardless if fresh food originated from the supermarket or from weeds collected outside. Tortoises would not eat Agrobs/Equifyt pellets unless mixed with other food.

Location A65

The enclosure of *H. signatus* is shared with *Xenagama* sp., for which mealworms form part of the diet. Despite feeding a varied diet that includes nitrogen-rich seedlings, the male *H. signatus* unexpectedly ate mealworms. This was never observed in the previous years. The mealworms appeared to pass the digestive tract undigested.

Location A68

A new room is under construction. This new room will use natural sunlight for illumination and heating as much as possible.



Original situation

New situation with large roof windows

Location A75

The male *H. signatus* is a bit shy, as are many other *Homopus*, but eats well and displays normal activity. It seems to prefer semi-dried food, even if the tortoise may choose between fresh plants and dried plants. The faeces are very compact.

Location A77

A detailed report from location A77 can be found in Appendix 1.

Location A82

The male *H. signatus* is a very active fellow, and spent the whole summer in his outside enclosure. At this location, summers tend to be very hot. The tortoise is fed only freshly picked weeds, flowers and succulents. His main staple consists of about 15 different kinds of succulents.

Location HRF

The climate control for all enclosures was changed to reduce the risk that a technical failure (e.g., faulty thermostat or relay) might result in loss of animals. The new system is based on reliable Siemens LOGO! (Siemens AG, Munich, Germany) technology and includes several control and feedback mechanisms to shut off equipment, open windows, or start spraying when high (or faulty) temperatures are indicated. Furthermore, it sends automatic warnings to cellphones, and may be remotely controlled by means of a cellphone. It also logs temperature data and posts these on a website.

Central switchboard

Siemens LOGO! device with one of the programmed control screens.

LOGO!Contact relays to switch large currents.

GSM relay to enable remote control via cellphone.

6. NEW PUBLICATIONS

The following overview summarises all manuscripts and articles that were submitted, accepted,

published, or under review in 2012.

Subject	Submitted	Accepted	Published	Journal
High body temperatures in an arid, winter-rainfall environment: thermal biology of the smallest tortoise	2011	2012	2012	Journal of Arid Environments (English)
Homopus femoralis Boulenger, 1888, greater padloper, diet	2012	2012	2012	African Herp News (English)
Erfahrungen bei der Haltung und Fortpflanzung der Areolen-Flachschildkröte (*Homopus areolatus*) unter unterschiedlichen Bedingungen in Namibia und in der Schweiz. Teil 1: Haltung und Fortpflanzung der Art in Namibia (Südliches Afrika)	2012	2012	2012	Marginata (German)
Erfahrungen bei der Haltung und Fortpflanzung der Areolen-Flachschildkröte (*Homopus areolatus*) unter unterschiedlichen Bedingungen in Namibia und in der Schweiz. Teil 2: Haltung und Fortpflanzung der Art in der Schweiz	2012	2012	2012	Marginata (German)
Road mortality in the greater padloper, *Homopus femoralis*	2009/2012	2012		Turtle and Tortoise Newsletter (English), resubmitted to Chelonian Conservation and Biology (English)
Activity of the greater padloper (*Homopus femoralis*, Testudinidae) in relation to rainfall	2012	2012		African Zoology (English)
Homopus femoralis (greater padloper): reproduction	2012			Herpetological Review (English)

7. FINANCIAL REPORT

Funds that were accumulated over the past years were depleted in 2012, as a result of the purchase of equipment (e.g., transmitters, iButtons, tortoise models) for the *H. signatus* thermoregulation study (see Paragraph 1.2). Equipment will enable this study to continue till 2013 or 2014. Several significant donations were received from studbook participants Martijn Kooijman and Paul van Sloun.

Financial report Homopus Research Foundation 2012

Revenues		***Expenses***	
Net amount €	**Item**	**Amount €**	**Item**
Project H. signatus 2012-2013		*Project H. signatus 2012-2013*	
4,496	Remaining funds 2011	3,624	Radiotransmitters (10 pcs) and rebattering (10 pcs)
854	Donations private individuals	1,393	iButtons (38 pcs)
		274	Tortoise models (18 pcs)
		18	Other research materials
		41	Reservation project expenses 2013
5,350	Subtotal	5,350	Subtotal
Other		*Other*	
105	Donation V. Loehr to cover non-project expenses	24	Chamber of Commerce 2012
		81	Annual costs bank accounts
105	Subtotal	105	Subtotal
5,455	Total	5,455	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. 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-004-000185-0035
- Research permit AAA-004-00020-0028
- Research permit AAA-004-000392-0035
- Research permit AAA-004-00027-0028

Field studies on H. 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)
- Research permits 152/2012 and 153/2012 (Northern Cape Department of Environment and Nature Conservation, South Africa)

APPENDIX 1 - REPORT FROM LOCATION A77

Jahresbericht 2012

1.
Erfahrungen zur Haltung der Homopus areolatus während der Wintermonate in einem Terrarium. Das Terrarium befindet sich in einem Wintergarten, welcher kaum beheizt ist und sich somit bei tiefen Außentemperaturen schnell auskühlt, während er sich bei Sonnenschein schnell aufwärmt.

