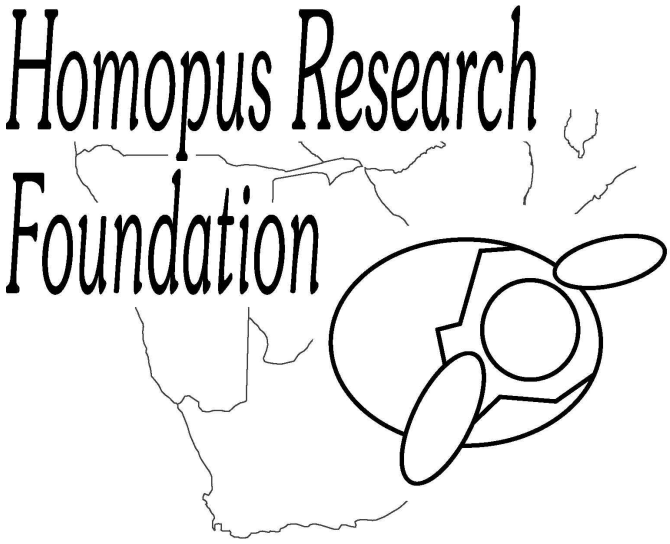
Homopus Research Foundation



Annual Report

2006

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December 2006

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1. INTRODUCTION AND ACHIEVEMENTS IN 2006

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 2006, several activities have contributed to this aim. The current report presents an overview of the achievements in 2006, as well as activities planned for 2007 and thereafter. Moreover, the actual studbook populations for *Homopus areolatus*, *Homopus femoralis* and *Homopus signatus signatus* are described, focussing on changes that occurred in 2006. All previous annual reports can be found on the website of the Homopus Research Foundation, http://www.homopus.org.

The 2005 annual report mentioned that the prosperous growth of the studbook populations, in particular the one of *H. s. signatus*, requires the identification of long-term aims for each studbook, enabling to confront annual results against those aims. Working out this new method was proposed for 2006-2007. In 2006, a start was made for the largest studbook, on *H. s. signatus*. What will be drawn up is a population management plan, that will address, among others, the following questions:

- What does the final, stable, studbook population looks like in terms of:
    - number of specimens;
    - sex ratio;
    - number of bloodlines;
    - relationships between specimens;
    - number of studbook locations?
- Where are we standing now?
- How, and according to what time-schedule, will the stable studbook population be reached?
- Are additional wild-caught specimens required, and if yes, when?
- How will a stable studbook population be maintained:
    - Will studbook participants be allowed to breed unlimited offspring, or will breeding be adjusted to the requirements to maintain the stable studbook size and composition?
    - If there are surplus animals, how will be dealt with these in light of the requirements from the South African authorities regarding prohibition of commercial trade and obliged registration in the studbook?

The Turtle Survival Alliance (http://www.turtlesurvival.org) has drawn up a format for a taxon management plan, which is very similar to the proposed population management plan. The format may help detailing the latter plan. In addition, the Homopus Research Foundation has proposed to the European Studbook Foundation to focus on population management plans at the 2007 studbook keepers meeting in Münster.

All studbook participants have been asked if they would be willing to help drawing up the population management plan for *H. s. signatus*, but for various reasons none of the participants had the opportunity. To ensure their involvement, the plan will be drawn up by the studbook coordinator, but a draft will be discussed with all participants. As a result of time-constraints of the studbook coordinator finalising a thesis on *H. s. signatus* in 2007, the deadline for the population management plan will be rescheduled to 31 December 2008. In order to keep track of this, and of further activities, chapter 2 of this annual report contains a table that summarises all plans. This table will be updated each year.

A major operation that took place in 2006 was to renew the website of the Homopus Research Foundation. The site was entirely redesigned, all images were replaced by higher quality images, and all texts were updated. The new site is easy to maintain and expand, and it has a more intuitive design. Mark Klerks (Netherlands) is thanked for his design suggestions.

