

STUDBOOK BREEDING PROGRAMME

SAUROMALUS OBESUS CHUCKWALLA



Photo: M.Vriens and H. Zwartepoorte.

Annual report 2003



H.A. Zwartepoorte, Species-coördinator.

Studbook/Breeding Programme *Sauromalus obesus* – Common Chuckwalla

Annual report 2003.

Contents:

1. Introduction and activities 2003.
2. Studbook population
3. Locations.
4. Births.
5. Imports.
6. Deaths.
7. Transfers.
8. Discussion.

1.a. Introduction.

Due to a large number of ESF board activities and delay of the progress regarding the Sparks software development in 2002 no annual report is published for that year.

In the annual report 2001 I launched the idea to import a number of wild-caught specimens or to the studbook unrelated specimens, as the number of producing individuals within the studbook is relatively low.

In 1999 a number of wild-caught and captive bred animals were imported from the United States, however the taxonomic status of these individuals was uncertain and still is. Of a few individual females the locality of origin is known, but no males from the same locality are available. The studbook is still in close contact with Prof. Richard Montanucci about the taxonomic status of these animals and about *S. obesus* taxonomy as a whole.

I sincerely hope that this can be cleared in 2004.

1.b. Activities in 2003.

During a trip through California and Baha California May 2003 I made photo's of 5 different geographical types of *S. obesus*. These photo's were sent to Montanucci and he promised to do his best to get a better picture of the status of at least the types from California. For further details and the photo's see under 8.

Although protected by law in California and a few other states in the US *Sauromalus obesus* is not an endangered species. From the state of Nevada export is still occurring. I stress the importance of not combining these individual geographical types. For identification of a number of these types see the photo's under 8.

By the ESF board the studbook for *S. obesus* is categorized under C, indicating that the species is not endangered in the wild, and that the species has a secure ex situ status.

Captive reproduction however is low and perhaps this C status needs to be evaluated.

In 2003 husbandry and breeding guidelines are compiled and will be published on the ESF internetsite www.studbooks.org very shortly.

2. Studbook population.

December 31, 2003 the total studbook population exists out of 55.51.67 (173) specimens. The living population exists out of 38.24.38 (100) specimens, indicating that from the original applied specimens since 1992 73 specimens died. This deaths-number can be considered as very high. For further conclusions of the death rate see under 6.

3. Locations.

December 31, 2003 the species is kept at 30 locations; 25 private locations and 5 zoos. It has to be noted that from a number of participants no data were sent at my request in January 2004. So it has to be taken in account that the number of 25 is not completely correct. During the course of this year all participants will be approached and asked for continuation of their studbook membership.

4. Births.

In 2003 from 2 locations (Mantel and Zwartepoorte) births are reported.
At location Mantel 2 specimens and at Zwartepoorte 1 specimen were born.

5. Imports.

In 2003 no imports are reported.

6. Deaths.

In 2003 13 deaths are reported:

3 deaths concern a juvenile death, which means that the animals died within the first few months after birth. All 3 animals were born in 2002 at location Zwartepoorte (2 of them died at location Timmermans and 1 at location Zwartepoorte).

Note: in 2002 also at location Zwartepoorte 4 specimens, born in 2002, died within a few months after birth. No post mortems were carried out on all these 7 dead specimens. In all cases all specimens suffered from stoppige prior to death. As soon as these problems were observed the sand substrate was replaced by paper towels and the animals were treated with Tractonorm. Few animals recovered after treatment, although some died several months later anyway. All carcasses were too autolytic for post mortems.

6 subadult specimens died in 2003: at location Vdwoude (3, all born at location Zwartepoorte), at location Vondenhoff (2, all born at location Zwartepoorte) and at Amsterdam Zoo (1, born at Toronto Zoo).

4 adult animals died in 2003: at location Mantel (2, at the age of 9 and 10 - 1 wild caught and 1 captive born animal), at Amsterdam zoo (1 wild caught animal), and at location Briegoos (1 captive born specimen).

The high mortality rate in juveniles proves that the animals are vulnerable during the first year and stoppage is an important cause of death.

I therefore advice to keep hatchlings and juveniles not on a sand-substrate. The take in of food by this group of animals is always very messy and they have the habit of grubbing through the food before eating it. The risk of taking the sand contaminated food hours after offering is high.

7. Transfers.

No transfers are reported in 2003.

8. Discussion.

8.a. Studbook population.

With a living studbook population of 100 specimens the studbook could be considered as viable. However the uncertainty about the different geographical forms, the unknown origin of a considerable number of specimens shows the opposite. A considerable number of the studbook offspring is born out of sires and dams from unknown origin.

Given the fact that *Sauromalus obesus* is not an endangered species in earlier reports I suggested to consider a large number of the studbook specimens, having an unknown origin and thus an unknown species or subspecies status, as *Sauromalus obesus* unknown subspecies. It has no purpose breeding these animals for future reintroductions into the wild.