Die Temperaturschwankungen bewegten sich im Terrarium von 8 o C (Nachts ohne Lampen) bis zu 40 o C (Tagsüber bei Sonnenschein).
Als **Fazit** kann gesagt werden, dass die beiden Homopus diese Bedingungen sehr gut überstanden haben.

2.
Weiterhin war von Interesse, ob ein Zusammenhang erkennbar ist zwischen den Wetterbedingungen und den Aktivitäten der Tiere und ob sich Unterschiede bei den beiden Homopus zeigen.
Hierzu wurden die Tiere täglich beobachtet und die Bedingungen wie Wetter und Temperatur festgehalten.

Der Erfassungs- und Auswertungszeitraum ging vom 27.12.2011 – 31.3.2012. Die Erfassung danach wurde fortgesetzt aber nicht mehr ausgewertet.

Nachstehend ein kleiner Ausschnitt aus der Datensammlung.

Datensammlung: Tägliche Beobachtungen (daily observation)

Legende:	
Aktivität (activity)t: A = gering (small)	
A A = mittel (middel)	
AAA = hoch (high)	
/. = Ohne Werte/Angaben (without values)	
35 Watt = Zusatzlampe nachts geschaltet (additional lamp during the night)	

Datum (date)	Wetter (weather)	Temperatur (temperature outside)	No. 04 Aktivität (activity)	No. 04 Dauer (duration)	No. 04 Fressen (eating)	No. 05 Aktivität (activity)	No. 05 Dauer (duration)	No. 05 Fressen (eating)	Sonstiges (others)
25.12.2011	/.	/.	A	11.30 - ?	/.	/.	13:00 - ?		
26.12.2011	/.	/.	A	2 Std.	/.	/.			
27.12.2011	Sonne	/.	A	9:00 - ?	/.	A	12:30 - ?		
28.12.2011	Sonne	/.	AA	11:00 - 17:00	/.	A	kurz		
29.12.2011	Sonne (wenig)	/.	AA	13:00 - 17:00	/.	A	kurz		
30.12.2011	trüb / kalt	/.	keine	/.	/.	keine			
31.12.2011	trüb / kalt	/.	keine	/.	/.	keine			
01.01.2012	wenig Sonne	/.	AA	13.00	ja	AA	14.00	ja	
02.01.2012	Sonne	/.	AAA	12.00	/.	AA	14.00	/.	
03.01.2012	Sonne (warm)	/.	AAA	/.	/.	AA	/.	/.	
04.01.2012	Sonne	/.	AA	12.00 - 16.00	/.	keine	/.	/.	
05.01.2012	kalt windig	/.	keine	/.	/.	keine	/.	/.	
06.01.2012	Sonne (wenig)	/.	AAA	/.	ja	AAA	/.	ja	gebadet
07.01.2012	kalt windig	/.	keine	/.	/.	keine	/.	/.	
08.01.2012	Sonne (wenig)	/.	AA	13.00 - 16.00	ja	AA	13.00 - 18.00	ja	
09.01.2012	keine Sonne	/.	keine	/.	/.	keine	/.	/.	
10.01.2012	Sonne (wenig)	/.	AA	14.00 - 17:30	ja	keine	13:00 - 15.00	ja	
11.01.2012	trüb / kalt	/.	A	13:00 - 16:00	ja	keine	/.	/.	gebadet
12.01.2012	trüb / kalt	/.	A	11.00 -15.00	ja	keine	/.	/.	
13.01.2012	trüb / kalt	/.	A	9:30 - 14.00	ja	keine	/.	/.	
14.01.2012	Sonne (wenig)	/.	AA	10:30 - 16.15	/.	keine	13:30 - 16.00	/.	
15.01.2012	Sonne (wenig)	/.	AA	10:00 - 17.00	ja	keine	13:00 - 15.00	ja	gebadet
16.01.2012	Sonne	/.	AAA	11.00 - ?	ja	AA	11.00 - 16.00	ja	
17.01.2012	Sonne	/.	AAA	10:00 - ?	ja	AA	12:00 - ?	ja	
18.01.2012	Sonne	/.	AAA	11:00 - ?	ja	AA	13:00 - ?	ja	gebadet
19.01.2012	trüb	/.	AA	13:00 - 16:00	ja	keine	/.	/.	
20.01.2012	Sonne (wenig)	/.	AA	11:30 - 16:30	ja	keine	13:00 - 15:30	/.	
21.01.2012	kalt	/.	A	11:30 - 16:00	kaum	keine	/.	/.	
22.01.2012	kalt	/.	keine			keine	/.	/.	
23.01.2012	kalt	/.	A	11:00 - 16:00	ja	keine	/.	/.	
24.01.2012	kalt	/.	A	10:00 - ?	kaum	keine	/.	/.	
25.01.2012	kalt	/.	AA	11:00 - 16:00	kaum	keine	/.	/.	gebadet

