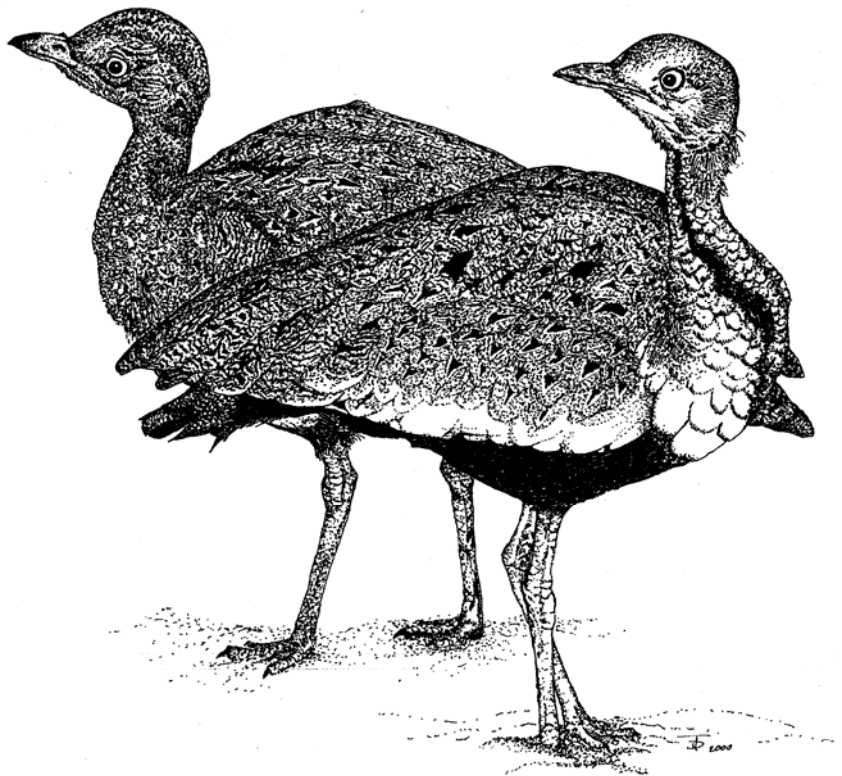


2007  
INTERNATIONAL  
STUDBOOK  
FOR THE  
BUFF-CRESTED  
BUSTARD  
*(Eupodotis ruficrista)*



Smithsonian  
National Zoological Park

ASSOCIATION  
OF ZOOS &  
AQUARIUMS

2007  
**INTERNATIONAL STUDBOOK**  
for the  
**BUFF-CRESTED BUSTARD**

*(EUPODOTIS RUFICRISTA)*

**Sara Hallager, Studbook keeper**

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# INTRODUCTION

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The formation of the North American Regional Studbook for buff-crested bustards was approved by WCMC (Wildlife Conservation and Management Committee) in August 1993. WCMC operates under AZA (American Zoo's and Aquariums). The conversion of this studbook to an International level was approved initially by WCMC in December 1995, and finally by the World Conservation Union/Species Survival Commission (IUCN/SSC) and the International Union of Directors of Zoological Gardens-the World Zoo Organization (IUDZG-WZO) in May 1996.

The buff-crested bustard studbook documents all known buff-crested bustards that live or once lived in institutions worldwide. This includes both zoos and the private sector. To date 122.119.93 (334) birds have been reported and documented in the studbook. The complete Historical Studbook was last distributed in 2005. The Living Studbook currently records 32.28.5 (65) birds in 14 institutions.

When the subspecies of the individual bird is known, it is reported in a separate column in the studbook. The subspecies listing is based on the capture location of the bird if it has been reported. With the exception of one individual, all specimens are reported to be the *gindiana* subspecies. All descendents of wild caught birds, of which the capture location was known for both parents, have a subspecies designation as well.

Hatch dates for wild caught birds are estimated to the year, unless facilities have provided information otherwise. The hatch date for wild caught birds is based on the year the bird arrived in a zoo. It was assumed that young birds were captured for zoos or private individuals. The assumption was also made that the dealer involved did not hold the bird for an extended period of time. Thus, the hatch date for wild caught birds is generally one to two years before the bird was captured, unless a facility has provided information to the contrary.

Dates listed for transfers to dealers are also estimated. The assumption was made that a lack of adequate holding facilities in the place of capture, prompted to dealer not to hold the bird for an extended period of time. Thus, dates for transfers from dealers to zoos or private individuals are generally the same year the bird arrived into a particular facility.

The abbreviation MULT is used when there is more than one possible dam or sire.

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## STUDBOOK DISCLAIMER

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*The information contained in this studbook has been obtained from numerous sources believed to be reliable. AZA and the Smithsonian National Zoological Park make a diligent effort to provide a complete and accurate representation of the data in its reports, publications, and services. However, AZA and the Smithsonian National Zoological Park do not guarantee the accuracy, adequacy, or completeness of any information. AZA and the Smithsonian National Zoological Park make no warranties or representations of any kind, express or implied, including but not limited to warranties of merchantability of fitness for particular purpose. AZA and the Smithsonian National Zoological Park disclaim all liability for errors or omissions that may exist and shall not be liable for any incidental, consequential, or other damages (whether resulting from negligence or otherwise) including, without limitation, exemplary damages or lost profits arising out of or in connection with the use of this publication.*

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# STUDBOOK FORMAT

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The buff crested bustard studbook uses the Single Population Animal Record Keeping System (SPARKS) program, version 1.5

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*STUD #:* Birds permanent studbook number. Each institution should enter the studbook number into ARKS for all animals that they have held.

*SEX:* M= male      F= female      U= unknown

*HATCH DATE:* Birds hatch date. At tilde mark '~' before the date indicates an approximate date. '?' indicates that the hatch date is unknown.

*SIRE and DAM:* Studbook numbers for the birds sire and dam. 'Unk' indicates that either or both are unknown. 'Mult' indicates that there are several possible sires and/or dams.

*LOCATION:* The facility that has acquired the bird. An alphabetical listing of current holding locations as well as all historic holding sites including addresses is included at the end of the studbook. If a bird is no longer traceable, 'ltf' (lost to follow up) will appear to the right of the last known location.

*DATE:* The date on which the bird arrived or left a facility. A tilde '~' mark indicates that the arrival date is approximate. 'Unk' indicates that the date is unknown.

*LOCAL ID:* The facilities local identification number (often the ISIS number as well).

*EVENT:* Capture, Birth, Transfer (physical move with corresponding ownership change), Loan (physical move with no ownership change), Death.

*REARING:* Indicates whether the bird was parent or handreared, or if rearing method is unknown.

*SUBSPECIES:* Birds subspecific status. If no subspecies is indicated, then the birds capture location could not be determined. Offspring from wild caught birds, of which the capture location for both parents is known, have a subspecies designation as well.

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# LIVING STUDBOOK

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## AL AIN - Al Ain Zoo and Aquarium, Al Ain, Abu Dhabi, United Arab Emirates

81	M	~ 1 Jan 1992	73	MULT	AL AIN	~ 1 Jan 1992		Hatch
					NARC	1 Jun 1993	466	Transfer
					AL AIN	15 Jun 2003	466	Transfer
82	F	~ 1 Jan 1992	73	MULT	AL AIN	~ 1 Jan 1992		Hatch
					NARC	1 Jun 1993	463	Transfer
					AL AIN	15 Jun 2003	463	Transfer
93	M	~ 1 Jan 1991	73	MULT	AL AIN	~ 1 Jan 1991		Hatch
					NARC	1 Jun 1993	453	Transfer
					SWEIHAN	29 Aug 1995	453	Transfer
					NARC	5 Nov 1996	453	Transfer
					AL AIN	15 Jun 2003	453	Transfer
96	F	~ 1 Jan 1990	73	MULT	AL AIN	~ 1 Jan 1990		Hatch
					NARC	1 Jun 1993	456	Transfer
					SWEIHAN	29 Aug 1995	456	Transfer
					NARC	5 Nov 1996	456	Transfer
					AL AIN	15 Jun 2003	456	Transfer
98	M	~ 1 Apr 1992	73	MULT	AL AIN	~ 1 Apr 1992		Hatch
					NARC	1 Jun 1993	458	Transfer
					AL AIN	15 Jun 2003	458	Transfer
101	F	~ 1 Apr 1992	73	MULT	AL AIN	~ 1 Apr 1992		Hatch
					NARC	1 Jun 1993	461	Transfer
					AL AIN	15 Jun 2003	461	Transfer
103	M	~ 1 Jan 1992	73	MULT	AL AIN	~ 1 Jan 1992		Hatch
					NARC	1 Jun 1993	464	Transfer
					SWEIHAN	29 Aug 1995	464	Transfer
					NARC	5 Nov 1996	464	Transfer

					AL AIN	15 Jun 2003	464	Transfer
110	M	5 Jun 1994	93	96	NARC	5 Jun 1994	651	Hatch
					AL AIN	15 Jun 2003	651	Transfer
123	M	25 Apr 1995	73	75	NARC	25 Apr 1995	735	Hatch
					AL AIN	15 Jun 2003	735	Transfer
143	M	18 Mar 1996	73	75	NARC	18 Mar 1996	854	Hatch
					AL AIN	15 Jun 2003	854	Transfer
147	M	25 Jun 1996	73	75	NARC	25 Jun 1996	886	Hatch
					AL AIN	15 Jun 2003	886	Transfer
153	F	21 Sep 1996	73	75	NARC	21 Sep 1996	929	Hatch
					AL AIN	15 Jun 2003	929	Transfer
183	M	17 Mar 1997	93	96	NARC	17 Mar 1997	943	Hatch
					AL AIN	15 Jun 2003	943	Transfer
232	M	4 Jun 1999	98	126	NARC	4 Jun 1999	1361	Hatch
					AL AIN	15 Jun 2003	1361	Transfer
235	F	26 Apr 1999	187	72	NARC	26 Apr 1999	1366	Hatch
					AL AIN	15 Jun 2003	1366	Transfer
238	F	9 May 1999	187	82	NARC	9 May 1999	1371	Hatch
					AL AIN	15 Jun 2003	1371	Transfer
239	F	10 May 1999	98	126	NARC	10 May 1999	1372	Hatch
					AL AIN	15 Jun 2003	1372	Transfer
245	F	4 Jul 1999	98	126	NARC	4 Jul 1999	1379	Hatch
					AL AIN	15 Jun 2003	1379	Transfer
246	F	17 Jul 1999	98	126	NARC	17 Jul 1999	1381	Hatch
					AL AIN	15 Jun 2003	1381	Transfer

261	M	23 May 2000	98	126	NARC	23 May 2000	1847	Hatch
					AL AIN	15 Jun 2003	1847	Transfer
273	M	3 Aug 2000	192	75	NARC	3 Aug 2000	1901	Hatch
					AL AIN	15 Jun 2003	1901	Transfer
281	M	31 Jul 2000	98	126	NARC	31 Jul 2000	1899	Hatch
					AL AIN	15 Jun 2003	1899	Transfer
327	M	~ 2005	UNK	UNK	AL AIN	~ 2005	_____	Hatch
328	M	~ 2005	UNK	UNK	AL AIN	~ 2005	_____	Hatch
329	F	~ 2005	UNK	UNK	AL AIN	~ 2005	_____	Hatch
Totals: 15.10.0 (25)								

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**BIRMINGHAM - Birmingham Zoo, Birmingham, Alabama, USA**

310	M	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03007	Transfer
					BIRMINGHM	18 Mar 2003	B03002	Transfer
311	F	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03017	Transfer
					BIRMINGHM	18 Mar 2003	B03003	Transfer

Totals: 1.1.0 (2)

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**CINCINNAT - Cincinnati Zoo & Botanical Garden, Cincinnati, Ohio, USA**

70	F	14 Sep 1997	33	11	SD-WAP	14 Sep 1997	897406	Hatch
					CINCINNAT	3 Jun 2004	204022	Transfer
313	M	26 Aug 2003	33	280	SD-WAP	26 Aug 2003	803215	Hatch
					CINCINNAT	3 Jun 2004	204021	Transfer

Totals: 1.1.0 (2)

**COLUMBUS - Columbus Zoo and Aquarium, Powell, Ohio, USA**

209	M	19 Jul 1997	41	53	SAN ANTON	19 Jul 1997	970751	Hatch
					TOLEDO	18 Nov 1998	981630	Transfer
					COLUMBUS	14 Apr 2006	106011	Transfer

Totals: 1.0.0 (1)