These unknown individuals and their offspring can be managed and bred as a captive form only, and therefore be managed separate from the group of specimens with known origin.

The group with known origin is small, only studbook animals 40, 41, 75, 76, 77, 78, 79, 102, 107, 109 are of known origin. Only specimens 40 and 41 and their offspring (75 to 79) are from the same locality in Arizona. From all other studbook animals it could be useful to determine their origin, given the fact that different geographical forms can be recognized. For determination see photo's.



Photo 1. Male *Sauromalus obesus* Joshua Tree National Monument, California.



Photo 2. Male *Sauromalus obesus* Coachella valley, Palm desert, California.



Photo 3. Sub-adult male *Sauromalus obesus* Anza/Borrego desert, California.

Photo's 1, 2 and 3 show 3 different geographical forms in the state of California, USA. The three localities all are in an area of 100 km².

A number of studbook animals are believed to be from Nevada, given the fact that this state allows export. Nevada individuals can be recognized by a larger size and dull grey/brown colours.

In 2004 efforts will be made to obtain several Nevada-females available for the studbook; at this time the specimens in the studbook are all males.



Photo 4. Male *Sauromalus obesus* in Catavina, Baja California, Mexico.



Photo 5. Male *Sauromalus obesus* near Bahia de Los Angeles, Baja California, Mexico.

Further south into Baha California one can find a few more localities of *Sauromalus obeus*, stretching out till the village of Bahia de Los Angeles at the coast of the Sea of Cortez. Grismer suggests hybridisation occurs between *Sauromalus obesus* and *Sauromalus australis*. The specimen on photo 5 is a possible hybrid between those two species. In the same area around Bahia de Los Angeles a small population of *Sauromalus hispidus* occurs..

According to human doctor Dr. Abraham, who my wife Mary and I met during a trip in May 2003, several animals were released on the mainland by humans. The animals were probably captured on Smith Island, a small island near the coast.



Photo 6. Male *Sauromalus hispidus* on Smith Island.

From the different photo's one get a clear picture of the morphologically different geographical forms. For further determination of the different studbook specimens I am waiting for more detailed publications on the *Sauromalus* complex. Research is still continuing and several publications can be expected in the near future.



Photo 7. Male *Sauromalus obesus* in Utah near the Arizona border.



Map of California with 3 different localities of *Sauromalus obesus*. See photo's nos.
 1. Joshua Tree National Monument, 2. Coachella valley and 3. Anza-Borrego desert.

8.b. Activities 2004.

- * Continuation and intensification of the contacts with American researchers on the Sauromalus complex. In the collection Zwartepoorte 2 females with a known origin are kept. As soon as more information is published on the different morphological types subsequently that these two can be considered as a known species or subspecies, these specimens can be paired up with suitable available males.
- * Possible cooperation with breeders in the United States will be investigated. For several studbook specimens suitable partners are needed; new blood lines have to be created.
- * A bibliography will be published.
- * Husbandry and breeding guidelines will be developed and published.

8.c. Acknowledgement.

- * First of all I thank those studbook participants who responded to my request sending me all relevant data for a proper management of the studbook.
- * I thank Ed Pirog, San Diego, USA for accompanying us on a field trip in the Anza-Borrego and Mohave desert during our trip in May 2003. Thanks to him we saw many reptiles.
- * I thank Tom Greb for the delivery of captive born specimens and reproductive data.
- * I thank Richard Montanucci for the determination of several types of Sauromalus obesus in California and sending me slides of specimens from the border area New Mexico and California.
- * I thank Dr. Abraham, Bahia de Los Angeles for giving us the opportunity to visit Smith Island, Sea of Cortez. Without him we would not have seen Sauromalus hispidus.

All photo's are made by M. Vriens and H. Zwartepoorte.
Use of these photo's without permission is not allowed.



H.A. Zwartepoorte, Studbook-coordinator.

CHUCKWALLA studbook
(*Sauromalus obesus*)