Further achievements that are worth listing for 2006:

- Good progress was made in the finalisation of the field research project on *H. s. signatus*. See chapter 6 for recent publications, and http://www.homopus.org for a full overview of published papers.

- In March, the selected *H. boulengeri* site for fieldwork (see 2005 annual report) was visited, but unfortunately the population size appeared to be too small for an ecological study. Since intensive search efforts in March and in February 2005 did not produce any other suitable sites, the project was aborted and replaced by a field study on *H. femoralis*.
- A fieldwork site for *H. femoralis* was selected in March, and the site was revisited in November. Arrangements with the landowner were made, and a project proposal will be drawn up in 2007. The study on *H. femoralis* will be the main *in situ* focus of the Homopus Research Foundation in the next years.
- Three female *H. femoralis* were collected in the wild and exported, to form three unrelated captive breeding pairs with the three males already present.
- Several presentations were held:
    - Instructive lecture on the prevention of tortoise poaching, Northern Cape Nature Conservation, South Africa, attended by Northern Cape Nature Conservation staff, private consultants, and police officers
    - Growth and shrinking of *H. s. signatus*, international symposium of the Herpetological Association of Africa, North-West University, South Africa
    - Fieldwork experiences, Dutch Turtle and Tortoise Society and a regional group of the Dutch Herpetological Association "Lacerta", Netherlands
    - General presentation on *Homopus*, internal meeting at the Faculty of Veterinary Medicine, Universität Leipzig, Germany
- After the first occurrence in 2005, overlooked captive *H. s. signatus* eggs hatched naturally in indoor enclosures at two more studbook locations in 2006. This rarely occurs in tortoises, and is indicative for the high standard of *Homopus* keeping in the studbook.
- The British Broadcasting Corporation (BBC, U.K.) requested to provide a gravid female *H. s. signatus* to make an X-ray film (video set-up) in a Belgian lab. The footage would be used in a documentary. The request was denied, as it would pose considerable stress on a female, without clearly benefiting the species. As an alternative, BBC was offered to use existing X-ray stills. Unfortunately, no response was received.
- A private individual requested information on the natural habitat of *Homopus signatus cafer*, in relation to three apparently illegal specimens in France. The Homopus Research Foundation has recommended to contact the local CITES authorities in order to remove the tortoises from the illegal trade.
- An extract of the *H. s. signatus* studbook registration was included in the Salters-Nuffield Advanced Biology (new A level) course that will be sold to U.K. secondary schools.
- The herpetological magazine Reptilia approached the Homopus Research Foundation requesting to submit manuscripts.
- Various reprint requests were received, among others from:
    - Bayworld, South Africa
    - C. & O. Vogt Institute of Brain Research, Germany
    - Polytechnic of Namibia
    - University of Swaziland
    - Several private individuals (Canada, France, Paraguay, Sri Lanka)
- Photographic material provided:
    - Illustrated Science Magazine, Denmark
    - Polytechnic of Namibia
    - Online encyclopaedia (http://de.wikipedia.org/wiki/Schildkr%C3%B6ten)
    - University of the Western Cape, South Africa (banquet presentation Brian Henen at Desert Tortoise Council, U.S.A.)
- Questions on *Homopus* or tortoise research methodology/biology/identification or agricultural practise were answered:
    - University of Stellenbosch, South Africa
    - Riverine Rabbit Working Group, South Africa
    - Several South African, Namibian and Tanzanian inhabitants

2. PLANS FOR 2007 AND THEREAFTER

The following activities are actual, with progress indicated:

Activity	Due	Current status
Drawing up population management plan *H. s. signatus*	31-12-2008	Questions to be answered in the plan have been drafted; format TSA available
Drawing up population management plan *H. areolatus*	31-12-2009	Not yet started
Manuscript submitted on: • Annual variation in reproduction of wild *H. s. signatus*	30-04-2007	Data being analysed
Determine which studbook participants wish to change anonymous studbook locality for name and country	31-12-2007	Not yet started
Draw up research proposal for *in situ H. femoralis* study	31-12-2007	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 studbook on *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 2006, no response has been received from the following location: A35 (Germany).