**DALLAS - Dallas Zoo, Dallas, Texas, USA**

6	M	~ 1985	WILD	WILD	TANZANIA	~ 1987	NONE	Capture
					BELLBIRD	~ 1987	_____	Transfer
					DALLAS	5 Feb 1987	874884	Transfer
20	F	22 Jul 1989	5	7	DALLAS	22 Jul 1989	896584	Hatch
					PALM DES	7 Dec 1990	290056	Transfer
					HOUSTON	12 Aug 1997	17045	Transfer
					DALLAS	4 Oct 2001	896584	Transfer
295	M	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03009	Transfer
					DALLAS	18 Mar 2003	03E638	Transfer
296	M	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03019	Transfer

						DALLAS	18 Mar 2003	03E639	Transfer
325	F	22 Jul 2005	6	7	DALLAS	22 Jul 2005	05F906	Hatch	

Totals: 3.2.0 (5)

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**DENVER - Denver Zoological Gardens, Denver, Colorado, USA**

303	M	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03005	Transfer
					DENVER	2 Apr 2003	A02499	Transfer
304	F	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03013	Transfer
					DENVER	2 Apr 2003	A02500	Transfer
305	F	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03014	Transfer
					DENVER	2 Apr 2003	A02501	Transfer

Totals: 1.2.0 (3)

---

**FRESNO - Chaffee Zoological Gardens of Fresno, Fresno, California, USA**

47	F	4 Jul 1992	2	4	SANDIEGOZ	4 Jul 1992	392563	Hatch
					FRESNO	1 Jul 1993	6787	Transfer
321	M	12 Jul 2004	33	280	SD-WAP	12 Jul 2004	804217	Hatch
					FRESNO	24 Feb 2005	250007	Transfer
330	?	8 May 2007	321	47	FRESNO	8 May 2007	270178	Hatch

Totals: 1.1.1 (3)

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**HOUSTON - The Houston Zoo, Houston, Texas, USA**

300	F	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002		Transfer
					NY BRONX	4 Feb 2003	B03016	Transfer
					HOUSTON	18 Mar 2003	20386	Transfer
324	M	2 May 2005	297	298	SAN ANTON	2 May 2005	Y05002	Hatch
					HOUSTON	3 Nov 2005	22130	Transfer
331	?	8 Apr 2007	297	300	HOUSTON	8 Apr 2007	22909	Hatch
332	?	12 May 2007	297	300	HOUSTON	12 May 2007	22959	Hatch

Totals: 1.1.2 (4)

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**KNOXVILLE - Knoxville Zoological Gardens, Knoxville, Tennessee, USA**

27	F	23 Jun 1990	5	7	DALLAS	23 Jun 1990	906814	Hatch
					KNOXVILLE	13 Oct 1991	264	Transfer

Totals: 0.1.0 (1)

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**NARC - National Avian Research Center, Abu Dhabi, United Arab Emirates**

194	F	7 May 1997	73	99	NARC	7 May 1997	984	Hatch	Hand
199	M	10 Jun 1997	93	96	NARC	10 Jun 1997	992	Hatch	
203	F	13 Jul 1997	98	75	NARC	13 Jul 1997	996	Hatch	

Totals: 1.2.0 (3)

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**SAN ANTON - San Antonio Zoological Gardens & Aquarium, San Antonio, Texas, USA**

23	M	14 Aug 1989	2	4	SANDIEGOZ	14 Aug 1989	489080	Hatch
					BALTIMORE	31 Aug 1990	900806	Transfer
					HOUSTON	15 Jul 1997	16999	Transfer
					SAN ANTON	11 Jul 2001	L01067	Transfer
297	M	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03006	Transfer
					SAN ANTON	18 Mar 2003	M03017	Transfer
298	F	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03015	Transfer
					SAN ANTON	18 Mar 2003	M03018	Transfer
314	F	30 Mar 2004	297	298	SAN ANTON	30 Mar 2004	M04041	Hatch
323	M	18 Feb 2005	6	7	DALLAS	18 Feb 2005	05F486	Hatch
					SAN ANTON	20 Apr 2006	A06041	Transfer
333	?	1 Jun 2007	297	298	SAN ANTON	1 Jun 2007	U07001	Hatch
Totals: 3.2.1 (6)								

**SD-WAP - San Diego Wild Animal Park, Escondido, California, USA**

277	M	19 Jun 2001	33	11	SD-WAP	19 Jun 2001	801265	Hatch
309	M	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03012	Transfer
					STCATHERN	1 May 2003	B03012	Transfer
					SD-WAP	16 Feb 2005	805018	Transfer
315	F	4 Jul 2004	297	298	SAN ANTON	4 Jul 2004	L04002	Hatch
					SD-WAP	21 Apr 2005	805065	Transfer

319 F 15 Jun 2004 33 280 SD-WAP 15 Jun 2004 804176 Hatch

Totals: 2.2.0 (4)

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**SEA WORLD - Sea World San Diego, San Diego, California, USA**

320 F 29 Jun 2004 33 280 SD-WAP 29 Jun 2004 804199 Hatch  
SEA WORLD 17 Aug 2005 BCB002 Transfer

Totals: 0.1.0 (1)

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**ST LOUIS - Saint Louis Zoological Park, St Louis, Missouri, USA**

294 F 31 May 2002 6 7 DALLAS 31 May 2002 02E374 Hatch  
ST LOUIS 24 Oct 2002 101992 Transfer

312 M 14 Aug 2003 33 280 SD-WAP 14 Aug 2003 803196 Hatch  
ST LOUIS 23 Jun 2004 103526 Transfer

334 ? 12 Apr 2007 312 294 ST LOUIS 12 Apr 2007 105711 Hatch

Totals: 1.1.1 (3)

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**WILD WRLD - Wildlife World Zoo, Litchfield Park, Arizona, USA**

301 M ~ 2002 WILD WILD TANZANIA ~ 2002 NONE Capture  
KROESEN 30 Dec 2002 \_\_\_\_\_ Transfer  
NY BRONX 4 Feb 2003 B03008 Transfer  
WILD WRLD 18 Mar 2003 7012 Transfer

302 F ~ 2002 WILD WILD TANZANIA ~ 2002 NONE Capture  
KROESEN 30 Dec 2002 \_\_\_\_\_ Transfer  
NY BRONX 4 Feb 2003 B03018 Transfer  
WILD WRLD 18 Mar 2003 7013 Transfer

Totals: 1.1.0 (2)

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**TOTALS: 32.28.5 (65) ----14 Institutions**

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# Census Report

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Year as of 31 Dec	Specimen Counts		Observed Lambda	
			Annual	Geometric Mean
2007	32.28.5	(65)	1.07	
2006	32.28.1	(61)	1.00	1.03 (last 2 yrs)
2005	32.29.0	(61)	1.00	1.02 (last 3 yrs)
2004	31.30.0	(61)	0.82	0.97 (last 4 yrs)
2003	39.35.0	(74)	1.00	0.97 (last 5 yrs)
2002	39.35.0	(74)	1.14	1.00 (last 6 yrs)
2001	34.31.0	(65)	0.92	0.99 (last 7 yrs)
2000	37.32.2	(71)	1.11	1.00 (last 8 yrs)
1999	32.32.0	(64)	1.03	1.01 (last 9 yrs)
1998	36.26.0	(62)	0.84	0.99 (last 10 yrs)
1997	39.35.0	(74)	1.19	1.00 (last 11 yrs)
1996	30.29.3	(62)	1.07	1.01 (last 12 yrs)
1995	30.28.0	(58)	1.29	1.03 (last 13 yrs)
1994	24.21.0	(45)	0.96	1.02 (last 14 yrs)
1993	22.25.0	(47)	0.98	1.02 (last 15 yrs)
1992	22.26.0	(48)	1.17	1.03 (last 16 yrs)
1991	19.22.0	(41)	1.24	1.04 (last 17 yrs)
1990	14.19.0	(33)	1.38	1.06 (last 18 yrs)
1989	11.13.0	(24)	1.50	1.08 (last 19 yrs)
1988	7.9.0	(16)	1.78	1.10 (last 20 yrs)
1987	5.4.0	(9)	3.00	1.16 (last 21 yrs)
1986	3.0.0	(3)	1.00	1.15 (last 22 yrs)
1985	3.0.0	(3)	1.50	1.16 (last 23 yrs)
1984	2.0.0	(2)	0.50	1.12 (last 24 yrs)
1983	3.1.0	(4)	1.00	1.12 (last 25 yrs)
1982	3.1.0	(4)	0.80	1.10 (last 26 yrs)
1981	3.2.0	(5)	0.63	1.08 (last 27 yrs)
1980	4.3.1	(8)	1.00	1.08 (last 28 yrs)
1979	2.2.4	(8)	1.00	1.07 (last 29 yrs)
1978	3.2.3	(8)	1.14	1.08 (last 30 yrs)
1977	3.2.2	(7)	1.17	1.08 (last 31 yrs)
1976	2.2.2	(6)	1.00	1.08 (last 32 yrs)
1975	2.2.2	(6)	0.67	1.06 (last 33 yrs)
1974	4.3.2	(9)	1.00	1.06 (last 34 yrs)
1973	4.3.2	(9)	1.80	1.08 (last 35 yrs)
1972	1.2.2	(5)	1.67	1.09 (last 36 yrs)
1971	1.1.1	(3)	1.50	1.10 (last 37 yrs)
1970	1.1.0	(2)	1.00	1.10 (last 38 yrs)
1969	1.1.0	(2)	1.00	1.09 (last 39 yrs)
1968	1.1.0	(2)	1.00	1.09 (last 40 yrs)
1967	1.1.0	(2)	0.50	1.07 (last 41 yrs)
1966	3.1.0	(4)	2.00	1.09 (last 42 yrs)
1965	2.0.0	(2)	1.00	1.08 (last 43 yrs)

Note: Lambda values include Imports and Exports...

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## History of the Captive Population

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The first edition of the North American Regional Studbook (published in 1995) documented 52 buff-crested bustards held in North American Zoos from 1987- 1995. Buff-crested bustards were not displayed in U.S. zoos until 1987 when the San Diego Zoo and Dallas Zoo acquired their first birds. Ten wild caught birds entered the United States in 1987 (seven were sent to two different zoos, and three went to a private facility). Breeding began shortly after this import with births at San Diego Zoo in 1988 and Dallas Zoo in 1989. In 1993, Knoxville Zoo became the first facility in the U.S. to achieve second generation breeding in this species. In 2003, an import of 17 birds arrived from Tanzania.

The population of buff-crested bustards in Europe dates back to 1965 when the Frankfurt Zoo in Germany imported 3.1 birds from the wild. The first recorded hatching of this species in the world occurred at Frankfurt in 1971. Breeding continued through 1981 at this zoo with a total of 23 chicks hatching. When the breeding male died in 1975, the breeding female was repaired two years later and breeding continued. This new pair subsequently produced 12 chicks. There are no confirmed living descendants from either pair alive today. The first second-generation birth in the world was recorded in 1979 at the Schonbrunner Tiergarten in Vienna, Austria. Currently, there are no known buff-crested bustards maintained in European zoos.

The Al Ain Zoo in Abu Dhabi, United Arab Emirates imported 1.4 birds from the wild in 1988 and breeding began in 1989 with over 100 chicks hatching at this facility. Before his death in 1998 at 12 years of age, the founder male sired 55 offspring. The first second-generation birth at this facility occurred in 1994 and third generation breeding was reached in 1999.

The majority of buff-crested bustards in zoos (97%) have historically been kept in three countries (Germany, United Arab Emirates and United States). However, several other countries have also maintained the species both now and in the past including Austria, Belgium, Saudi Arabia and South Africa.

A total of 334 buff-crested bustards have been recorded in facilities around the world since 1965. Nearly all of these birds are the *gindiana* subspecies. Historically, the population is 88% captive born.

The longevity record for this species in captivity to date is 22 years for a male and 21 years for a female. Both birds were wild caught however, so their actual ages may be older.