Page 1

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
1	M	~ 1983	WILD	WILD	WILD00 ROTTERDAM ZWARTEPOO	~ 1983 7 Sep 1988 15 Sep 1988	UNK 701043 HZ0288		Capture Transfer Transfer
2	M	~ 1983	WILD	WILD	WILD00 ROTTERDAM	~ 1983 7 Sep 1988	UNK 701044		Capture Transfer
3	F	~ 1983	WILD	WILD	WILD00 ROTTERDAM ZWARTEPOO ROTTERDAM	~ 1983 7 Sep 1988 15 Sep 1988 10 Apr 1995 27 Jun 1995	UNK 701045 HZ0289 701045 Death		Capture Transfer Transfer Transfer Death
4	F	~ 1983	WILD	WILD	WILD00 ROTTERDAM	~ 1983 7 Sep 1988 27 Jun 1995	UNK 701046		Capture Transfer Death
5	M	3 Jul 1991	2	4	ROTTERDAM ARNHEM	3 Jul 1991 25 Jun 1993 1 Feb 1994	702307 900130		Hatch Transfer Death
6	F	3 Jul 1991	2	4	ROTTERDAM ARNHEM ROTTERDAM	3 Jul 1991 25 Jun 1993 21 Jul 1995 11 Jan 1998	702308 900131 702308 Death		Hatch Transfer Transfer Death
7	M	3 Jul 1991	2	4	ROTTERDAM LVLIER000	3 Jul 1991 5 Aug 1993 1 Jan 2000	702309 702309		Hatch Transfer Death
8	F	7 Jul 1992	2	4	ROTTERDAM LVLIER000	7 Jul 1992 5 Aug 1993	702605 702605		Hatch Transfer
9	F	7 Jul 1992	2	4	ROTTERDAM LVLIER000	7 Jul 1992 5 Aug 1993	702606 702606		Hatch Transfer
10	F	~ 1983	UNKN	UNKN	ZWARTEPOO	16 Sep 1983 7 Jun 1997	HZ0286		Hatch Death

Compiled by: H.A. Zwartepoorte, Studbook-coordinator.

SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 2

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
11	M	~ 1982	WILD	WILD	WILD00 ZWARTEP00	~ 1982 13 Mar 1989 28 Mar 1998	UNK	HZ0287	Capture Transfer Death
12	M	22 Aug 1992	11	10	ZWARTEP00 MANTEL00	22 Aug 1992 19 Apr 2001 1 Jul 2001	HZ0290	UNK	Hatch Transfer Death
13	F	22 Aug 1992	11	10	ZWARTEP00	22 Aug 1992	HZ0291		Hatch
14	M	22 Aug 1992	11	10	ZWARTEP00	22 Aug 1992	HZ0293		Hatch
15	F	23 Aug 1992	11	10	ZWARTEP00	23 Aug 1992 27 Mar 2002	HZ0294		Hatch Death
16	F	23 Aug 1992	11	10	ZWARTEP00 MANTEL00	23 Aug 1992 15 Jun 1994 1 Jul 2003	HZ0295	HZ0295	Hatch Transfer Death
17	F	23 Aug 1992	11	10	ZWARTEP00	23 Aug 1992	HZ0296		Hatch
18	F	9 Sep 1992	1	3	ZWARTEP00	9 Sep 1992	HZ0292		Hatch
19	M	17 Jul 1993	2	4	ROTTERDAM 'THOOG00	17 Jul 1993 5 Oct 1993 1 Jul 1999	702888	702888	Hatch Transfer Death
20	M	17 Jul 1993	2	4	ROTTERDAM 'THOOG00	17 Jul 1993 5 Oct 1993 1 Jul 1999	702889	702889	Hatch Transfer Death
21	F	18 Jul 1993	2	4	ROTTERDAM 'THOOG00	18 Jul 1993 5 Oct 1993 1 Jul 1999	702890	702890	Hatch Transfer Death
22	F	18 Jul 1993	2	4	ROTTERDAM 'THOOG00 ZWARTEP00	18 Jul 1993 5 Oct 1993 18 Sep 1999 28 May 2000	702891 702891 HZ0662		Hatch Transfer Transfer Death

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SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 3

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
23	?	19 Jul 1993	2	4	ROTTERDAM AKER00	19 Jul 1993 13 Oct 1993 20 Oct 1993	702892		Hatch Transfer Death
24	F	19 Jul 1993	2	4	ROTTERDAM SCHUHMACH	19 Jul 1993 1 Feb 1994 1 Apr 1994	702893 RS01/7		Hatch Transfer Death
25	?	25 Jul 1993	2	4	ROTTERDAM AKER00	25 Jul 1993 13 Oct 1993 1 Jul 1995	702894		Hatch Transfer Death
26	?	26 Jul 1993	2	4	ROTTERDAM AKER00	26 Jul 1993 13 Oct 1993 1 Jul 1995	702895		Hatch Transfer Death
27	M	28 Jul 1993	2	4	ROTTERDAM MANTEL00	28 Jul 1993 4 Nov 1993 1 Jul 2000	702896		Hatch Transfer Death
28	M	29 Jul 1993	2	4	ROTTERDAM MANTEL00	29 Jul 1993 4 Nov 1993 1 Jul 2000	702897		Hatch Transfer Death
29	?	29 Jul 1993	2	4	ROTTERDAM AKER00	29 Jul 1993 7 Nov 1993 1 Apr 1994	702898		Hatch Transfer Death
30	F	25 Aug 1993	2	4	ROTTERDAM ZWARTEPOO ZWARTEP00	25 Aug 1993 31 Oct 1993 2 Dec 1999	702973 HZ0297		Hatch Transfer Death
31	M	1 Sep 1993	2	4	ROTTERDAM SCHUHMACH	1 Sep 1993 1 Feb 1994	702993 RS02/7		Hatch Transfer
32	F	1 Sep 1993	2	4	ROTTERDAM SCHUHMACH	1 Sep 1993 1 Feb 1994 1 Feb 1995	702994 RS03/7		Hatch Transfer Death
33	M	~ 1983	WILD	WILD	WILD00 MANTEL00	~ 1983 15 Jul 1993 1 Apr 2003	UNK PMSOM1		Capture Transfer Death