Homopus areolatus
Live specimens on 1 January 2006: 29 (excluding 6 specimens lost to follow-up)
Number of locations on 1 January 2006: 8 (4 countries, 1 zoo; excluding 1 location lost to follow-up)
New registrations: 3
Births: 1
Deaths: 2
Live specimens on 31 December 2006: 31 (excluding 6 specimens lost to follow-up)
Number of locations on 31 December 2006: 9 (5 countries, 1 zoo; excluding 1 location lost to follow-up)
Interpretation of changes:

Net population growth was positive, but only because a new (Namibian) keeper registered its founders. The perspectives for the studbook on *H. areolatus* remain worrisome, with breeding occurring only at a single location. Moreover, breeding success of this location decreased drastically in 2006, presumably due to moving. One offspring from 2003 died from unknown causes, and the founder female had to be treated twice for a prolapse (gently pushed back using antibacterial lubrication, using a plaster for fixation [see photos]; eggs were produced after the second treatment). A second specimen died at a second location from acute septicaemia, most likely resulting from an enteritis. The cause of the enteritis remains unclear. In the studbook, many specimens are concentrated at a single location, and it might be advisable to distribute some specimens among other locations to spread risks.


Homopus femoralis
Live specimens on 1 January 2006: 3
Number of locations on 1 January 2006: 2 (1 country)
New registrations: 3
Births: 0
Deaths: 0
Live specimens on 31 December 2006: 6
Number of locations on 31 December 2006: 3 (2 countries)
Interpretation of changes:

Three adult females were imported from the Beaufort West region in South Africa. All three are being adjusted to northern hemisphere climatic conditions, and appear to do well. They are distributed among three different locations to reduce risks. The females share enclosures with the males that were already present, and mating attempts have been observed.

Homopus signatus signatus
Live specimens on 1 January 2006: 48[1] (excluding 13 specimens lost to follow-up)
Number of locations on 1 January 2006: 18 (5 countries, 2 zoos; excluding 1 location lost to follow-up)
New registrations: 0
Births: 11, at 3 locations
Deaths: 3, at 1 location
Live specimens on 31 December 2006: 56 (excluding 13 specimens lost to follow-up)
Number of locations on 31 December 2006: 19 (5 countries, 2 zoos; excluding 1 location lost to follow-up)
Interpretation of changes:

After a year with zero mortality (2005), unfortunately three tortoises died in 2006. All three specimens were hatchlings; one died immediately after hatching when it escaped from the incubation box and entangled itself, the second dehydrated in a post-hatching enclosure during holidays, and the third died several months after hatching from unknown causes (post-mortem examination revealed no cause of death). Nevertheless, surviving hatchlings caused the population to grow 17%. Perspectives for the studbook on *H. s. signatus* remain excellent, but a long-term population management plan is urgently required.

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

[1] The 2005 annual report mentioned 45 live specimens on 31 December 2005, but three specimens (all births) were missing in the registration.

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

Totals: 1.1.0 (2)

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

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    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

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

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
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    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 ______     Transfer

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

    60    F       ????        WILD    WILD  A46         12 Dec 1997 ______     Transfer

Totals: 1.2.0 (3)
-------------------------------------------------------------------------------------

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

    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    25 Feb 1999      58    UNK5  A46         25 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    UNK5  A46        21 Dec 1999 ______     Hatch
                                           HRF         4 Nov 2004    CR1     Transfer
                                           WUPPERTAL   9 Nov 2004 91586D     Loan to
                                                      26 Mar 2005            Death

    44    F    21 Dec 2001      58    UNK5  A46        21 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: 20.27.14 (61)
```

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
Totals: 1.1.0 (2)
-------------------------------------------------------------------------------------
=====================================================================================
TOTALS: 3.3.0 (6)
```