Yearly report 2012

1.
The experiences for the attitude of the Homopus areolatus during the winter months in a Terrarium. That Terrarium is in a winter garden, which is scarcely heated and so cools down fast with deep outside temperatures and during sunshine fast warms up.

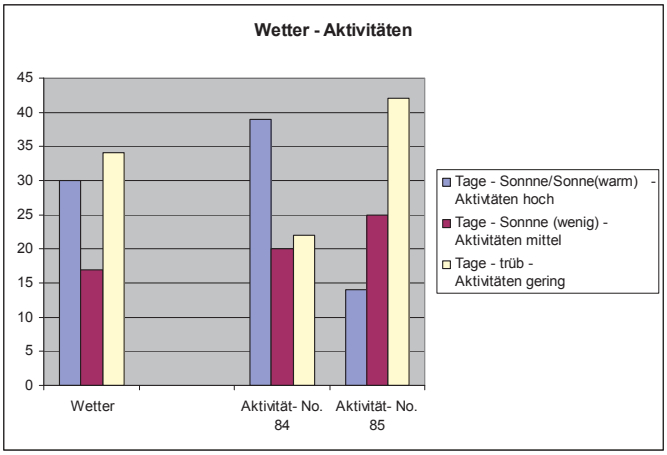
Temperature fluctuations were moving in the Terrarium by 8 o C (night without lights) up to 40 o C (during the day with sunshine).
It can be said as a conclusion that the two Homopus have survived these conditions very well.

2.
Still was of interest, whether a link is visible between the weather conditions and the activities of the animals and whether or not it shows differences between the both Homopus.
To do this, the animals were observed daily and the conditions such as weather and temperature were fixed.
The collection and evaluation period went from the 27.12.2011 - 31.3.2012. The collection was then continued but no longer evaluated.

Hereafter see a small excerpt from the Data collection.

Dies ist nur ein Beispiel
This is only an example

Die Auswertung der Datensammlung zeigt sehr deutlich, dass Homopus No. 84 viel aktiver als das No. 85 war. Darüber hinaus zeigt sich insbesondere bei No. 84, dass bei Sonnenschein oft auch eine stärkere Aktivität festzustellen ist und dies obwohl sich das Terrarium in einem Wintergarten befindet (also unter Glas)



3.
Die Entwicklung der Homopus areolatus.

Homopus No. 84

The evaluation of data collection shows very clear that the Homopus No. 84 was more active as No. 85. In addition shows particulary for the No. 84, that often also by sunshine the activity is greater and this although the terrarium himself is in a winter garden (so under glass)

weather - activities

days – sun / sun (warm)
activity high

days - sun little
activity middle

days - cloudy
activity small

3.
The development of the Homopus areolatus

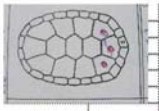
Information in general:
Incubation period: unknown
hatching mass: 8,0 g
hatchling born in the outside terraria
oviposition: unknown
found in outside enclosure 07.02.2008