## Reproductive Parameters- female

### Youngest dams at first clutch

126 at age 1Y,10M,2D  
 101 at age 2Y,2M,6D  
 280 at age 2Y,2M,19D  
 298 at age 2Y,2M,28D  
 53 at age 2Y,3M,21D  
 82 at age 2Y,4M,3D  
 72 at age 2Y,4M,13D  
 28 at age ~3Y  
 27 at age 3Y,1M,13D  
 9 at age ~3Y

### Oldest dams at first clutch:

47 at age 14Y,10M,7D  
 67 at age ~8Y,0M  
 75 at age 7Y,10M,6D  
 11 at age 6Y,11M,19D  
 162 at age 6Y,10M,28D  
 8 at age 6Y,6M,16D  
 214 at age 5Y,11M,27D  
 157 at age 5Y,11M,17D  
 204 at age ~5Y,5M  
 300 at age 5Y,3M,7D

Median age of females at first reproduction: 4Y,6M,16D

Mean age of females at first reproduction: 4Y,10M,6D

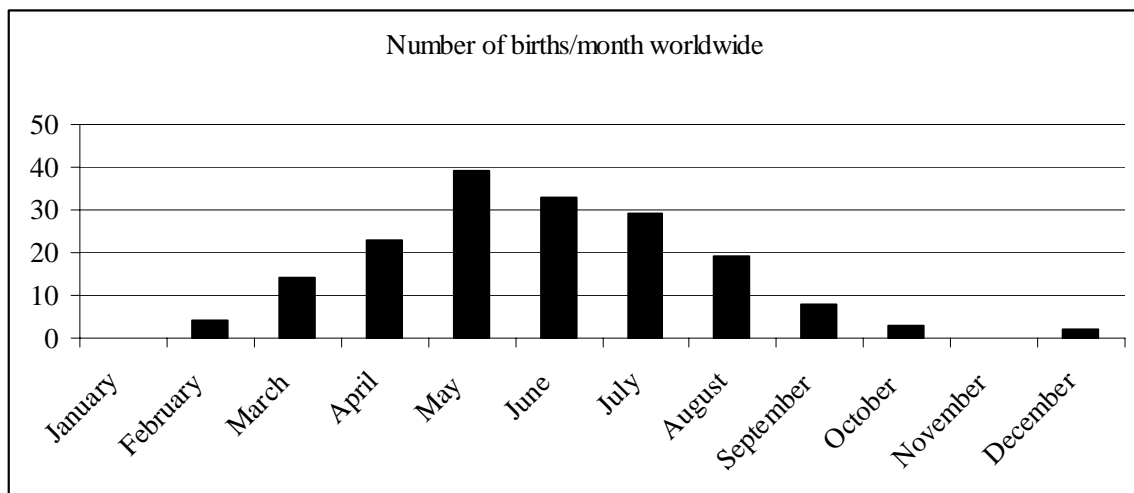
Median age of females at reproduction: 7Y,2M,26D

Mean age of females at reproduction: 7Y,6M,10D

Clutch size		N
1	125	71%
2	48	27%
3	3	2%

176 total clutches, mean size is 1.3

Number of births/month worldwide



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## Reproductive Parameters- male

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Youngest sires at first reproduction:

120 at age 1Y,11M,20D  
187 at age 1Y,11M,28D  
36 at age 2Y,0M,14D  
297 at age 2Y,2M,8D  
81 at age 2Y,3M,14D  
103 at age 2Y,4M,16D  
296 at age 2Y,4M,28D  
321 at age 2Y,9M,6D  
192 at age 2Y,11M,25D  
2 at age 3Y,3M,21D

Oldest sires at first reproduction:

1 at age ~8Y  
6 at age 6Y,5M,26D  
69 at age 6Y,0M,25D  
155 at age 5Y,10M,28D  
41 at age 5Y,9M,22D  
205 at age ~5Y,4M  
98 at age 5Y,2M,8D  
49 at age ~4Y,10M  
5 at age 4Y,5M,10D  
33 at age 3Y,11M,22D

Median age of males at first reproduction: ~3Y,5M,11D

Mean age of males at first reproduction: 3Y,11M,5D

Median age of males at reproduction: 6Y,8M,29D

Mean age of males at reproduction: 6Y,10M,24D

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## Age Statistics

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### Oldest dozen males:

69 Captive born Died at VIENNA at age of 17Y,7M,30D  
166 Captive born Died at FRANKFURT at age of 14Y,7M,2D  
33 Captive born Died at SD-WAP at age of 13Y,8M,21D  
2 Wild born Died at SANDIEGOZ at age of ~13Y  
41 Captive born Died at SAN ANTON at age of 12Y,3M,30D  
73 Wild born Died at NARC at age of ~12Y  
34 Captive born Died at DALLAS at age of 11Y,8M,16D  
106 Captive born Died at AL AIN at age of ~11Y,6M,4D  
155 Wild born Died at FRANKFURT at age of ~10Y  
92 Captive born Died at NARC at age of ~9Y,2M,14D  
36 Captive born Died at KNOXVILLE at age of 8Y,5M,26D  
131 Captive born Died at AL AIN at age of 8Y,5M,12D

### Oldest dozen females:

7 Wild born Died at DALLAS at age of ~21Y  
157 Wild born Died at FRANKFURT at age of ~17Y  
11 Captive born Died at SD-WAP at age of 16Y,0M,28D  
75 Wild born Died at NARC at age of ~14Y  
4 Wild born Died at SANDIEGOZ at age of ~14Y  
162 Captive born Died at VIENNA at age of 12Y,2M,24D  
72 Captive born Died at AL AIN at age of ~11Y,9M,3D  
53 Captive born Died at SAN ANTON at age of ~9Y,2M  
8 Wild born Died at DALLAS at age of ~8Y  
77 Wild born Died at NARC at age of ~7Y  
76 Wild born Died at NARC at age of ~7Y  
74 Wild born Died at NARC at age of ~7Y

### Oldest dozen unknown sex:

161 Captive born Died at EXOTICWIN at age of 10Y,5M,15D  
163 Captive born Died at EXOTICWIN at age of 8Y,6M,12D  
255 Captive born Died at NARC at age of 1Y,7M,1D  
65 Captive born Died at N.CRAWFOR at age of ~1Y,0M  
64 Captive born Died at N.CRAWFOR at age of ~1Y,0M  
63 Captive born Died at N.CRAWFOR at age of ~1Y,0M  
173 Captive born Died at FRANKFURT at age of 6M,27D  
269 Captive born Died at NARC at age of 6M,25D  
233 Captive born Died at NARC at age of 6M,19D  
258 Captive born Died at NARC at age of 6M,18D  
267 Captive born Died at NARC at age of 6M,5D  
254 Captive born Died at NARC at age of 6M,1D

Oldest dozen living males:

6 Wild born At DALLAS at age of ~22Y  
23 Captive born At SAN ANTON at age of 17Y,10M,9D  
93 Captive born At AL AIN at age of ~16Y,5M,21D  
103 Captive born At AL AIN at age of ~15Y,5M,21D  
81 Captive born At AL AIN at age of ~15Y,5M,21D  
98 Captive born At AL AIN at age of ~15Y,2M,21D  
110 Captive born At AL AIN at age of 13Y,0M,17D  
123 Captive born At AL AIN at age of 12Y,1M,28D  
143 Captive born At AL AIN at age of 11Y,3M,4D  
147 Captive born At AL AIN at age of 10Y,11M,26D  
183 Captive born At AL AIN at age of 10Y,3M,5D  
199 Captive born At NARC at age of 10Y,0M,11D

Oldest dozen living females:

20 Captive born At DALLAS at age of 17Y,11M,1D  
96 Captive born At AL AIN at age of ~17Y,5M,21D  
27 Captive born At KNOXVILLE at age of 17Y,0M,0D  
82 Captive born At AL AIN at age of ~15Y,5M,21D  
101 Captive born At AL AIN at age of ~15Y,2M,21D  
47 Captive born At FRESNO at age of 14Y,11M,18D  
91 Captive born At SWEIHAN at age of 13Y,5M,17D  
153 Captive born At AL AIN at age of 10Y,8M,30D  
203 Captive born At NARC at age of 9Y,11M,8D  
70 Captive born At CINCINNAT at age of 9Y,9M,6D  
235 Captive born At AL AIN at age of 8Y,1M,26D  
238 Captive born At AL AIN at age of 8Y,1M,13D

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# Natural History

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## RANGE AND HABITAT

The buff-crested bustard (*Eupoditis ruficrista gindiana*) is found in East Africa from Ethiopia and Somalia south through Kenya to northeastern Uganda and central Tanzania. Savile's bustard (*Eupoditis ruficrista savilei*) is found from Senegal east to Sudan. *Eupoditis ruficrista ruficrista* or Red-crested bustard is found in southern Angola, Namibia through Botswana, Zambia, southeast to Mozambique, and northern South Africa.

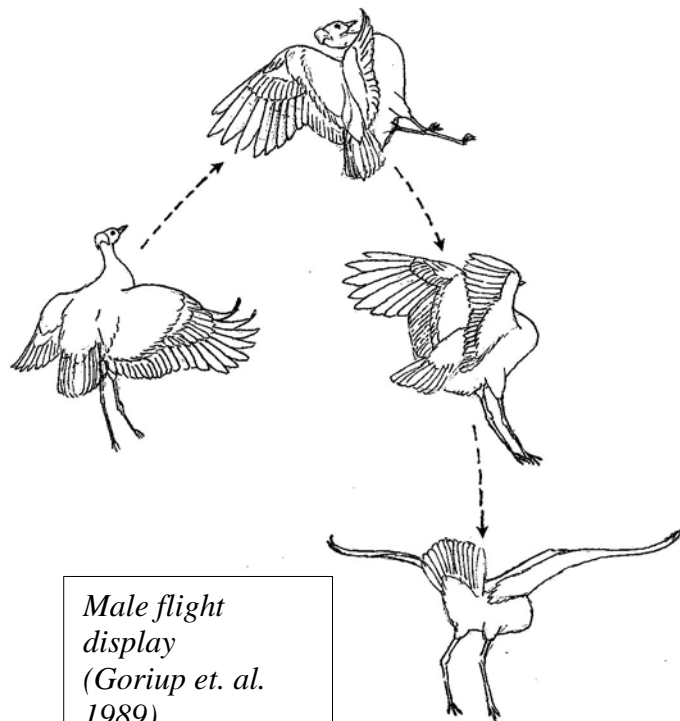
Buff-crested bustards live in arid to semi-arid habitats that offer some cover. They are rarely found in open areas. In Kenya and parts of East Africa, they are found at elevations of 1500 m or less. Movements in response to rainfall and food supply have been recorded, but the species is not migratory in the true sense.

## DESCRIPTION

The *Eupoditis ruficrista ruficrista* male has a gray crown with pink-brown feathers at the nape, hence the name, 'red-crested bustard'. The head and neck are gray-buff colored with a wide black stripe running down the throat. The underparts are light brown with black and buff mottlings. The tail is white with dark brown vermiculations and has bars. The primaries are dark brown. *Eupoditis ruficrista gindiana* has more reddish underparts. It also has more of a buffish colored crest, hence the name 'buff-crested bustard' and an extended stripe down the neck. There are no bars on the tail, and more buff coloration on the wings. *Eupoditis ruficrista savilei* is smaller, has an olive colored crown, and has more black on the undersides towards the neck. The upper feathers contain light orange-brown coloration's.

The females of all subspecies have brown heads, a much reduced crest, and are buff colored in the throat, chin, and breast area. Weights for males range from 550g (*ruficrista*) to 900g (*gindiana*).

Bustards have a poor fossil record- the earliest bustard *Palaeotis weigelti* is from the middle Eocene with a rapid early radiation. Living bustard species last



shared an ancestor 22-26 million ago. The evolution of the group has been subject to much speculation throughout the years. Since Peters 1934 classification of the modern bustards into 25 species in 11 genera, very little taxonomic changes have occurred in the family except for a slight reduction in the total number of species and genera (e.g. Osborne 1984, Urban 1986 and Johnsgard 1991). Previous thoughts on bustard evolution (Wood and Schneel 1986) were based on anatomical characteristics and male display structures. In 1993, Pitra et. al. looked at the phylogenetic relationships of bustards using mitochondrial DNA sequencing techniques. Pitra found 1) a Miocene origin for the family 2) sister relationships between several genera such as *Ardeotis* and *Neotis* 3) the genus *Eupodotis* may be polyphyletic and 4) the currently delimited genera *Ardeotis* and *Neotis* do not form independent monophyletic lineage's.

Taxonomists currently debate whether to regard the three populations as one species, two species, or three species. Some authorities consider *Eupodotis ruficrista savilei* and *Eupodotis ruficrista gindiana* as one species. Other authorities suggest that the populations should be regarded as three separate species based on the differences in vocalizations given by the male during display. For the purposes of the studbook, the three populations are considered one species comprised of three subspecies.

Buff-crested bustards are often referred to by many names. This includes buff-crested florican, crested bustard, red-crested korhaan, bush korhaan, and the Afrikaans name boskorhaan. In the field, this is the only bustard with black underparts that lacks white at the base of the primaries. It is also the smallest East African bustard.