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.`

```
=====================================================================================
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
Totals: 2.1.0 (3)
-------------------------------------------------------------------------------------
```

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

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

    71    M    25 Jun 2005      44       7  A10        25 Jun 2005 ______     Hatch
                                             HRF        25 Jun 2005 ______     Ownership

    77    ?    13 Jul 2006      44       7  A10        13 Jul 2006 ______     Hatch
                                             HRF        13 Jul 2006 ______     Ownership

    78    ?    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

    81    ?     3 Sep 2006      44       7  A10         3 Sep 2006 ______     Hatch
                                             HRF         3 Sep 2006 ______     Ownership
Totals: 3.1.4 (8)
-------------------------------------------------------------------------------------

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
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```
Totals: 0.1.0 (1)
-------------------------------------------------------------------------------

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

    70    M    24 Jun 2005       1       3  A25        24 Jun 2005 DOPPIE     Hatch
                                            HRF        24 Jun 2005 ______     Ownership

    74    F    31 Jul 2005       1       3  A25        31 Jul 2005 ______     Hatch
                                            HRF        31 Jul 2005 ______     Ownership
Totals: 2.2.0 (4)
-------------------------------------------------------------------------------

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
    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

    69    F     9 May 2005      37      38  HRF         9 May 2005  HSS69     Hatch
                                            A33        28 May 2006   NURI     Loan to
Totals: 1.1.0 (2)
-------------------------------------------------------------------------------

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

    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
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
    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

    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
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    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    ?    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    ?   ~20 Apr 2006      25      60  A37       ~20 Apr 2006 ______     Hatch

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

    88    ?   ~15 Nov 2005      25      60  A37       ~15 Nov 2005 ______     Hatch
                                          HRF       ~15 Nov 2005 ______     Ownership
Totals: 4.2.7 (13)
-------------------------------------------------------------------------------------

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  HRF        29 Sep 2002  II-12     Hatch
                                          A40         6 Jun 2003 ______     Loan to
Totals: 0.1.0 (1)
-------------------------------------------------------------------------------------

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

A49
    59    F    10 Jun 2004       1       3  HRF        10 Jun 2004 III-18     Hatch
                                            A49        17 Apr 2005 ______     Loan to

    68    M    14 Aug 2004      35      36  A07        14 Aug 2004 ______     Hatch
                                            HRF        15 Aug 2004 ______     Ownership
                                            A49         8 Oct 2006 ______     Loan to
Totals: 1.1.0 (2)
-------------------------------------------------------------------------------------

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

A51
    53    F    20 Jul 2003      13       5  HRF        20 Jul 2003 030720     Hatch
                                            A51        16 Sep 2006 ______     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

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

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	26 Jan 1997	II-2	Hatch
						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	?	24 Jul 2005	MULT3	MULT4	HRF	24 Jul 2005	?-1	Hatch
73	?	2 Aug 2005	37	38	HRF	2 Aug 2005	HSS73	Hatch
75	?	9 May 2006	13	5	HRF	9 May 2006	_____	Hatch
76	?	20 Jun 2006	13	5	HRF	20 Jun 2006	V-4	Hatch
79	?	9 Aug 2006	37	38	HRF	9 Aug 2006	_____	Hatch

Totals: 2.3.10 (15)

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

Totals: 0.1.0 (1)

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TOTALS: 32.22.34 (88)

5. SPECIFIC INFORMATION FROM STUDBOOK PARTICIPANTS

Location A08

Homopus s. signatus 42 (housed solitarily) produced a thin-shelled egg on 22 April 2006. The tortoise recovered successfully, and the decoration of the enclosure (e.g., egg-laying site) was improved to prevent further problems.

Location A41

Homopus s. signatus 51 was kept in a greenhouse with "Alltop" UV-penetrable glass from May to September. The animal did well. See photos.