Studbook No. 84

Homopus areolatus

Date	Growth data: l x w x h in mm	mass in g	
07.02.2008	31,5 x 30,0 x 28,0	8,0	
20.04.2008		11,0	
08.06.2006	38,0 x 38,0 x 22,0	13,0	
17.10.2008	49,0 x 46,0 x 24,0	21,0	
05.02.2009	54,5 x 48,5 x 25,0	29,0	
03.05.2009	61,5 x 55,0 x 21,0	40,0	
02.09.2009	64,0 x 56,0 x 28,5	44,0	
26.11.2009	68,5 x 58,0 x 30,5	55,0	
03.04.2010	70,0 x 58,5 x 30,5	59,0	
26.08.2010	71,5 x 59,5 x 32,0	64,0	* after hibernation
19.01.2011	77,5 x 62,0 x 35,0	80,0	
19.05.2011	77,5 x 62,0 x 34,5	83,0	Sex: most possibly **female**
02.06.2011	Specimen will be send to Mrs Ursula Weber Langenau/Germany		
03.07.2011	78,3 x 62,2 x 35,0	89,0	
07.09.2011	85,5 x 63,0 x 36,0	109,0	
13.11.2011	87,5 x 66,7 x 39,1	117,0	
23.12.2011	88,9 x 66,7 x 39,1	124,0	
18.02.2012	90,2 x 67,0 x 39,2	134,0	
09.04.2012	92,6 x 68,4 x 41,4	146,0	
26.05.2012	93,9 x 68,7 x 42,2	142,0	

Homopus No. 85



Information in general:
Incubation period: unknown
hatching mass: 9,0 g
hatchling born in the outside terraria
oviposition: unknown
found in outside enclosure 07.02.2008

Studbook No. 85

Growth data:

Date	l x w x h in mm	mass in g	
07.02.2008	32,0 x 31,0 x 18,0	9,0	
20.04.2008		12,0	
08.06.2006	39,5 x 38,0 x 19,5	13,0	
17.10.2008	48,5 x 44,5 x 23,5	21,0	
05.02.2009	54,0 x 43,0 x 24,5	28,0	
03.06.2009	58,0 x 51,5 x 25,5	32,0	
02.09.2009	59,5 x 53,5 x 26,0	38,0	
26.11.2009	64,0 x 54,0 x 29,0	45,0	
03.04.2010	65,5 x 54,5 x 28,5	44,0	
26.08.2010	66,5 x 55,0 x 29,5	52,0	* after hibernation
19.01.2011	71,5 x 58,0 x 31,0	62,0	
19.05.2011	75,5 x 59,5 x 33,5	73,0	sex: **male** most possibly
02.06.2011	Specimen will be send to Ursula Weber, Langenau/Germany		
03.07.2011	77,5 x 62,0 x 34,5	81,0	
07.09.2011	82,5 x 62,1 x 34,5	99,0	
13.11.2011	84,5 x 62,1 x 35,5	105,0	
23.12.2011	85,9 x 63,9 x 38,0	102,0	
18.02.2012	86,3 x 63,9 x 38.0	115,0	
09.04.2012	87,5 x 63,9 x 38,4	111,0	
26.05.2012	88,7 x 63,9 x 38,9	116,0	

Homopus areolatus

Es zeigt sich, dass das No. 84 schneller gewachsen ist und auch stärker zugenommen hat.

Aufenthaltszeiten

Außengehege: Mai - September
Terrarium: Oktober – April

Verhalten

Die weiteren Beobachtungen der beiden Homopus verstärkten immer mehr die Zweifel, ob es sich tatsächlich um ein Pärchen handelte.
Die Tiere zeigten überhaupt kein Paarungsverhalten. Dann war zu beobachten, dass ein Tier plötzlich wie von der Tarantel gestochen durch das ganze Terrarium rannte. Dabei entwickelte es eine Geschwindigkeit, wie wir uns dies bis dato nicht vorstellen konnten. Der nächste Schritt war, dass sich die Tiere mit aufgerissenen Mäulern anfauchten und letztlich sich sogar richtig ineinander verbissen.

Die absolute Sicherheit, dass es sich nicht um ein Pärchen sondern um 2 Männchen handelt erhielten wir durch Alfred der uns im Juli besuchte und der unsere Vermutung bestätigte.

Hieraus folgt natürlich und dies ist sehr schade, dass Nachzuchten nicht möglich sind.

It is evident, that the No. 84 has grown faster and his weight has increased even more.

Residence time

External enclosure: May - September
Terrarium: October – April

Behavior

The other observations of the two Homopus increased the doubts more and more, whether it was actually a couple.
The animals showed no mating behaviour at all. Then was to observe that an animal suddenly ran as stung by the Tarantula through the hole terrarium. Thus, it developed a speed as we could not imagine up this to date. The next step was, that the animals with mouths torn up hissed and ultimately even properly dogged into one another.

The absolute certainty, that it is not a couple but 2 male, we received by Alfred who came to visit us in July and who confirmed our guess.