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SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 4

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
34	M	~ 1983	WILD	WILD	WILD00 MANTEL00	~ 1983 15 Jul 1993	UNK PMSOM2		Capture Transfer
35	M	~ 1986	WILD	WILD	WILD00 ARNHEM	~ 1986 1 Dec 1993 1 Sep 1994	UNK 900154		Capture Transfer Death
36	M	~ 1986	WILD	WILD	WILD00 ARNHEM	~ 1986 1 Dec 1993 1 Sep 1994	UNK 900155		Capture Transfer Death
37	F	~ 1986	WILD	WILD	WILD00 ARNHEM	~ 1986 1 Dec 1993 1 Sep 1994	UNK 900156		Capture Transfer Death
38	F	~ 1986	WILD	WILD	WILD00 ARNHEM	~ 1986 1 Dec 1993 1 Sep 1994	UNK 900157		Capture Transfer Death
39	F	~ 1986	WILD	WILD	WILD00 ARNHEM	~ 1986 1 Dec 1993 9 May 1997	UNK 900158		Capture Transfer Death
40	M	~ 1991	WILD	WILD	WILD00 ZWARTEP00	~ 1991 3 May 1994	UNK HZ0239		Capture Transfer
41	F	~ 1991	WILD	WILD	WILD00 ZWARTEP00	~ 1991 3 May 1994	UNK HZ0240		Capture Transfer
42	?	10 Aug 1994		2	4 ROTTERDAM VDONGEN00	10 Aug 1994 2 Dec 1994	703135 703135		Hatch Transfer
43	M	11 Aug 1994		2	4 ROTTERDAM MPAPEN00	11 Aug 1994 2 Apr 1995	703136 703136		Hatch Transfer
44	?	11 Aug 1994		2	4 ROTTERDAM WNJESS00	11 Aug 1994 19 Oct 1994 1 Nov 1995	703137 703137		Hatch Transfer Death
45	?	11 Aug 1994		2	4 ROTTERDAM VDONGEN00	11 Aug 1994 2 Dec 1994	703138 703138		Hatch Transfer

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SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 5

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
46	F	11 Aug 1994	2	4	ROTTERDAM MPAPEN00	11 Aug 1994 2 Apr 1995	703139 703139		Hatch Transfer
47	?	11 Aug 1994	2	4	ROTTERDAM WNIJESS00	11 Aug 1994 19 Oct 1994	703140 703140		Hatch Transfer
48	F	11 Aug 1994	2	4	ROTTERDAM MPAPEN00	11 Aug 1994 2 Apr 1995	703141 703141		Hatch Transfer
49	M	1 Jan 1989	WILD	WILD	UNKNOWN SCHUHMACH	1 Jan 1989 12 Dec 1995	UNK RS-04		Capture Transfer
50	F	~ 1990	WILD	WILD	WILDO0 SCHUHMACH	~ 1990 12 Dec 1995	UNK RS-5		Capture Transfer
51	M	~ 1987	WILD	WILD	WILDO0 ARNHEM	~ 1987 7 Jun 1994	UNK 900226		Capture Transfer
52	F	~ 1987	WILD	WILD	WILDO0 ARNHEM	~ 1987 19 Jun 1994 31 Dec 1996	UNK 900229		Capture Transfer Death
53	M	~ 1988	WILD	WILD	WILDO0 ARNHEM	~ 1988 30 Mar 1995 1 Feb 1999	UNK 900353		Capture Transfer Death
54	M	~ 1988	WILD	WILD	WILDO0 ARNHEM	~ 1988 30 Mar 1995	UNK 900354		Capture Transfer
55	M	~ 1988	WILD	WILD	WILDO0 ARNHEM	~ 1988 30 Mar 1995	UNK 900355		Capture Transfer
56	F	~ 1988	WILD	WILD	WILDO0 ARNHEM	~ 1988 30 Mar 1995 8 Jun 2001	UNK 900356		Capture Transfer Death
57	F	~ 1988	WILD	WILD	WILDO0 ARNHEM	~ 1988 30 Mar 1995 2 Feb 1999	UNK 900357		Capture Transfer Death

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SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 6