Like all bustards, buff-crested bustards have no preen gland. Instead of using an oil gland to keep their feathers clean, they employ dust bathing. Their feathers contain light sensitive porphyrins, which gives their feathers a pink tinge at the base. As with all bustards, they lack a hind toe.

### DIET

Buff-crested bustards are omnivorous birds and they have a well-developed caeca indicating their dependence on plant material. Insects form a large part of their diet especially when they are chicks. Insects reported consumed include beetles, beetle larva, grasshoppers, ants, and centipedes. They also eat berries, fruits, and seeds. Small vertebrates may be occasionally consumed. Buff-crested bustards are one of the few species of birds known to drink water using a sucking action rather than scooping it as most birds do.

### REPRODUCTION

Buff-crested bustards are generally found alone. Reports of pairs may pertain to females with older chicks. There is no indication of permanent pair bonding. In Kenya, breeding season starts around March and extends to August. In Uganda, breeding runs from December through March, while in Ethiopia and Somalia breeding commences in March and runs through June.

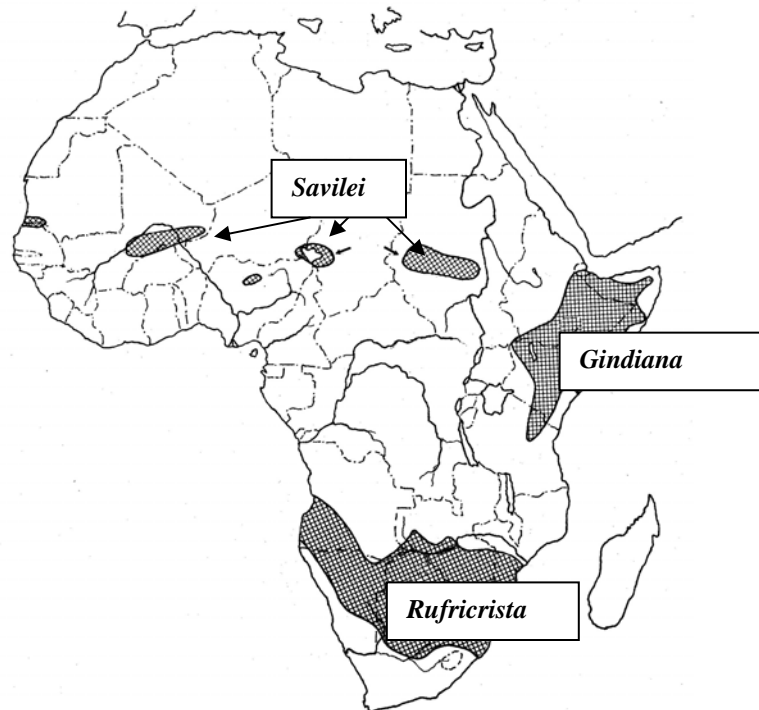
The breeding display of the male is quite spectacular, and is of the 'Aerial' type. This aerial display has not been recorded for Savile's bustard. The male begins the display by calling in an ever increasing volume. It is thought that males call from traditional display areas. The calls differ between the subspecies and have been described in detail by Chappuis, Erare, and Morel (1979). All three subspecies are the only bustards known

to produce whistles. After calling, the male flies into the air upwards of 30m and then turns on his back with his feet facing up. He next flips over and falls to the ground with his wings spread out. The display is geared towards attracting a female and may also define territories among males. When a female is encountered, the feathers on the crown of the male are erected to form a crest. The throat and neck feathers are puffed out. After copulation, the male leaves and resumes displaying to attract another female.

The female makes no nest in the traditional sense. Rather, the eggs are laid on the ground in a shallow scrape. Often, the nest is near a clump of grass. The usual clutch is two eggs. The eggs are olive brown to pinkish-buff with dark brown marks. Incubation periods range from 19-21 days. The chicks are precocial and able to follow their mother around a day or so after hatching. Fledging occurs at about four or five weeks, although the young often remain with the female for several months after this event. In 1992, Dallas Zoo first reported that chicks were observed being carried by their mothers under her wing (Falzone, 1992). This occurred most often when the female sensed danger. Sexual maturity has been documented in a captive hatched female that bred at the age of 1 year/10 months at the National Avian Research Center in Abu Dhabi. Longevity records in captivity approach 20 years.

#### STATUS AND CONSERVATION

All three subspecies are still common in Africa, although the distribution of Savile's bustard is somewhat irregular. None are considered globally threatened. The species is listed on Appendix II of CITES. *Eupodotis ruficrista gindiana* breeds well in captivity, as evidenced by the 286 births recorded in the studbook.



## Births from 30/01/05 - 20/06/07

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date	Local ID	Event
323	M	18 Feb 2005	6	7	DALLAS SAN ANTON	18 Feb 2005 20 Apr 2006	05F486 _____	Hatch Transfer
324	M	2 May 2005	297	298	SAN ANTON HOUSTON	2 May 2005 3 Nov 2005	Y05002 22130	Hatch Transfer
325	F	22 Jul 2005	6	7	DALLAS	22 Jul 2005	05F906	Hatch
326	?	30 Dec 2006	312	294	ST LOUIS	30 Dec 2006 19 Jan 2007	105617	Hatch Death
330	?	8 May 2007	321	47	FRESNO	8 May 2007	270178	Hatch
331	?	8 Apr 2007	297	300	HOUSTON	8 Apr 2007	22909	Hatch
332	?	12 May 2007	297	300	HOUSTON	12 May 2007	22959	Hatch
333	?	1 Jun 2007	297	298	SAN ANTON	1 Jun 2007	U07001	Hatch
334	?	12 Apr 2007	312	294	ST LOUIS	12 Apr 2007	105711	Hatch

TOTALS: 2.1.6 (9)

## Deaths from 30/01/05 - 20/06/07

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date	Local ID	Event
7	F	~ 1985	WILD	WILD	TANZANIA BELLBIRD DALLAS	~ 1987 ~ 1987 5 Feb 1987 ~15 Mar 2006	NONE _____ 874885	Capture Transfer Transfer Death
215	F	1 Jul 1998	6	7	DALLAS TOLEDO	1 Jul 1998 2 Nov 2000 1 Apr 2005	98C342 1623	Hatch Transfer Death
308	F	~ 2002	WILD	WILD	TANZANIA KROESEN NY BRONX STCATHERN SD-WAP	~ 2002 30 Dec 2002 4 Feb 2003 1 May 2003 16 Feb 2005 20 May 2005	NONE _____ B03021 B03021 805017	Capture Transfer Transfer Transfer Death
317	M	7 Apr 2004	33	280	SD-WAP SEA WORLD	7 Apr 2004 17 Aug 2005 23 Oct 2005	804038 BCB001	Hatch Transfer Death
326	?	30 Dec 2006	312	294	ST LOUIS	30 Dec 2006 19 Jan 2007	105617	Hatch Death

TOTALS: 1.3.1 (5)

# Captures from 30/01/05 - 20/06/07

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date	Local ID	Event
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TOTALS: 0.0.0 (0)

# Transfers from 30/01/05 - 20/06/07

Stud #	Sex	Hatch Date	Sire	Dam	Location	Date	Local ID	Event
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209	M	19 Jul 1997	41	53	SAN ANTON	19 Jul 1997	970751	Hatch
					TOLEDO	18 Nov 1998	981630	Transfer
					COLUMBUS	14 Apr 2006	106011	Transfer
308	F	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03021	Transfer
					STCATHERN	1 May 2003	B03021	Transfer
					SD-WAP	16 Feb 2005	805017	Transfer
					20 May 2005		Death	
309	M	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03012	Transfer
					STCATHERN	1 May 2003	B03012	Transfer
					SD-WAP	16 Feb 2005	805018	Transfer
315	F	4 Jul 2004	297	298	SAN ANTON	4 Jul 2004	L04002	Hatch
					SD-WAP	21 Apr 2005	805065	Transfer
317	M	7 Apr 2004	33	280	SD-WAP	7 Apr 2004	804038	Hatch
					SEA WORLD	17 Aug 2005	BCB001	Transfer
						23 Oct 2005		Death
320	F	29 Jun 2004	33	280	SD-WAP	29 Jun 2004	804199	Hatch
					SEA WORLD	17 Aug 2005	BCB002	Transfer
321	M	12 Jul 2004	33	280	SD-WAP	12 Jul 2004	804217	Hatch
					FRESNO	24 Feb 2005	250007	Transfer
323	M	18 Feb 2005	6	7	DALLAS	18 Feb 2005	05F486	Hatch
					SAN ANTON	20 Apr 2006	_____	Transfer
324	M	2 May 2005	297	298	SAN ANTON	2 May 2005	Y05002	Hatch
					HOUSTON	3 Nov 2005	22130	Transfer

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TOTALS: 6.3.0 (9)

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# BUFF-CRESTED BUSTARD HISTORICAL STUDBOOK

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Stud #	Sex	Hatch Date	Sire	Dam	Location	Date	Local ID	Event
1	M	~ 1985	WILD	WILD	AFRICAN N.CRAWFOR	~ 1985 ~ 1987	NONE _____	Capture lft Transfer
2	M	~ 1985	WILD	WILD	AFRICAN ALENTADO SANDIEGOZ	~ 1987 ~ 1987 6 Feb 1987 3 Mar 1998	NONE _____ 387080	Capture Transfer Transfer Death
3	F	~ 1985	WILD	WILD	AFRICAN ALENTADO SANDIEGOZ	~ 1987 ~ 1987 6 Feb 1987 7 Sep 1991	NONE _____ 387081	Capture Transfer Transfer Death
4	F	~ 1985	WILD	WILD	AFRICAN ALENTADO SANDIEGOZ	~ 1987 ~ 1987 6 Feb 1987 12 Feb 1999	NONE _____ 387082	Capture Transfer Transfer Death
5	M	~ 1985	WILD	WILD	TANZANIA BELLBIRD DALLAS	~ 1987 ~ 1987 5 Feb 1987 10 Sep 1990	NONE _____ 874883	Capture Transfer Transfer Death
6	M	~ 1985	WILD	WILD	TANZANIA BELLBIRD DALLAS	~ 1987 ~ 1987 5 Feb 1987	NONE _____ 874884	Capture Transfer Transfer
7	F	~ 1985	WILD	WILD	TANZANIA BELLBIRD DALLAS	~ 1987 ~ 1987 5 Feb 1987	NONE _____ 874885	Capture Transfer Transfer

						~15 Mar 2006		Death
8	F	~ 1985	WILD	WILD	AFRICAN BELLBIRD DALLAS	~ 1987 ~ 1987 5 Feb 1987 26 Jun 1993	NONE _____ 874886	Capture Transfer Transfer Death
9	F	~ 1987	WILD	WILD	AFRICAN N.CRAWFOR	~ 1989 ~ 1989	NONE _____ ltf	Capture Transfer
10	M	~ 1987	WILD	WILD	AFRICAN N.CRAWFOR	~ 1989 ~ 1989 ~ 1994	NONE _____ _____	Capture Transfer Death
11	F	12 May 1988	2	UNK	SANDIEGOZ SD-WAP	12 May 1988 24 May 1996 5 Jun 2004	388638 388638	Hatch Transfer Death
12	F	25 May 1988	2	UNK	SANDIEGOZ BELLBIRD	25 May 1988 2 Nov 1988	388717 _____ ltf	Hatch Transfer
13	M	8 Jun 1988	2	UNK	SANDIEGOZ	8 Jun 1988 31 Dec 1988	388825	Hatch Death
14	M	15 Aug 1988	2	UNK	SANDIEGOZ	15 Aug 1988 11 Aug 1991	488332	Hatch Death
15	M	28 Aug 1988	2	UNK	SANDIEGOZ	28 Aug 1988 25 Jan 1989	488349	Hatch Death
16	M	14 May 1989	2	UNK	SANDIEGOZ PALM DES	14 May 1989 2 Sep 1989 ~ 1 Dec 1996	389605 28945	Hatch Transfer Death
17	F	25 Jun 1989	2	UNK	SANDIEGOZ PALM DES	25 Jun 1989 2 Sep 1989 24 May 1990	389820 28946	Hatch Transfer Death