From it follows naturally and this is very regrettable that offsprings are not possible.

Nicht gut aufeinander zu sprechen.
Not good each other to speak.

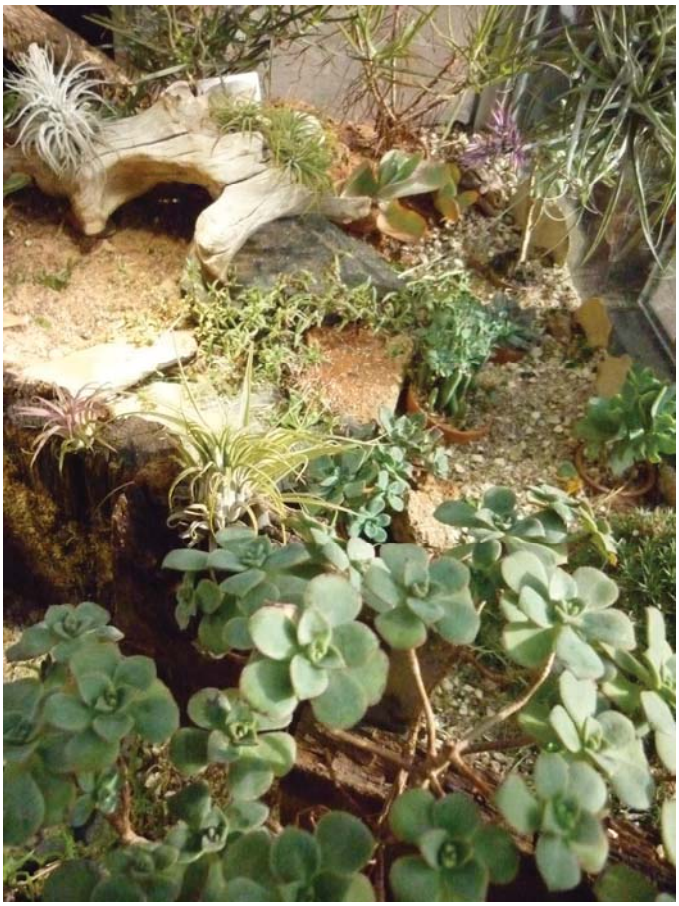
Eine weitere Konsequenz war, dass im Außengehege und im Terrarium jeweils eine Trennwand eingebaut werden musste.

Außengehege mit Trennwand
External enclosure with dividing wall

Terrarium mit Trennwand
Terrarium with dividing wall

Unterschlupf mit Türe im Außengehege
Shelter with a door in the external enclosure

Ausstattungen - equipments



Planzenauswahl – plant selection

- Dickblattgewächse – z.B. Graptopetalum paraguayene, Pachyveria nigra, Sedum pachyphyllum
- Ananasgewächse – Bromeliaceae – zB. Tillandsia crocata, -usneoides, -ionantha

Pflanzen werden 1 x mal in der Woche gegossen und 2 -3 x mal besprüht.
Die Pflanzen werden auch gerne von den Homopus gefressen

Plants are cast 1 x time a week
and 2-3 x times sprayed.
The plants are also eaten by the Homopus

Weitere Ausstattungen

Das Terrarium ist ausgerüstet mit:

- 2 Lampen Lucky Reptile Bright Sun jungle/desert flood 70 Watt und Bright Sun desert 70 Watt.
  Beleuchtungsdauer von 7 – 18.00 Uhr
- Weitere Lampen: Dupla T5- Halogen Leuchtstoffröhren 4 x 24 Watt
  Beleuchtungsdauer von 7 – 18.00 Uhr

Luftbefeuchter Lucky Reptile Super Fog.
Befeuchtungsdauer von 8 – 8.30 Uhr

Das Außengehege wird mit einem engmaschigen Drahtgeflecht abgedeckt. Bei Kälte und Regen und in der Nacht mit Doppelstegplatten.

Further equipment

The terrarium is equipped with:

- 2 lamps Lucky Reptile Bright Sun jungle/desert flood 70 watt and Bright Sun desert 70 watt.
  Cyclic duration of 7 o'clock to 18 o'clock
- Further lamps: Dupla T5- Halogeneous fluorescent tubes 4 x 24 watt
  Cyclic duration of 7 o'clock to 18 o'clock

An air moisturizer Lucky Reptile Super Fog.
Cyclic duration of 8 o'clock to 8.30 o'clock.

The outdoor enclosure is covered with a fine-meshed wire mesh.
When it is cold and rain, and at night with double-walled plates