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
58	M	~ 1986	WILD	WILD	WILD00 ZWARTEP00 MANTEL00	~ 1986 10 Aug 1996 12 Oct 1999	UNK HZ0437 HZ0437		Capture Transfer Transfer
59	M	~ 1986	WILD	WILD	WILD00 ZWARTEP00 MANTEL00	~ 1986 10 Aug 1996 12 Oct 1999	UNK HZ0438 HZ0438		Capture Transfer Transfer
60	?	29 Aug 1996	12	13	ZWARTEP00	29 Aug 1996 1 Feb 1997	HZ0444		Hatch Death
61	M	29 Aug 1996	12	13	ZWARTEP00	29 Aug 1996 11 Nov 1998	HZ0453		Hatch Death
62	M	5 Jul 1996	2	6	ROTTERDAM ZWARTEPOO	5 Jul 1996 6 Feb 1998	703649 HZ0529		Hatch Transfer
63	M	12 Jul 1996	2	6	ROTTERDAM ZAGREB	12 Jul 1996 30 Mar 1999	703653 UNK		Hatch Transfer
64	?	12 Jul 1996	2	6	ROTTERDAM	12 Jul 1996 11 Nov 1996	703654		Hatch Death
65	?	16 Aug 1996	31	50	SCHUHMACH ZWARTEPOO GAAL00	16 Aug 1996 5 Oct 1996 16 May 1999	RS-06 HZ0465 RS06/H		Hatch Transfer Transfer
66	?	17 Aug 1996	31	50	SCHUHMACH OHENDRI00	17 Aug 1996 16 Nov 1996	RS-07 RS-07/		Hatch Transfer
67	F	~ 1979	WILD	WILD	WILD00 AMSTERD00	~ 1979 31 Dec 1997 9 Nov 1998	UNK Artiss-		Capture Transfer Death
68	M	~ 1991	WILD	WILD	WILD00 AMSTERD00 AMSTERDAM	~ 1991 31 Dec 1997 30 Oct 2003	UNK Artiss-		Capture Transfer Death
70	?	12 Jul 1997	1	10	ZWARTEP00 ROBER00	12 Jul 1997 21 Mar 1998	HZ0491 HZ0491		Hatch Transfer

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SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 7

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
71	M	13 Jul 1997	1	10	ZWARTEP00 SOBEL00	13 Jul 1997 2 Sep 1998	HZ0492 HZ0492		Hatch Transfer
72	?	13 Jul 1997	1	10	ZWARTEP00 FRANKFURT	13 Jul 1997 16 Mar 1999	HZ0493 UNK		Hatch Transfer
73	F	13 Jul 1997	1	10	ZWARTEP00 SOBEL00	13 Jul 1997 2 Sep 1998 15 Jan 1999	HZ0494 HZ0494		Hatch Transfer Death
74	M	13 Jul 1997	1	10	ZWARTEP00 BRIEGOO00	13 Jul 1997 16 Feb 1998	HZ0495 HZ0495		Hatch Transfer
75	?	26 Jul 1997	40	41	ZWARTEP00 GAAL00	26 Jul 1997 13 Aug 1998	HZ0498 HZ0498		Hatch Transfer
76	?	26 Jul 1997	40	41	ZWARTEP00	26 Jul 1997	HZ0499		Hatch
77	F	26 Jul 1997	40	41	ZWARTEP00 ROTTERDAM ZWARTEP00	26 Jul 1997 29 Jun 1999 15 Oct 1999	HZ0500 704244 HZ0500		Hatch Transfer Transfer
78	?	26 Jul 1997	40	41	ZWARTEP00	26 Jul 1997	HZ0501		Hatch
79	?	26 Jul 1997	40	41	ZWARTEP00	26 Jul 1997	HZ0502		Hatch
80	M	26 Jul 1997	58	17	ZWARTEP00 BRIEGOO00	26 Jul 1997 16 Feb 1998	HZ0503 HZ0503		Hatch Transfer
81	?	26 Jul 1997	58	17	ZWARTEP00 ROBER00	26 Jul 1997 31 Mar 1998	HZ0504 HZ0504		Hatch Transfer
82	?	26 Jul 1997	58	17	ZWARTEP00	26 Jul 1997 23 Jun 1998	HZ0505		Hatch Death
83	?	26 Jul 1997	58	17	ZWARTEP00	26 Jul 1997 1 Sep 1997	HZ0506		Hatch Death
84	?	26 Jul 1997	58	17	ZWARTEP00 KUYSTER00	26 Jul 1997 3 Jun 1998 20 Mar 1999	HZ0507 HZ0507		Hatch Transfer Death

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SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 8