18	?	1 Jul 1989	5	7	DALLAS	1 Jul 1989	896552	Hatch
						4 Jul 1989		Death
19	M	9 Jul 1989	2	UNK	SANDIEGOZ	9 Jul 1989	389953	Hatch
					PALM DES	2 Sep 1989	28947	Transfer
					KNOXVILLE	19 Sep 1990	244	Transfer
						14 Jun 1992		Death
20	F	22 Jul 1989	5	7	DALLAS	22 Jul 1989	896584	Hatch
					PALM DES	7 Dec 1990	290056	Transfer
					HOUSTON	12 Aug 1997	17045	Transfer
					DALLAS	4 Oct 2001	896584	Transfer
21	F	7 Aug 1989	5	7	DALLAS	7 Aug 1989	896588	Hatch
					BALTIMORE	1 May 1991	910540	Transfer
						8 May 1993		Death
22	F	14 Aug 1989	2	UNK	SANDIEGOZ	14 Aug 1989	489040	Hatch
					KNOXVILLE	31 Aug 1990	239	Transfer
						6 Sep 1991		Death
23	M	14 Aug 1989	2	4	SANDIEGOZ	14 Aug 1989	489080	Hatch
					BALTIMORE	31 Aug 1990	900806	Transfer
					HOUSTON	15 Jul 1997	16999	Transfer
					SAN ANTON	11 Jul 2001	L01067	Transfer
24	M	~ 1990	10	9	N.CRAWFOR	~ 1990	_____	Hatch
						~ 1992		Death
25	F	~ 1990	10	9	N.CRAWFOR	~ 1990	_____	Hatch
						~ 1992		Death
26	?	9 Apr 1990	5	7	DALLAS	9 Apr 1990	906763	Hatch
						3 May 1990		Death
27	F	23 Jun 1990	5	7	DALLAS	23 Jun 1990	906814	Hatch
					KNOXVILLE	13 Oct 1991	264	Transfer

28	F	30 Jun 1990	2	UNK	SANDIEGOZ N.CRAWFOR	30 Jun 1990 11 Mar 1992	390756 _____	Hatch ltf Transfer
29	?	5 Jul 1990	5	7	DALLAS	5 Jul 1990 5 Jul 1990	906817	Hatch Death
30	F	12 Jul 1990	5	7	DALLAS	12 Jul 1990 30 Jun 1992	906842	Hatch Death
31	M	8 Sep 1990	2	UNK	SANDIEGOZ	8 Sep 1990 4 Nov 1992	390857	Hatch Death
32	F	6 Apr 1991	2	UNK	SANDIEGOZ WILD	6 Apr 1991 4 May 1992	391214 391214	Hatch ltf Transfer
33	M	19 Apr 1991	2	UNK	SANDIEGOZ SD-WAP	19 Apr 1991 24 May 1996 4 Jan 2005	391271 391271	Hatch Transfer Death
34	M	4 May 1991	2	UNK	SANDIEGOZ DALLAS	4 May 1991 5 Feb 1992 ~ Jan 2003	391384 927465	Hatch Transfer Death
35	F	17 May 1991	2	UNK	SANDIEGOZ	17 May 1991 24 Feb 1993	391443	Hatch Death
36	M	2 Jul 1991	UNK	UNK	SANDIEGOZ KNOXVILLE	2 Jul 1991 6 Aug 1992 7 Jul 1994 25 Dec 1999	391755 358 358	Hatch Transfer Transfer Death
37	F	9 Jul 1991	2	UNK	SANDIEGOZ SAN ANTON	9 Jul 1991 31 Jan 1992 29 Apr 1992	391701 920143	Hatch Transfer Death
38	M	17 Jul 1991	6	8	DALLAS FRESNO	17 Jul 1991 12 May 1993 23 Nov 1993	917173 6739	Hatch Transfer Death

39	F	21 Jul 1991	2	UNK	SANDIEGOZ	21 Jul 1991 23 Jan 1992	391732	Hatch Death
40	M	13 Aug 1991	2	UNK	SANDIEGOZ	13 Aug 1991 2 Feb 1992	391764	Hatch Death
41	M	24 Aug 1991	2	4	SANDIEGOZ SAN ANTON	24 Aug 1991 31 Jan 1992 20 Dec 2003	391773 920142	Hatch Transfer Death
42	M	8 May 1992	2	4	SANDIEGOZ SAIHATI	8 May 1992 4 Feb 1993 21 Mar 1996	392315 560001	Hatch Transfer Death
43	F	20 May 1992	2	4	SANDIEGOZ SAIHATI KILMER	20 May 1992 14 Feb 1993 ~ May 1998	392355 560002 _____	Hatch Transfer lft Transfer
44	F	30 May 1992	2	4	SANDIEGOZ CRACIDS	30 May 1992 20 Feb 1994	392378 _____	Hatch lft Transfer
45	F	15 Jun 1992	2	UNK	SANDIEGOZ	15 Jun 1992 10 Jul 1992	392394	Hatch Death
46	M	25 Jun 1992	2	4	SANDIEGOZ	25 Jun 1992 27 Dec 1993	392557	Hatch Death
47	F	4 Jul 1992	2	4	SANDIEGOZ FRESNO	4 Jul 1992 1 Jul 1993	392563 6787	Hatch Transfer
48	M	18 Jul 1992	2	UNK	SANDIEGOZ CRACIDS	18 Jul 1992 20 Feb 1994	392569 _____	Hatch lft Transfer
49	M	~ 1993	1	28	N.CRAWFOR	~ 1993	_____	lft Hatch
50	F	~ 1993	1	28	N.CRAWFOR	~ 1993 ~ Jun 1997	_____	Hatch Death

51	M	4 Aug 1993	36	27	KNOXVILLE FRESNO	4 Aug 1993 30 Nov 1995 27 Dec 1996	431 950248	Hatch Transfer Death
52	M	28 Apr 1994	2	4	SANDIEGOZ	28 Apr 1994 2 Oct 1994	494074	Hatch Death
53	F	~ Mar 1995	1	9	N.CRAWFOR SAN ANTON	~ Mar 1995 5 Mar 1996 24 May 2004	_____ 960305	Hatch Transfer Death
54	M	21 Mar 1995	2	4	SANDIEGOZ HANCOCK D	21 Mar 1995 6 Feb 1997 10 Feb 1997	495020 _____	Hatch Transfer Death
55	M	29 Apr 1995	2	4	SANDIEGOZ HANCOCK D N.CRAWFOR	29 Apr 1995 6 Feb 1997 ~ 1998 ~ 1998	495054 _____ _____ _____	Hatch Transfer Transfer Death
56	F	30 Apr 1995	33	11	SANDIEGOZ TOLEDO	30 Apr 1995 26 Sep 1996 19 Feb 1999	495057 961670	Hatch Transfer Death
57	M	4 Apr 1996	2	4	SANDIEGOZ HANCOCK D	4 Apr 1996 6 Feb 1997 ~ Feb 1997	496033 _____	Hatch Transfer Death
58	F	~ 1993	1	28	N.CRAWFOR	~ 1993 ~ Jun 1997	_____	Hatch Death
59	F	~ 1991	205	204	N.CRAWFOR	~ 1991 ~ Jun 1997	_____	Hatch Death
60	M	~ May 1996	UNK	UNK	N.CRAWFOR	~ May 1996 ~ Jun 1996	_____	Hatch Death
61	M	~ May 1996	10	9	N.CRAWFOR	~ May 1996	_____	Hatch

						~ Jun 1996		Death
62	M	~ May 1996	UNK	UNK	N.CRAWFOR	~ May 1996 ~ Jun 1996	_____	Hatch Death
63	?	~ May 1996	205	204	N.CRAWFOR	~ May 1996 ~ Jun 1997	_____	Hatch Death
64	?	~ May 1996	10	9	N.CRAWFOR	~ May 1996 ~ Jun 1997	_____	Hatch Death
65	?	~ May 1996	10	9	N.CRAWFOR	~ May 1996 ~ Jun 1997	_____	Hatch Death
66	M	~15 Nov 1989	WILD	WILD	AFRICAN PRETORIA	5 Dec 1989 5 Dec 1989 5 Jun 1992	NONE 901703	Capture Transfer Death
67	F	~ Jun 1990	205	204	N.CRAWFOR	~ Jun 1990	_____ ltf	Hatch
68	F	~ Jul 1997	205	204	N.CRAWFOR	~ Jul 1997	_____ ltf	Hatch
69	M	28 May 1973	155	157	FRANKFURT VIENNA	28 May 1973 15 Oct 1973 22 Jan 1991	22103 _____	Hatch Transfer Death
70	F	14 Sep 1997	33	11	SD-WAP CINCINNAT	14 Sep 1997 3 Jun 2004	897406 204022	Hatch Transfer
71	?	11 Jul 1979	69	162	VIENNA	11 Jul 1979 5 Oct 1979	_____	Hatch Death
72	F	~ 1 Apr 1992	73	MULT	AL AIN NARC SWEIHAN NARC AL AIN	~ 1 Apr 1992 1 Jun 1993 29 Aug 1995 5 Nov 1996 15 Jun 2003 ~ 2004	_____ 470 470 470 470	Hatch Transfer Transfer Transfer Transfer Death

73	M	~ 1986	WILD	WILD	AFRICAN AL AIN NARC	~ Jan 1988 ~ Jan 1988 1 Jun 1993 19 Jul 1998	NONE <hr/> 473	Capture Transfer Transfer Death
74	F	~ 1986	WILD	WILD	AFRICAN AL AIN NARC	~ Jan 1988 ~ Jan 1988 1 Jun 1993 12 Feb 1994	NONE <hr/> 657	Capture Transfer Transfer Death
75	F	~ 1986	WILD	WILD	AFRICAN AL AIN NARC	~ Jan 1988 ~ Jan 1988 1 Jun 1993 27 Mar 2001	NONE <hr/> 474	Capture Transfer Transfer Death
76	F	~ 1986	WILD	WILD	AFRICAN AL AIN NARC	~ Jan 1988 ~ Jan 1988 1 Jun 1993 19 Feb 1994	NONE <hr/> 471	Capture Transfer Transfer Death
77	F	~ 1986	WILD	WILD	AFRICAN AL AIN NARC	~ Jan 1988 ~ Jan 1988 1 Jun 1993 12 Jun 1994	NONE <hr/> 465	Capture Transfer Transfer Death
78	F	~ 1 Jan 1990	73	MULT	AL AIN NARC	~ 1 Jan 1990 1 Jun 1993 8 Feb 1994	<hr/> 472	Hatch Transfer Death
79	?	1 Feb 1994	73	MULT	NARC	1 Feb 1994 8 Apr 1994	492	Hatch Death
80	M	5 May 1994	81	82	NARC	5 May 1994 15 Dec 1994	643	Hatch Death
81	M	~ 1 Jan 1992	73	MULT	AL AIN NARC	~ 1 Jan 1992 1 Jun 1993	<hr/> 466	Hatch Transfer

					AL AIN	15 Jun 2003	466	Transfer
82	F	~ 1 Jan 1992	73	MULT	AL AIN NARC AL AIN	~ 1 Jan 1992 1 Jun 1993 15 Jun 2003	<u>        </u> 463 463	Hatch Transfer Transfer
83	F	26 Apr 1993	73	MULT	AL AIN NARC	26 Apr 1993 1 Jun 1993 26 Jun 1993	<u>        </u> 273	Hatch Transfer Death
84	F	25 May 1993	73	MULT	AL AIN NARC	25 May 1993 1 Jun 1993 4 Jul 1993	<u>        </u> 274	Hatch Transfer Death
85	?	~ 1 Aug 1993	73	MULT	NARC	~ 1 Aug 1993 3 Oct 1993	275	Hatch Death
86	?	31 May 1993	73	MULT	AL AIN NARC	31 May 1993 1 Jun 1993 7 Oct 1993	<u>        </u> 276	Hatch Transfer Death
87	?	12 Aug 1993	73	MULT	NARC	12 Aug 1993 26 Aug 1993	277	Hatch Death
88	M	20 May 1993	73	MULT	AL AIN NARC	20 May 1993 1 Jun 1993 21 Aug 1993	<u>        </u> 278	Hatch Transfer Death
89	M	28 Mar 1993	73	MULT	AL AIN NARC	28 Mar 1993 1 Jun 1993 10 Jul 1993	<u>        </u> 279	Hatch Transfer Death
90	?	3 Jan 1994	73	MULT	NARC	3 Jan 1994 12 Jan 1994	365	Hatch Death
91	F	4 Jan 1994	73	MULT	NARC SWEIHAN	4 Jan 1994 29 Aug 1995	415 415	Hatch Transfer