Location A33

Because *H. s. signatus* prefers feeding on flowers, I have attempted to feed them several garden flowers. Strongly scenting flowers (e.g., roses) were gratefully accepted, as were flowers from (German names) Leinkraut, Hornveilchen, Löwenmäulchen, Kapuzinerkresse, *Clematis*, Wegwarte, Erdbeere and Brombeere. Even when flowers were dehydrated. The latter provides an opportunity to decrease the need to feed commercial greens in winter.

The male *H. s. signatus* was transferred to a 90 x 90 cm enclosure in a conservatory, constructed with UV penetrable glass. The enclosure itself has wheels under it, and can be moved outside in summer. It has several hiding places, and the animal uses several. Basking occurs preferably in natural sunlight, so that I do not need additional lighting during sunny weather. The tortoise appears to me more active, even in cool October and November, than it was indoors previously. In winter, the enclosure has a 70 Watt HQI illumination, and is partly covered with Plexiglas. Additional heating is also available when required. The terrarium does not have glass sides, and the tortoise appears less disturbed by people around. The sides are dark coloured, resulting in high enclosure temperatures. The soil layer is relatively thick, allowing the tortoise to dig in it hiding places. A spraying system can increase air humidity, without making the soil overly wet.

Location HRF

It might be worth noting that *H. s. signatus* male 37 displays the same mating behaviour as did male 1 at location HRF: Mating activity appears to be strongly encouraged by low night temperatures. In mornings following 10-15°C cold nights, males are often seen mounting females when the lights are still switched off. Providing low night temperatures might be an important trigger for *H. s. signatus* males that are usually unwilling to mate.

6. NEW PUBLICATIONS

The following overview summarises all manuscripts and articles that were submitted, accepted, or published in 2006.

Subject	Submitted	Accepted	Published	Journal
Natural diet of the Namaqualand speckled padloper (*Homopus signatus signatus*)	2002	2004	2006	Chelonian Conservation and Biology (English)
Husbandry and breeding account *Homopus* spp.	2003	2003		Mertensiella (English)
Egg and hatchling characteristics of the Namaqualand speckled padloper (*Homopus signatus signatus*): preliminary data from a captive population	2003	2003	2006	Chelonii (English with French abstract)
Shell characteristics and sexual dimorphism in the Namaqualand speckled padloper, *Homopus signatus signatus*	2005	2005	2006	African Journal of Herpetology (English)
Tick infestations in the Namaqualand speckled padloper, *Homopus signatus signatus* (Gmelin, 1789)	2005	2005	2006	African Zoology (English)
Annual variation in the body condition of a small, arid zone tortoise, *Homopus signatus signatus*	2006			English
Growing and shrinking in the smallest tortoise, *Homopus signatus signatus*: the importance of rain	2006			English
Een energiebesparende wijze van landschildpadden houden / *An energy-saving way of keeping tortoises*	2006			Dutch

7. FINANCIAL REPORT

The Homopus Research Foundation is a non-profit, tax-exempt organisation. All 2006 expenses were covered by external sources of income, some remaining from 2005. The total amount of funding required for the *H. femoralis* field study is circa € 5,000 (excluding funding through fieldwork volunteers).

Financial report Homopus Research Foundation 2006

Profits		***Expenses***	
Net amount €	**Item**	**Amount €**	**Item**
Project H. femoralis 2006-2010		*Project H. femoralis 2006-2010*	
782	Remaining funds 2005	95	Case for field dataloggers (rain, temp, RH)
1,000	Donation Dutch Turtle and Tortoise Society	90	Digital sliding calipers
130	Donations private individuals (screensavers, bags)	1,000	Reservation rebattering radiotransmitters 2007-2010
2	Interest bank account	728	Reservation other project expenses 2007-2010
1,914	Subtotal	1,914	Subtotal
Other		*Other*	
32	Donation V. Loehr to cover non-project expenses	22	Registration HRF Chamber of Commerce 2006
		10	Annual fee bank account
32	Subtotal	32	Subtotal
1,946	Total	1,946	Total