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date	Local ID	Event
85	?	9 Aug 1997	1	10	ZWARTEP00 ROBER00	9 Aug 1997 21 Mar 1998	HZ0519 HZ0519	Hatch Transfer
86	?	9 Aug 1997	1	10	ZWARTEP00 GAAL00	9 Aug 1997 13 Aug 1998	HZ0520 HZ0520	Hatch Transfer
87	?	14 Aug 1997	12	13	ZWARTEP00	14 Aug 1997 26 Feb 1998	HZ0521	Hatch Death
88	?	14 Aug 1997	12	13	ZWARTEP00 BRIEGOO00	14 Aug 1997 16 Feb 1998	HZ0522 HZ0522	Hatch Transfer
89	M	~ 1989	WILD	WILD	WILD00 AMSTERD00	~ 1989 31 Dec 1997	UNK Artis-	Capture Transfer
90	M	10 Aug 1998	1	30	ZWARTEP00 KUYSTER00	10 Aug 1998 20 Oct 1999	HZ0571 HZ0571	Hatch Transfer
91	M	10 Aug 1998	1	30	ZWARTEP00 KUYSTER00	10 Aug 1998 20 Oct 1999	HZ0572 HZ0572	Hatch Transfer
92	F	10 Aug 1998	1	30	ZWARTEP00 KUYSTER00	10 Aug 1998 20 Oct 1999 1 Jul 2000	HZ0573 HZ0573	Hatch Transfer Death
93	?	11 Aug 1998	1	30	ZWARTEP00	11 Aug 1998 23 Jan 1999	HZ0574	Hatch Death
94	M	24 Sep 1999	33	16	MANTEL00	24 Sep 1999	PMSOF1	Hatch
95	M	24 Sep 1999	33	16	MANTEL00	24 Sep 1999	PMSOF1	Hatch
96	M	24 Sep 1999	33	16	MANTEL00	24 Sep 1999	PMSOF1	Hatch
97	F	24 Sep 1999	33	16	MANTEL00	24 Sep 1999	PMSOF1	Hatch
98	F	24 Sep 1999	33	16	MANTEL00	24 Sep 1999	PMSOF1	Hatch
99	F	24 Sep 1999	33	16	MANTEL00	24 Sep 1999	PMSOF1	Hatch
100	?	24 Sep 1999	33	16	MANTEL00	24 Sep 1999 1 Jan 2000	PMSOF1	Hatch Death

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SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 9

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
101	?	24 Sep 1999	33	16	MANTEL00	24 Sep 1999 1 Jan 2000	PMSOF1		Hatch Death
102	F	~ 1998	UNKN	UNKN	GREB ZWARTEP00	~ 1998 3 Nov 1999	UNK HZ0670		Hatch Transfer
103	F	~ 1998	UNKN	UNKN	GREB BRIEGOO00	~ 1998 3 Nov 1999 1 Jul 2003	UNK MB-04		Hatch Transfer Death
104	?	~ 1999	UNKN	UNKN	GREB MANTEL00	~ 1999 3 Nov 1999 15 Nov 1999	UNK PMSO		Hatch Transfer Death
105	?	~ 1999	UNKN	UNKN	GREB MANTEL00	~ 1999 3 Nov 1999 15 Nov 1999	UNK PMSO		Hatch Transfer Death
106	?	~ 1999	UNKN	UNKN	GREB PMANTEL00	~ 1999 3 Nov 1999 15 Nov 1999	UNK NVT		Hatch Transfer Death
107	F	~ 1999	UNKN	UNKN	GREB BRIEGOO00	~ 1999 3 Nov 1999	UNK MB-05		Hatch Transfer
108	?	13 Oct 1999	UNKN	102	GREB ZWARTEPO00 ZWARTEP00	13 Oct 1999 20 Dec 1999 1 Jan 2000	UNK HZ0671		Hatch Transfer Death
109	F	~ 1994	WILD	WILD	WILD00 ROTTERDAM ZWARTEP00	~ 1994 3 Nov 1999 8 Sep 2002	UNK 704305 HZ0855		Capture Transfer Transfer
110	?	3 Sep 1999	62	13	ZWARTEP00	3 Sep 1999	HZ0661		Hatch
111	M	1 Aug 2000	1	17	ZWARTEP00 FONTIJN00	1 Aug 2000 10 Apr 2001	HZ0706 UNK		Hatch Transfer
112	F	1 Aug 2000	1	17	ZWARTEP00 FONTIJN00	1 Aug 2000 10 Apr 2001	HZ0707 UNK		Hatch Transfer

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SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 10

