

2013 North American **Regional** Studbook for the **Red-legged** seriema

(Cariama cristata)

ASSOCIATION OF ZOOS AQUARIUMS

2013

NORTH AMERICAN STUDBOOK

for the

RED-LEGGED SERIEMA

(Cariama cristata)

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INTRODUCTION

The formation of the North American Regional Studbook for the red-legged seriema was approved by WCMC (Wildlife Conservation and Management Committee) in April of 1997. This is the seventh edition of this studbook. Data is current through 31 December 2012. The Historical Studbook records 303 (102.94.107) birds maintained in zoos and private facilities in North America from 1891 through 31 December 2012. The Living Studbook contains 65 (32.24.9) birds in 33 institutions.

When the exact capture location of a wild caught bird is known, it is reported in the studbook. Birds reported only as 'wild caught' have their capture location listed as South America.

Hatch dates for wild caught birds are estimated to the year, unless institutions have reported otherwise. The hatch date for wild caught birds is based on the year the bird arrived in a facility. It was assumed that young birds were captured for facilities and that a dealer did not hold the birds for an extended period of time. Thus, the hatch date for wild caught birds is generally one year before the bird was first reported in a facility, unless a facility has provided information to the contrary.

Some seriemas in the studbook are listed as 'lost to follow up' (ltf). In the studbook columns, this will be indicated with the word 'unknown' in the last line of the removal date column. This means that the current status (i.e. alive or dead) in addition to the current location of the bird in question cannot be established.

Captive breeding was first reported in the United States in 1973. Therefore, birds with an unknown origin prior to this date were assumed wild caught.

STUDBOOK FORMAT

The red-legged seriema studbook uses the Single Population Animal Record Keeping System (SPARKS) program, version 1.6.4.

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.

NATURAL HISTORY

The seriemas comprise the Family Cariamidae in the Order Gruiformes. There are two species, both of which are found in South America- the slightly smaller black-legged seriema or Burmeister's seriema (Chunga burmeisteri) and the larger red-legged seriema or crested seriema (Cariama cristata). The placement of seriemas within the Order Gruiformes has been disputed over the years. They are generally placed closest to bustards, with which they share similar cestode parasites. Fossilized predecessors of modern seriemas have been found in North and South America and Europe. These ancestors stood anywhere from three to ten feet high. They had huge, sharp beaks making them significant predators. And, like seriemas today, they could run extremely fast. The two extant species of seriemas are both found in Central South America where they inhabit the grasslands and wooded savannas. Red-legged seriemas are generally found



in open habitats while black-legged seriemas prefer more wooded areas. The range of black-legged seriemas is considerably smaller than that of the red-legged seriema (del Hoyo 1996).

The red-legged seriema ranges in South America from central and eastern Brazil through eastern Bolivia and Paraguay to Uruguay and central Argentina. It can be found in lightly wooded areas, as well as open savanna like areas. The main concentration of red-legged seriemas is in the grassy savanna region of central Brazil. Here, termite mounds litter the landscape and provide seriemas with places from which to sing and scout for food. Further south, seriemas are found in more wooded areas, as well as grasslands. They can be found at elevations of 2000m. Seriemas have recently colonized man-made grassy areas, and other semi open areas of Brazil, which were formally covered by tropical forests. They are often found in areas where fire has recently passed through and where insects and small vertebrates may be easily found. Seriemas are territorial and usually sedentary in their movements, although movements in response to temperature changes have been reported.

In captivity, red-legged seriemas are more commonly kept than black-legged seriemas. The AZA Gruiformes TAG recommends zoos maintain only the red-legged seriema. Red-legged seriemas have been kept in captivity since the late 1800's. They are generally long-lived birds, with life spans of 25 years not uncommon in



Map based on information from the NatureServe InfoNatura website. The data for these maps are provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE.

captive situations and some birds reaching 30 years (Hallager 2007).

Perhaps one of the most distinguishing characteristics of seriemas is their call. Often compared to that of a yelping puppy, it is a loud cry which can heard for several kilometers away. The call is usually performed in the early morning hours, but may be heard at any time of day. It is used to define territory between pairs. The call is frequently initiated by one member of the pair, followed by the other member responding with a sort of duet resulting. Redford and Peters (1986) have analyzed the song and have found it to be comprised of three parts, which are not always sung together. They found that at the onset of the song, the neck was held straight while at the end of the song, which was also the loudest part, the neck was held so that the back of the head nearly touched the back of the calling bird.