					NARC	12 Mar 1996	415	Transfer
					SWEIHAN	2 Jun 2003	415	Transfer
92	M	~ 1 Jan 1990	73	MULT	AL AIN	~ 1 Jan 1990		Hatch
					NARC	1 Jun 1993	452	Transfer
						15 Mar 1999		Death
93	M	~ 1 Jan 1991	73	MULT	AL AIN	~ 1 Jan 1991		Hatch
					NARC	1 Jun 1993	453	Transfer
					SWEIHAN	29 Aug 1995	453	Transfer
					NARC	5 Nov 1996	453	Transfer
					AL AIN	15 Jun 2003	453	Transfer
94	M	~ 1 Jan 1990	73	MULT	AL AIN	~ 1 Jan 1990		Hatch
					NARC	1 Jun 1993	454	Transfer
						17 Jun 1997		Death
95	F	~ 1 Jan 1990	73	MULT	AL AIN	~ 1 Jan 1990		Hatch
					NARC	1 Jun 1993	455	Transfer
						3 Aug 1997		Death
96	F	~ 1 Jan 1990	73	MULT	AL AIN	~ 1 Jan 1990		Hatch
					NARC	1 Jun 1993	456	Transfer
					SWEIHAN	29 Aug 1995	456	Transfer
					NARC	5 Nov 1996	456	Transfer
					AL AIN	15 Jun 2003	456	Transfer
97	F	~ 1 Apr 1992	73	MULT	AL AIN	~ 1 Apr 1992		Hatch
					NARC	1 Jun 1993	457	Transfer
						23 Sep 1998		Death
98	M	~ 1 Apr 1992	73	MULT	AL AIN	~ 1 Apr 1992		Hatch
					NARC	1 Jun 1993	458	Transfer
					AL AIN	15 Jun 2003	458	Transfer
99	F	~ 1 Jun 1992	73	MULT	AL AIN	~ 1 Jun 1992		Hatch
					NARC	1 Jun 1993	459	Transfer
						29 Jul 1999		Death

100	F	~ 1 Apr 1992	73	MULT	AL AIN NARC	~ 1 Apr 1992 1 Jun 1993 8 Jun 1995	_____	460	Hatch Transfer Death
101	F	~ 1 Apr 1992	73	MULT	AL AIN NARC AL AIN	~ 1 Apr 1992 1 Jun 1993 15 Jun 2003	_____	461 461	Hatch Transfer Transfer
102	M	17 Feb 1993	73	MULT	AL AIN NARC SWEIHAN NARC	17 Feb 1993 1 Jun 1993 29 Aug 1995 12 Mar 1996 13 Jul 2000	_____	462 462 462	Hatch Transfer Transfer Transfer Death
103	M	~ 1 Jan 1992	73	MULT	AL AIN NARC SWEIHAN NARC AL AIN	~ 1 Jan 1992 1 Jun 1993 29 Aug 1995 5 Nov 1996 15 Jun 2003	_____	464 464 464 464	Hatch Transfer Transfer Transfer Transfer
104	F	~ 1 Apr 1992	73	MULT	AL AIN NARC	~ 1 Apr 1992 1 Jun 1993 17 Jul 1994	_____	467	Hatch Transfer Death
105	M	~ 1 Apr 1992	73	MULT	AL AIN NARC	~ 1 Apr 1992 1 Jun 1993 17 Aug 1998	_____	468	Hatch Transfer Death
106	M	~ 1 Jul 1992	73	MULT	AL AIN NARC AL AIN	~ 1 Jul 1992 1 Jun 1993 15 Jun 2003 ~ 2004	_____	469 469	Hatch Transfer Transfer Death
107	?	15 Jun 1994	73	75	NARC	15 Jun 1994 15 Jun 1994	_____	644	Hatch Death

108	M	4 May 1994	73	75	NARC RIYADH	4 May 1994 12 Jul 1997	649 970126	Hatch ltf Transfer
109	M	27 May 1994	81	82	NARC	27 May 1994 23 Mar 2000	650	Hatch Death
110	M	5 Jun 1994	93	96	NARC AL AIN	5 Jun 1994 15 Jun 2003	651 651	Hatch Transfer
111	F	7 Jun 1994	103	101	NARC	7 Jun 1994 3 Oct 1994	652	Hatch Death
112	?	3 Feb 1994	73	MULT	NARC	3 Feb 1994 8 Feb 1994	656	Hatch Death
113	F	14 Aug 1994	103	72	NARC	14 Aug 1994 7 Aug 1995	658	Hatch Death
114	M	16 Aug 1994	73	75	NARC	16 Aug 1994 7 Jan 2001	659	Hatch Death
115	?	21 May 1993	MULT	MULT	AL AIN NARC	21 May 1993 1 Jun 1993 12 Jun 1993	_____	Hatch Transfer Death
116	?	21 Apr 1993	73	MULT	AL AIN NARC	21 Apr 1993 1 Jun 1993 26 Jun 1993	_____	Hatch Transfer Death
117	?	26 Jul 1993	73	MULT	NARC	26 Jul 1993 26 Jul 1993	713	Hatch Death
118	?	9 Mar 1995	73	75	SWEIHAN	9 Mar 1995 26 Mar 1995	727	Hatch Death
119	?	18 Mar 1995	93	96	NARC	18 Mar 1995 30 Apr 1995	728	Hatch Death

120	M	30 Mar 1995	73	75	NARC	30 Mar 1995 8 Jul 1998	729	Hatch Death
121	?	1 Apr 1995	93	96	NARC	1 Apr 1995 30 Aug 1995	730	Hatch Death
122	?	11 Apr 1995	93	96	NARC	11 Apr 1995 12 Apr 1995	732	Hatch Death
123	M	25 Apr 1995	73	75	NARC AL AIN	25 Apr 1995 15 Jun 2003	735 735	Hatch Transfer
124	F	22 May 1995	93	96	NARC	22 May 1995 15 Jan 1997	743	Hatch Death
125	M	2 Jun 1995	103	72	NARC	2 Jun 1995 28 Aug 1995	748	Hatch Death
126	F	7 Jun 1995	73	75	NARC	7 Jun 1995 2 Jun 2002	750	Hatch Death
127	?	8 Jun 1995	93	96	NARC	8 Jun 1995 23 Jun 1995	751	Hatch Death
128	F	17 Jun 1995	103	72	NARC	17 Jun 1995 9 May 1997	754	Hatch Death
129	F	26 Jun 1995	73	75	NARC	26 Jun 1995 28 Jan 1997	757	Hatch Death
130	?	17 Jul 1995	93	96	NARC	17 Jul 1995 2 Nov 1995	775	Hatch Death
131	M	23 Jul 1995	73	75	NARC AL AIN	23 Jul 1995 15 Jun 2003 ~ 2004	776 776	Hatch Transfer Death

132	F	17 Aug 1995	73	75	NARC	17 Aug 1995 19 Apr 1996	783	Hatch Death
133	F	19 Aug 1995	103	72	NARC	19 Aug 1995 25 Feb 1996	784	Hatch Death
134	M	27 Aug 1995	93	96	NARC	27 Aug 1995 4 Oct 1996	785	Hatch Death
135	F	29 Aug 1995	93	96	NARC RIYADH	29 Aug 1995 12 Jul 1997 26 Nov 1997	786 970127	Hatch Transfer Death
136	?	21 Sep 1995	103	72	NARC	21 Sep 1995 30 Sep 1995	806	Hatch Death
137	?	18 Apr 1993	73	MULT	AL AIN NARC	18 Apr 1993 1 Jun 1993 ~ 1 Aug 1993	<u>825</u>	Hatch Transfer Death
138	?	18 Jun 1993	73	MULT	NARC	18 Jun 1993 31 Jul 1993	826	Hatch Death
139	?	19 Jun 1993	73	MULT	NARC	19 Jun 1993 31 Jul 1993	827	Hatch Death
140	?	26 Jun 1993	73	MULT	NARC	26 Jun 1993 ~ 1 Aug 1993	828	Hatch Death
141	?	15 Feb 1996	73	75	NARC	15 Feb 1996 16 Feb 1996	849	Hatch Death
142	?	2 Mar 1996	81	101	NARC	2 Mar 1996 2 Mar 1996	850	Hatch Death
143	M	18 Mar 1996	73	75	NARC AL AIN	18 Mar 1996 15 Jun 2003	854 854	Hatch Transfer

144	?	31 Mar 1996	81	101	NARC	31 Mar 1996 30 Apr 1996	868	Hatch Death
145	M	31 May 1996	106	97	NARC AL AIN	31 May 1996 15 Jun 2003 ~ 2004	881 881	Hatch Transfer Death
146	?	19 May 1996	103	72	SWEIHAN	19 May 1996 24 May 1996	882	Hatch Death
147	M	25 Jun 1996	73	75	NARC AL AIN	25 Jun 1996 15 Jun 2003	886 886	Hatch Transfer
148	F	28 Jun 1996	81	101	NARC	28 Jun 1996 6 Apr 1998	887	Hatch Death
149	F	18 Jun 1996	93	96	SWEIHAN NARC	18 Jun 1996 5 Nov 1996 9 Sep 1999	888 888	Hatch Transfer Death
150	?	5 Jul 1996	73	75	NARC	5 Jul 1996 6 Jul 1996	889	Hatch Death
151	?	17 Jul 1996	81	101	NARC	17 Jul 1996 2 Aug 1996	891	Hatch Death
152	?	6 Aug 1996	73	75	NARC	6 Aug 1996 11 Aug 1996	893	Hatch Death
153	F	21 Sep 1996	73	75	NARC AL AIN	21 Sep 1996 15 Jun 2003	929 929	Hatch Transfer
154	M	~ 1965	WILD	WILD	TANZANIA MORGAN D. FRANKFURT EXOTICWIN	~ Dec 1965 ~ Dec 1965 5 Jan 1966 1 Aug 1967	NONE <u>22091</u>	Capture Transfer Transfer lft Transfer
155	M	~ 1965	WILD	WILD	TANZANIA	~ Dec 1965	NONE	Capture

					MORGAN D. FRANKFURT	~ Dec 1965 5 Jan 1966 21 Sep 1975	_____	22092	Transfer Transfer Death
156	M	~ 1965	WILD	WILD	TANZANIA MORGAN D. FRANKFURT EXOTICWIN	~ Jan 1966 ~ Jan 1966 17 Aug 1966 2 Apr 1967	_____ _____ _____	NONE 22093	Capture Transfer Transfer lft Transfer
157	F	~ 1965	WILD	WILD	TANZANIA MORGAN D. FRANKFURT	~ 1966 ~ 1966 17 Aug 1966 13 Dec 1982	_____ _____ _____	NONE 22094	Capture Transfer Transfer Death
158	M	16 Jun 1971	155	157	FRANKFURT	16 Jun 1971 9 Sep 1971		22095	Hatch Death
159	?	27 Jun 1971	155	157	FRANKFURT EXOTICWIN	27 Jun 1971 24 Sep 1971	_____	22096	Hatch lft Transfer
160	?	9 Jul 1971	155	157	FRANKFURT EXOTICWIN	9 Jul 1971 24 Sep 1971	_____	22097	Hatch lft Transfer
161	?	20 Jul 1971	155	157	FRANKFURT EXOTICWIN	20 Jul 1971 18 Oct 1972 31 Dec 1981	_____	22098	Hatch Transfer Death
162	F	14 Aug 1972	155	157	FRANKFURT VIENNA	14 Aug 1972 10 Oct 1973 4 Nov 1984		22099 B9017_	Hatch Transfer Death
163	?	21 Jun 1972	155	157	FRANKFURT EXOTICWIN	21 Jun 1972 19 Dec 1972 30 Dec 1980	_____	22100	Hatch Transfer Death
164	M	1 May 1973	155	157	FRANKFURT WALSRODE	1 May 1973 23 Apr 1974	_____	22101	Hatch lft Transfer

165	F	16 May 1973	155	157	FRANKFURT WALSRODE	16 May 1973 23 Apr 1974	22102 _____	Hatch ltf Transfer
166	M	13 Sep 1973	155	157	FRANKFURT	13 Sep 1973 12 Apr 1988	22104	Hatch Death
167	M	17 Sep 1974	155	157	FRANKFURT	17 Sep 1974 9 Jul 1975	22105	Hatch Death
168	F	27 Sep 1974	155	157	FRANKFURT DUISBURG	27 Sep 1974 6 Mar 1975	22106 _____	Hatch ltf Transfer
169	M	11 Jul 1977	166	157	FRANKFURT HERMANNNS	11 Jul 1977 9 May 1979	27605 _____	Hatch ltf Transfer
170	?	3 Jun 1978	166	157	FRANKFURT HERMANNNS	3 Jun 1978 9 May 1979	27979 _____	Hatch ltf Transfer
171	?	15 Jul 1979	166	157	FRANKFURT HERMANNNS	15 Jul 1979 13 Nov 1979	28222 _____	Hatch ltf Transfer
172	?	6 Aug 1979	166	157	FRANKFURT HERMANNNS	6 Aug 1979 13 Nov 1979	28549 _____	Hatch ltf Transfer
173	?	27 Aug 1979	166	157	FRANKFURT	27 Aug 1979 23 Mar 1980	28550	Hatch Death
174	?	4 Oct 1979	166	157	FRANKFURT	4 Oct 1979 6 Jan 1980	28551	Hatch Death
175	F	18 Jun 1980	166	157	FRANKFURT BERLINZOO	18 Jun 1980 4 Feb 1981 22 Apr 1981	28670 810043	Hatch Transfer Death
176	M	28 Jun 1980	166	157	FRANKFURT BERLINZOO	28 Jun 1980 4 Feb 1981 12 Jan 1984	28671 810044	Hatch Transfer Death