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
113	?	3 Aug 2000	1	17	ZWARTEPOO FONTIJN00	3 Aug 2000 10 Apr 2001	HZ0708 UNK		Hatch Transfer
114	M	1 Sep 2000	62	18	ZWARTEPOO MANTEL00	1 Sep 2000 19 Apr 2001	HZ0712 UNK		Hatch Transfer
115	?	1 Sep 2000	62	18	ZWARTEPOO MANTEL00	1 Sep 2000 19 Apr 2001 1 Jul 2002	HZ0713 UNK		Hatch Transfer Death
116	?	1 Sep 2000	62	18	ZWARTEPOO MANTEL00	1 Sep 2000 19 Apr 2001 1 Jul 2002	HZ0714 UNK		Hatch Transfer Death
117	M	1 Sep 2000	62	18	ZWARTEPOO V.LIEROP	1 Sep 2000 24 Jun 2001	HZ0715 UNK		Hatch Transfer
118	M	1 Sep 2000	62	18	ZWARTEPOO V.LIEROP	1 Sep 2000 24 Jun 2001	HZ0716 UNK		Hatch Transfer
119	?	1 Sep 2000	62	18	ZWARTEPOO VONDENHOF	1 Sep 2000 14 Jul 2001 1 Jan 2002	HZ0717 UNK		Hatch Transfer Death
120	M	1 Jan 1991	WILD	WILD	UNKNOWN NIEMARKT	1 Jan 1992 1 Sep 1992	UNK LINUS		Capture Transfer
121	F	1 Jan 1990	WILD	WILD	UNKNOWN NIEMARKT	1 Jan 1992 1 Sep 1992 21 Apr 1997	UNK SALLY		Capture Transfer Death
122	F	22 Aug 1995	120	121	NIEMARKT	22 Aug 1995	SMILIE		Hatch
123	F	22 Aug 1995	120	121	NIEMARKT	22 Aug 1995	DEVIL		Hatch
124	F	1 Aug 1996	UNK	UNK	UNKNOWN NIEMARKT	1 Aug 1996 15 Aug 1996	UNK BLONDI		Hatch Transfer
125	M	1 Aug 1996	UNK	UNK	UNKNOWN NIEMARKT	1 Aug 1996 15 Aug 1996	UNK EDDIE		Hatch Transfer

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SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 11

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
126	M	1 Jan 1995	WILD	WILD	UNKNOWN VONDENHOF	1 Jan 1997 2 Jun 1997	UNK SAUREV		Capture Transfer
127	F	1 Jan 1995	WILD	WILD	UNKNOWN VONDENHOF	1 Jan 1997 2 Jun 1997 5 Jun 1999	UNK SAU2EV		Capture Transfer Death
128	?	11 Aug 1999	126	127	VONDENHOF	11 Aug 1999	JR2		Hatch
129	?	11 Aug 1999	126	127	VONDENHOF	11 Aug 1999	JR1		Hatch
130	M	31 Aug 2001	62	18	ZWARTEPOO VONDENHOF	31 Aug 2001 7 Oct 2001	HZ0771 UNK		Hatch Transfer
131	M	1 Sep 2001	62	18	ZWARTEPOO VONDENHOF	1 Sep 2001 7 Oct 2001 1 Dec 2003	HZ0772 UNK		Hatch Transfer Death
132	M	1 Sep 2001	62	18	ZWARTEPOO VONDENHOF	1 Sep 2001 7 Oct 2001 1 Dec 2003	HZ0773 UNK		Hatch Transfer Death
133	F	2 Sep 2001	62	18	ZWARTEPOO VDWOUDE	2 Sep 2001 30 Sep 2001 1 Jul 2003	HZ0774 UNK		Hatch Transfer Death
134	F	2 Sep 2001	62	18	ZWARTEPOO VDWOUDE	2 Sep 2001 30 Sep 2001 1 Oct 2003	HZ0775 UNK		Hatch Transfer Death
135	F	2 Sep 2001	62	18	ZWARTEPOO VDWOUDE	2 Sep 2001 30 Sep 2001 1 Nov 2003	HZ0776 UNK		Hatch Transfer Death
136	?	15 Aug 2002	62	18	ZWARTEPOO DONKERSLO	15 Aug 2002 10 Sep 2002	HZ0834 UNK		Hatch Transfer
137	?	15 Aug 2002	62	18	ZWARTEPOO DONKERSLO	15 Aug 2002 10 Sep 2002	HZ0835 UNK		Hatch Transfer
138	?	16 Aug 2002	62	18	ZWARTEPOO DONKERSLO	16 Aug 2002 10 Sep 2002	HZ0836 UNK		Hatch Transfer

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SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 12

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
139	M	1 Jan 1998	WILD	WILD	UNKNOWN HESSE	1 Jan 2002 23 Apr 2002	UNK CHE		Capture Transfer
140	F	1 Jan 1998	WILD	WILD	UNKNOWN HESSE	1 Jan 2002 23 Apr 2002	UNK TYRA		Capture Transfer
141	?	17 Aug 2002	62	18	ZWARTEPOO DONKERSLO	17 Aug 2002 10 Sep 2002	HZ0839 UNK		Hatch Transfer
142	?	17 Aug 2002	62	18	ZWARTEPOO	17 Aug 2002 20 Oct 2002	HZ0840		Hatch Death
143	?	18 Aug 2002	62	18	ZWARTEPOO	18 Aug 2002 20 Sep 2002	HZ0841		Hatch Death
144	?	30 Aug 2002	40	39	ZWARTEPOO TIMMERMAN	30 Aug 2002 27 Sep 2002 1 Jan 2003	HZ0848 UNK		Hatch Transfer Death
145	?	30 Aug 2002	40	39	ZWARTEPOO TIMMERMAN	30 Aug 2002 27 Sep 2002 1 Jan 2003	HZ0849 UNK		Hatch Transfer Death
146	F	31 Aug 2002	40	39	ZWARTEPOO TIMMERMAN	31 Aug 2002 27 Sep 2002	HZ0850 UNK		Hatch Transfer
147	?	31 Aug 2002	40	39	ZWARTEPOO	31 Aug 2002 10 Oct 2002	HZ0851		Hatch Death
148	?	31 Aug 2002	40	39	ZWARTEPOO	31 Aug 2002 31 Oct 2002	HZ0852		Hatch Death
149	?	31 Aug 2002	40	39	ZWARTEPOO	31 Aug 2002	HZ0853		Hatch
150	M	28 Jun 2000	UNK	UNK	TORONTO AMSTERDAM	28 Jun 2000 4 Oct 2001 27 May 2003	35578 1217		Hatch Transfer Death
151	M	30 Jun 2000	UNK	UNK	TORONTO AMSTERDAM	30 Jun 2000 4 Oct 2001	35588 1432		Hatch Transfer