177	?	3 Oct 1980	166	157	FRANKFURT	3 Oct 1980 3 Oct 1980	28758	Hatch Death
178	M	22 Dec 1980	166	157	FRANKFURT DUISBURG	22 Dec 1980 22 Jun 1981	28977 _____	Hatch Transfer ltf
179	?	8 May 1981	166	157	FRANKFURT DUISBURG	8 May 1981 14 Jul 1981	29295 _____	Hatch Transfer ltf
180	?	14 Oct 1981	166	157	FRANKFURT	14 Oct 1981 31 Oct 1981	29296	Hatch Death
181	F	4 Jul 1997	41	53	SAN ANTON	4 Jul 1997 25 Jan 1998	970708	Hatch Death
182	F	9 Mar 1997	93	96	NARC	9 Mar 1997 3 Jul 1998	941	Hatch Death
183	M	17 Mar 1997	93	96	NARC AL AIN	17 Mar 1997 15 Jun 2003	943 943	Hatch Transfer
184	F	27 Mar 1997	93	96	NARC	27 Mar 1997 1 Sep 1998	945	Hatch Death
185	F	3 Apr 1997	106	97	NARC AL AIN	3 Apr 1997 15 Jun 2003 ~ 2004	973 973	Hatch Transfer Death
186	M	5 Apr 1997	93	96	NARC	5 Apr 1997 31 Jul 1999	974	Hatch Death
187	M	8 Apr 1997	120	126	NARC AL AIN	8 Apr 1997 15 Jun 2003 ~ 2004	975 975	Hatch Transfer Death
188	F	13 Apr 1997	120	82	NARC	13 Apr 1997 18 Sep 1998	977	Hatch Death

189	M	21 Apr 1997	MULT	126	NARC	21 Apr 1997 29 Nov 1997	979	Hatch Death
190	M	22 Apr 1997	73	99	NARC	22 Apr 1997 4 Aug 2002	980	Hatch Death
191	M	23 Apr 1997	93	96	NARC AL AIN	23 Apr 1997 15 Jun 2003 ~ 2004	981 981	Hatch Transfer Death
192	M	26 Apr 1997	120	82	NARC	26 Apr 1997 13 Feb 2001	982	Hatch Death
193	M	4 May 1997	93	96	NARC	4 May 1997 10 Jun 2000	983	Hatch Death
194	F	7 May 1997	73	99	NARC AL AIN	7 May 1997 15 Jun 2003 ~ 2004	984 984	Hatch Transfer Death
195	M	19 May 1997	73	99	NARC	19 May 1997 8 Jul 1999	985	Hatch Death
196	?	23 May 1997	93	96	NARC	23 May 1997 23 May 1997	986	Hatch Death
197	F	28 May 1997	81	101	NARC	28 May 1997 20 Sep 1998	987	Hatch Death
198	F	31 May 1997	93	96	NARC	31 May 1997 13 Jan 1998	988	Hatch Death
199	M	10 Jun 1997	93	96	NARC	10 Jun 1997	992	Hatch
200	M	28 Jun 1997	98	75	NARC	28 Jun 1997 20 Jun 1998	993	Hatch Death

201	F	10 Jul 1997	106	97	NARC	10 Jul 1997 3 May 2000	994	Hatch Death
202	F	10 Jul 1997	93	96	NARC	10 Jul 1997 21 Dec 1998	995	Hatch Death
203	F	13 Jul 1997	98	75	NARC	13 Jul 1997	996	Hatch
204	F	~ 1985	WILD	WILD	AFRICAN N.CRAWFOR	~ 1987 ~ 1987	NONE _____	Capture lft Transfer
205	M	~ 1985	WILD	WILD	AFRICAN N.CRAWFOR	~ 1987 ~ 1987	NONE _____	Capture lft Transfer
206	M	~ Jul 1997	1	9	N.CRAWFOR HANCOCK D	~ Jul 1997 ~ Jan 1998 ~ Jan 1998	_____ _____ _____	Hatch Transfer Death
207	M	24 Jul 1997	98	75	NARC	24 Jul 1997 27 Jul 2001	997	Hatch Death
208	F	11 Jun 1997	2	4	SANDIEGOZ	11 Jun 1997 14 Feb 1998	497124	Hatch Death
209	M	19 Jul 1997	41	53	SAN ANTON TOLEDO COLUMBUS	19 Jul 1997 18 Nov 1998 14 Apr 2006	970751 981630 106011	Hatch Transfer Transfer
210	F	2 Aug 1997	41	53	SAN ANTON	2 Aug 1997 4 Jan 1998	970805	Hatch Death
211	?	~ May 1998	1	9	N.CRAWFOR	~ May 1998 ~ Aug 1998	_____ _____	Hatch Death
212	F	~ May 1998	205	204	N.CRAWFOR	~ May 1998	_____	lft Hatch
213	F	~ Jul 1998	205	204	N.CRAWFOR	~ Jul 1998	_____	lft Hatch

214	F	24 Jun 1998	6	7	DALLAS	24 Jun 1998 9 Jun 2004	98C335	Hatch Death
215	F	1 Jul 1998	6	7	DALLAS TOLEDO	1 Jul 1998 2 Nov 2000 1 Apr 2005	98C342 1623	Hatch Transfer Death
216	M	17 Jul 1998	41	53	SAN ANTON	17 Jul 1998 25 May 1999	980761	Hatch Death
217	F	27 Jul 1998	41	53	SAN ANTON CALDWELL	27 Jul 1998 16 Oct 2001 20 Sep 2002	980769 104733	Hatch Transfer Death
218	?	~ Jul 1998	1	9	N.CRAWFOR	~ Jul 1998 ~ Aug 1998	_____	Hatch Death
219	M	~ Jun 1998	49	67	N.CRAWFOR	~ Jun 1998 ~ Aug 1998	_____	Hatch Death
220	M	~ Jun 1998	49	67	N.CRAWFOR	~ Jun 1998 ~ Aug 1998	_____	Hatch Death
221	M	20 May 1998	93	96	NARC	20 May 1998 7 Jan 2001	1214	Hatch Death
222	M	12 Aug 1998	41	53	SAN ANTON	12 Aug 1998 27 Apr 1999	980825	Hatch Death
223	M	23 Aug 1998	41	53	SAN ANTON	23 Aug 1998 23 Jan 1999	980842	Hatch Death
224	M	29 Sep 1998	41	53	SAN ANTON	29 Sep 1998 22 Nov 1998	980923	Hatch Death
225	F	17 Jun 1994	2	4	SANDIEGOZ	17 Jun 1994 26 Sep 1994	494137	Hatch Death

226	?	~15 May 1998	UNK	UNK	NARC	~15 May 1998 18 Jun 1998	1216	Hatch Death
227	F	24 Jul 1999	33	11	SD-WAP	24 Jul 1999 28 Jul 1999	899240	Hatch Death
228	?	12 Aug 1999	41	53	SAN ANTON	12 Aug 1999 20 Dec 1999	990831	Hatch Death
229	F	24 Aug 1999	41	53	SAN ANTON COLUMBIA	24 Aug 1999 8 Mar 2000 22 Nov 2000	990874 6806	Hatch Transfer Death
230	M	22 Mar 1999	106	82	NARC AL AIN	22 Mar 1999 15 Jun 2003 ~ 2004	1348 1348	Hatch Transfer Death
231	F	5 Apr 1999	106	82	NARC	5 Apr 1999 21 May 2001	1360	Hatch Death
232	M	4 Jun 1999	98	126	NARC AL AIN	4 Jun 1999 15 Jun 2003	1361 1361	Hatch Transfer
233	?	8 Apr 1999	93	96	NARC	8 Apr 1999 26 Oct 1999	1364	Hatch Death
234	M	18 Apr 1999	106	82	NARC AL AIN	18 Apr 1999 15 Jun 2003 ~ 2004	1365 1365	Hatch Transfer Death
235	F	26 Apr 1999	187	72	NARC AL AIN	26 Apr 1999 15 Jun 2003	1366 1366	Hatch Transfer
236	F	30 Apr 1999	98	126	NARC	30 Apr 1999 5 Jan 2001	1368	Hatch Death
237	F	8 May 1999	106	82	NARC	8 May 1999	1370	Hatch

						8 Jun 2000		Death
238	F	9 May 1999	187	82	NARC AL AIN	9 May 1999 15 Jun 2003	1371 1371	Hatch Transfer
239	F	10 May 1999	98	126	NARC AL AIN	10 May 1999 15 Jun 2003	1372 1372	Hatch Transfer
240	?	21 May 1999	98	126	NARC	21 May 1999 11 Aug 1999	1374	Hatch Death
241	?	23 May 1999	187	72	NARC	23 May 1999 13 Jun 1999	1375	Hatch Death
242	?	15 Jun 1999	93	96	NARC	15 Jun 1999 26 Sep 1999	1376	Hatch Death
243	?	17 Jun 1999	187	72	NARC	17 Jun 1999 21 Jul 1999	1377	Hatch Death
244	F	19 Jun 1999	98	126	NARC	19 Jun 1999 31 Jul 2000	1378	Hatch Death
245	F	4 Jul 1999	98	126	NARC AL AIN	4 Jul 1999 15 Jun 2003	1379 1379	Hatch Transfer
246	F	17 Jul 1999	98	126	NARC AL AIN	17 Jul 1999 15 Jun 2003	1381 1381	Hatch Transfer
247	?	22 Feb 2000	106	82	NARC	22 Feb 2000 22 Feb 2000	1918	Hatch Death
248	M	14 Mar 2000	187	72	NARC AL AIN	14 Mar 2000 15 Jun 2003 ~ 2004	1806 1806	Hatch Transfer Death
249	?	18 Mar 2000	98	126	NARC	18 Mar 2000 22 Jun 2000	1807	Hatch Death

250	?	14 Apr 2000	187	72	NARC	14 Apr 2000 20 Aug 2000	1810	Hatch Death
251	?	20 Apr 2000	98	126	NARC	20 Apr 2000 13 Jul 2000	1813	Hatch Death
252	?	25 Apr 2000	187	72	NARC	25 Apr 2000 31 Jul 2000	1817	Hatch Death
253	M	5 May 2000	187	72	NARC AL AIN	5 May 2000 15 Jun 2003 ~ 2004	1826 1826	Hatch Transfer Death
254	?	5 Jun 2000	93	96	NARC	5 Jun 2000 5 Dec 2000	1827	Hatch Death
255	?	10 May 2000	192	75	NARC	10 May 2000 10 Dec 2001	1830	Hatch Death
256	?	13 May 2000	98	126	NARC	13 May 2000 8 Oct 2000	1834	Hatch Death
257	?	13 May 2000	106	82	NARC	13 May 2000 12 Aug 2000	1835	Hatch Death
258	?	2 Feb 2000	98	126	NARC	2 Feb 2000 20 Aug 2000	1822	Hatch Death
259	?	7 May 2000	187	72	NARC	7 May 2000 31 May 2000	1839	Hatch Death
260	?	16 May 2000	93	96	NARC	16 May 2000 20 May 2000	1837	Hatch Death
261	M	23 May 2000	98	126	NARC AL AIN	23 May 2000 15 Jun 2003	1847 1847	Hatch Transfer