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SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 13

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
152	F	1 Jul 2000	UNK	UNK	TORONTO AMSTERDAM	1 Jul 2000 4 Oct 2001	35592 1433		Hatch Transfer
153	?	1 Jul 2003	UNK	UNK	MANTEL00	1 Jul 2003	PM031		Hatch
154	?	1 Jul 2003	UNK	UNK	MANTEL00	1 Jul 2003	PM032		Hatch
155	?	26 Jul 2003	1	17	ZWARTEPOO	26 Jul 2003	HZ0918		Hatch
156	?	13 Sep 2003	40	39	ZWARTEPOO	13 Sep 2003 19 Oct 2003	HZ0929		Hatch Death
157	M	1 Aug 2001	74	103	BRIEGOO00	1 Aug 2001	MB01A		Hatch
158	?	1 Aug 2001	74	103	BRIEGOO00 VDHEIJDEN	1 Aug 2001 1 Sep 2001	MB01B MB01B		Hatch Transfer
159	?	1 Aug 2001	74	103	BRIEGOO00 VDHEIJDEN	1 Aug 2001 1 Sep 2001	MB01C MB01C		Hatch Transfer
160	?	1 Aug 2001	74	103	BRIEGOO00 VDHEIJDEN	1 Aug 2001 1 Sep 2001	MB01D MB01D		Hatch Transfer
161	?	1 Aug 2001	74	103	BRIEGOO00 JEROEN	1 Aug 2001 1 Sep 2001	MB01E MB01E		Hatch Transfer
162	?	1 Aug 2001	74	103	BRIEGOO00 JEROEN	1 Aug 2001 1 Sep 2001	MB01F MB01F		Hatch Transfer
163	?	1 Aug 2001	74	103	BRIEGOO00 MEDER	1 Aug 2001 1 Sep 2001	MB01G MB01G		Hatch Transfer
164	?	1 Aug 2001	74	103	BRIEGOO00 MEDER	1 Aug 2001 1 Sep 2001	MB01H MB01H		Hatch Transfer
165	?	1 Aug 2002	80	107	BRIEGOO00	1 Aug 2002 1 Oct 2002	MB02A		Hatch Death
166	?	1 Aug 2002	80	107	BRIEGOO00 TINSLEY	1 Aug 2002 1 Sep 2002	MB02B MB02B		Hatch Transfer

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SPARKS
9 Mar 2004

CHUCKWALLA Studbook
(*Sauromalus obesus*)

Page 14

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date		Local ID	Event
167	?	1 Aug 2002	80	107	BRIEGOO00 TINSLEY	1 Aug 2002 1 Sep 2002	MB02C MB02C		Hatch Transfer
168	M	1 Aug 2002	80	107	BRIEGOO00 VERHOEKS	1 Aug 2002 1 Sep 2002	MB02D MB02D		Hatch Transfer
169	M	1 Aug 2002	80	107	BRIEGOO00 VERHOEKS	1 Aug 2002 1 Sep 2002	MB02E MB02E		Hatch Transfer
170	?	1 Aug 2002	80	107	BRIEGOO00 HEYENS	1 Aug 2002 1 Sep 2002	MB02F MB02F		Hatch Transfer
171	?	1 Aug 2002	80	107	BRIEGOO00 HEYENS	1 Aug 2002 1 Sep 2002	MB02H MB02H		Hatch Transfer
172	M	1 Aug 2002	80	107	BRIEGOO00	1 Aug 2002	MB02I		Hatch
173	F	1 Aug 2002	80	107	BRIEGOO00	1 Aug 2002	MB02J		Hatch
174	F	1 Jul 2000	UNK	UNK	TORONTO AMSTERDAM	1 Jul 2000 4 Oct 2001 29 Mar 2002	35593 1434		Hatch Transfer Death

TOTALS: 55.51.67 (173)

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SPARKS
9 Mar 2004