262	M	23 May 2000	192	75	NARC	23 May 2000 27 Mar 2002	1848	Hatch Death
263	F	26 May 2000	187	72	NARC	26 May 2000 31 Oct 2002	1850	Hatch Death
264	F	30 May 2000	106	82	NARC	30 May 2000 28 Sep 2002	1855	Hatch Death
265	?	5 Jun 2000	98	126	NARC	5 Jun 2000 14 Jun 2000	1861	Hatch Death
266	?	6 Jun 2000	187	72	NARC	6 Jun 2000 16 Jun 2000	1863	Hatch Death
267	?	13 Jun 2000	106	82	NARC	13 Jun 2000 17 Dec 2000	1872	Hatch Death
268	?	13 Jun 2000	93	96	NARC	13 Jun 2000 17 Jun 2000	1873	Hatch Death
269	?	15 Jun 2000	98	126	NARC	15 Jun 2000 8 Jan 2001	1880	Hatch Death
270	?	8 Jun 2000	187	72	NARC	8 Jun 2000 25 Nov 2000	1882	Hatch Death
271	F	9 Jul 2000	98	126	NARC AL AIN	9 Jul 2000 15 Jun 2003 ~ 2004	1895 1895	Hatch Transfer Death
272	M	15 Jul 2000	192	75	NARC	15 Jul 2000 1 Jul 2002	1896	Hatch Death
273	M	3 Aug 2000	192	75	NARC AL AIN	3 Aug 2000 15 Jun 2003	1901 1901	Hatch Transfer

274	F	29 May 2000	6	7	DALLAS COLUMBIA	29 May 2000 4 May 2001 30 Dec 2001	00D317 6935	Hatch Transfer Death
275	?	2 Aug 2000	41	53	SAN ANTON	2 Aug 2000 20 Aug 2000	G00009	Hatch Death
276	M	29 Sep 2000	41	53	SAN ANTON CALDWELL	29 Sep 2000 16 Oct 2001 18 May 2002	S00081 104732	Hatch Transfer Death
277	M	19 Jun 2001	33	11	SD-WAP	19 Jun 2001	801265	Hatch
278	F	18 Jul 2001	33	11	SD-WAP	18 Jul 2001 16 May 2002	801320	Hatch Death
279	?	2 Sep 2001	41	53	SAN ANTON	2 Sep 2001 27 Nov 2001	S01002	Hatch Death
280	F	26 May 2001	6	7	DALLAS SD-WAP	26 May 2001 18 Oct 2001 4 Jan 2005	01D887 801403	Hatch Transfer Death
281	M	31 Jul 2000	98	126	NARC AL AIN	31 Jul 2000 15 Jun 2003	1899 1899	Hatch Transfer
282	?	10 May 2000	UNK	UNK	NARC	10 May 2000 13 Jul 2000	1831	Hatch Death
283	?	3 Apr 2001	98	126	NARC SAFA WILD	3 Apr 2001 16 Apr 2001	2001 _____	Hatch lft Transfer
284	M	4 Apr 2001	187	72	NARC SAFA WILD	4 Apr 2001 16 Apr 2001	2002 659	Hatch lft Transfer
285	?	16 Apr 2001	187	72	NARC SAFA WILD	16 Apr 2001 16 Apr 2001	2013 _____	Hatch lft Transfer

286	F	15 Apr 2001	98	126	NARC SAFA WILD	15 Apr 2001 16 Apr 2001	2011 660	Hatch ltf Transfer
287	?	7 May 2001	93	96	NARC SAFA WILD	7 May 2001 23 May 2001	2020 _____	Hatch ltf Transfer
288	?	6 May 2001	106	82	NARC SAFA WILD	6 May 2001 23 May 2001	2021 _____	Hatch ltf Transfer
289	F	10 May 2001	187	72	NARC SAFA WILD	10 May 2001 23 May 2001 22 Mar 2004	2023 661	Hatch Transfer Death
290	?	7 May 2001	93	96	NARC SAFA WILD	7 May 2001 23 May 2001	2030 _____	Hatch ltf Transfer
291	?	20 May 2001	106	82	NARC SAFA WILD	20 May 2001 23 May 2001	2032 _____	Hatch ltf Transfer
292	?	21 May 2001	187	72	NARC SAFA WILD	21 May 2001 23 May 2001	2033 _____	Hatch ltf Transfer
293	?	7 May 2001	98	126	NARC SAFA WILD	7 May 2001 23 May 2001	2019 _____	Hatch ltf Transfer
294	F	31 May 2002	6	7	DALLAS ST LOUIS	31 May 2002 24 Oct 2002	02E374 101992	Hatch Transfer
295	M	~ 2002	WILD	WILD	TANZANIA KROESEN NY BRONX DALLAS	~ 2002 30 Dec 2002 4 Feb 2003 18 Mar 2003	NONE _____ B03009 03E638	Capture Transfer Transfer Transfer
296	M	~ 2002	WILD	WILD	TANZANIA KROESEN NY BRONX DALLAS	~ 2002 30 Dec 2002 4 Feb 2003 18 Mar 2003	NONE _____ B03019 03E639	Capture Transfer Transfer Transfer

297	M	~ 2002	WILD	WILD	TANZANIA KROESEN NY BRONX SAN ANTON	~ 2002 30 Dec 2002 4 Feb 2003 18 Mar 2003	NONE _____ B03006 M03017	Capture Transfer Transfer Transfer
298	F	~ 2002	WILD	WILD	TANZANIA KROESEN NY BRONX SAN ANTON	~ 2002 30 Dec 2002 4 Feb 2003 18 Mar 2003	NONE _____ B03015 M03018	Capture Transfer Transfer Transfer
299	M	~ 2002	WILD	WILD	TANZANIA KROESEN NY BRONX HOUSTON	~ 2002 30 Dec 2002 4 Feb 2003 18 Mar 2003 2 May 2004	NONE _____ B03010 20385	Capture Transfer Transfer Transfer Death
300	F	~ 2002	WILD	WILD	TANZANIA KROESEN NY BRONX HOUSTON	~ 2002 30 Dec 2002 4 Feb 2003 18 Mar 2003	NONE _____ B03016 20386	Capture Transfer Transfer Transfer
301	M	~ 2002	WILD	WILD	TANZANIA KROESEN NY BRONX WILD WRLD	~ 2002 30 Dec 2002 4 Feb 2003 18 Mar 2003	NONE _____ B03008 7012	Capture Transfer Transfer Transfer
302	F	~ 2002	WILD	WILD	TANZANIA KROESEN NY BRONX WILD WRLD	~ 2002 30 Dec 2002 4 Feb 2003 18 Mar 2003	NONE _____ B03018 7013	Capture Transfer Transfer Transfer
303	M	~ 2002	WILD	WILD	TANZANIA KROESEN NY BRONX DENVER	~ 2002 30 Dec 2002 4 Feb 2003 2 Apr 2003	NONE _____ B03005 A02499	Capture Transfer Transfer Transfer
304	F	~ 2002	WILD	WILD	TANZANIA KROESEN	~ 2002 30 Dec 2002	NONE _____	Capture Transfer

					NY BRONX	4 Feb 2003	B03013	Transfer
					DENVER	2 Apr 2003	A02500	Transfer
305	F	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03014	Transfer
					DENVER	2 Apr 2003	A02501	Transfer
306	M	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03011	Transfer
					STCATHERN	1 May 2003	B03011	Transfer
						18 May 2004		Death
307	F	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03020	Transfer
					STCATHERN	1 May 2003	B03020	Transfer
						31 May 2004		Death
308	F	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03021	Transfer
					STCATHERN	1 May 2003	B03021	Transfer
					SD-WAP	16 Feb 2005	805017	Transfer
						20 May 2005		Death
309	M	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03012	Transfer
					STCATHERN	1 May 2003	B03012	Transfer
					SD-WAP	16 Feb 2005	805018	Transfer
310	M	~ 2002	WILD	WILD	TANZANIA	~ 2002	NONE	Capture
					KROESEN	30 Dec 2002	_____	Transfer
					NY BRONX	4 Feb 2003	B03007	Transfer
					BIRMINGHM	18 Mar 2003	B03002	Transfer

311	F	~ 2002	WILD	WILD	TANZANIA KROESEN NY BRONX BIRMINGHM	~ 2002 30 Dec 2002 4 Feb 2003 18 Mar 2003	NONE _____ B03017 B03003	Capture Transfer Transfer Transfer
312	M	14 Aug 2003	33	280	SD-WAP ST LOUIS	14 Aug 2003 23 Jun 2004	803196 103526	Hatch Transfer
313	M	26 Aug 2003	33	280	SD-WAP CINCINNAT	26 Aug 2003 3 Jun 2004	803215 204021	Hatch Transfer
314	F	30 Mar 2004	297	298	SAN ANTON	30 Mar 2004	M04041	Hatch
315	F	4 Jul 2004	297	298	SAN ANTON SD-WAP	4 Jul 2004 21 Apr 2005	L04002 805065	Hatch Transfer
316	?	19 Jun 2004	296	214	DALLAS	19 Jun 2004 21 Jul 2004	04F158	Hatch Death
317	M	7 Apr 2004	33	280	SD-WAP SEA WORLD	7 Apr 2004 17 Aug 2005 23 Oct 2005	804038 BCB001	Hatch Transfer Death
318	M	19 Apr 2004	33	280	SD-WAP	19 Apr 2004 28 Aug 2004	804052	Hatch Death
319	F	15 Jun 2004	33	280	SD-WAP	15 Jun 2004	804176	Hatch
320	F	29 Jun 2004	33	280	SD-WAP SEA WORLD	29 Jun 2004 17 Aug 2005	804199 BCB002	Hatch Transfer
321	M	12 Jul 2004	33	280	SD-WAP FRESNO	12 Jul 2004 24 Feb 2005	804217 250007	Hatch Transfer

322	M	24 Jul 2004	33	280	SD-WAP	24 Jul 2004 18 Jan 2005	804237	Hatch Death
323	M	18 Feb 2005	6	7	DALLAS SAN ANTON	18 Feb 2005 20 Apr 2006	05F486 _____	Hatch Transfer
324	M	2 May 2005	297	298	SAN ANTON HOUSTON	2 May 2005 3 Nov 2005	Y05002 22130	Hatch Transfer
325	F	22 Jul 2005	6	7	DALLAS	22 Jul 2005	05F906	Hatch
326	?	30 Dec 2006	312	294	ST LOUIS	30 Dec 2006 19 Jan 2007	105617	Hatch Death
327	M	~ 2005	UNK	UNK	AL AIN	~ 2005	_____	Hatch
328	M	~ 2005	UNK	UNK	AL AIN	~ 2005	_____	Hatch
329	F	~ 2005	UNK	UNK	AL AIN	~ 2005	_____	Hatch
330	?	8 May 2007	321	47	FRESNO	8 May 2007	270178	Hatch
331	?	8 Apr 2007	297	300	HOUSTON	8 Apr 2007	22909	Hatch
332	?	12 May 2007	297	300	HOUSTON	12 May 2007	22959	Hatch
333	?	1 Jun 2007	297	298	SAN ANTON	1 Jun 2007	U07001	Hatch
334	?	12 Apr 2007	312	294	ST LOUIS	12 Apr 2007	105711	Hatch

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**TOTALS: 122.119.93 (334)**

Compiled by: Sara L. Hallager through NZP-WASH  
Data current thru: 20 June 2007 International

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## CURRENT HOLDING INSTITUTIONS

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AL AIN

Al Ain Zoo & Aquarium  
PO Box 1046  
Al Ain  
UAE

BIRMINGHAM

Birmingham Zoo  
2630 Cahaba Road  
Birmingham, Alabama 35223  
USA

CINCINNAT

Cincinnati Zoo & Botanical Garden  
3400 Vine Street  
Cincinnati, Ohio 45220  
USA

COLUMBUS

Columbus Zoo and Aquarium  
PO Box 400  
Powell, OH 43605  
USA

DALLAS

Dallas Zoo  
650 So. R.L. Thornton Fwy.  
Dallas, Texas 75203  
USA

DENVER

Denver Zoological Gardens  
2300 Steele Street  
Denver, Colorado 80205  
USA

FRESNO

Fresno Zoological Gardens  
894 W. Belmont Avenue  
Fresno, California 93728  
USA

HOUSTON

Houston Zoological Gardens  
1513 North MacGregor  
Houston, Texas 77030  
USA

KNOXVILLE

Knoxville Zoological Park  
P.O. Box 6040  
Knoxville, Tennessee 37914  
USA

NARC

National Avian Research Center  
P.O. Box 45553  
Abu Dhabi  
UAE

SAN ANTON

San Antonio Zoological Garden  
3903 North Saint Mary's Street  
San Antonio, Texas 78212-3199  
USA

SD-WAP

San Diego Wild Animal Park  
15500 San Pasqual Valley Road  
Escondido, California 92027  
USA

SEAWORLD

Sea World San Diego  
500 Sea World Drive  
San Diego, CA 92109  
USA

WILD WRLD

Wildlife World Zoo  
Northern Ave. @ St. Route 303  
Litchfield, Arizona 85340  
USA



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