Management of both species is similar. Sexes are similar, with males being slightly larger than females. Red-legged seriemas weigh about 2.5-3 kg (5.5-6.6 lb), and stand about 90 cm (35.4 in) tall. Red-legged seriemas have a crest. Unique among South American birds, the crest is comprised of tufts of permanently raised slightly stiff feathers at the base of the bill, which can reach 10cm in length. Males have longer crest feathers but this alone should not be a confirmation of sex. DNA sexing is recommended. Seriemas have loose gray colored plumage, especially on the neck and underparts. The hooked beak is often compared to that of a raptor. Mostly ground dwelling birds, seriemas have three short, very sharp front toes, and a raised smaller hind toe. This anatomical arrangement prevents them from catching prey with their feet. Instead, the sharp claws on the feet are used to hold prey in place while the sharp bill tears the flesh. Although seriemas are omnivorous, they are highly carnivorous. Their diet includes insects, small rodents, lizards, frogs, birds, and occasionally snakes, although their reputation of consuming large numbers of snakes is exaggerated. Leaf material, seeds, fruits, and crops cultivated by humans such as corn, beans, and grains are also eaten. Small prey items are swallowed whole and head first. Larger animals are held between their sharp claws, and torn apart. Killing their prey may involve beating the animal on the ground, or throwing it against a hard surface such as a rock.

They are quick runners, generally preferring to run from danger than fly. They have been clocked running upwards of 70km/hour (43 mph) (del Hoyo 1996). When they do fly, it is generally only when they cannot out run their pursuer, or when they must reach an elevated perch.

Neither species of seriema is considered threatened. However, exact counts of both species have not been conducted, so their true status is not really known. Further complicating the matter is their far-reaching call, which may yield a false count of the actual numbers of birds in a particular area.

Central Brazil is the stronghold of the red-legged seriema. Here, the species favors the grassy, savanna areas dominated by termite mounds. These favored lookout perches provide the red-legged seriema with elevated roosts in which to call and advertise their territory. Farther south, the species is found in the grasslands of southern Brazil, Uruguay and Argentina. In

Argentina, numbers range from abundant to scarce. It is considered a vanishing species in Uruguay. In northeastern and southeastern Brazil, illegal traders of live animals occasionally offer red-legged seriemas for sale (del Hoyo 1996).

Threats to both species of seriema habitat are in the form of agricultural development and hunting, although red-legged seriemas seem to have adapted to this threat and in fact have colonized certain deforested areas in Brazil (del Hoyo 1996). Populations of both species should continue to be monitored given their precarious status in certain parts of their range.

HUSBANDRY

Capture and Restraint: Seriemas are easily caught using a large net. Care must be taken when extracting the bird from the net so that the handler is not pierced by the sharp talon of the bird's inner toe. Once in hand, the greatest threat to the handler is the razor-sharp nails, so handlers must immediately secure the feet. The bird can then be held much like a crane. Once the feet are secure, the handler should immediately pull the seriema's body against his/her own. A second person should hold the head although the bill of the seriema is not particularly dangerous. Seriemas do not use their bill as a weapon although they will hold it open in an attempt to appear more ferocious. Restrain the head by encircling the bird's upper neck with one hand without restricting the airway; do not cover the nares. Hood the bird if necessary to induce calmness. Another method is to hold the wings and body of the seriema with one arm and the legs with the other. Grasp the legs just above the hocks, and place one finger between the hocks to prevent the legs from abrading one another. Make sure the tarsi cannot contact the seriema's neck or the person holding the bird in order to prevent the bird from ripping its neck open. If the seriema's legs must be folded, gently force the tarsi around, but if the bird locks its hocks rigidly, do not force the legs to fold. Instead, maintain steady pressure on the tarsi until the bird allows you to fold the legs. When holding a seriema with folded legs, support the bird's weight with the arm holding its body. Do not keep a seriema's legs folded for more than 15 minutes. These precautions will help prevent slipped tendons, capture myopathy and in some cases leg fractures. When releasing a seriema, allow its legs to touch the ground before letting go of the body or wings.

Transport: Seriemas are best transported in medium sized commercial pet carriers. Crate requirements for seriemas can be found in the International Air Transport Association manual container requirement #17 – IATA 2010). Shipping recommendations can also be found at www.iata.org.

Enclosure: Pen dimensions should be longer than they are wide. A good recommended size is 7.5 m x 5 m x 2.5 m (24.5 ft x 16 ft x 8 ft) for a pair of birds (Collins 1998). Fowler (2001) recommends a space of 10 m^2 (107.64 ft^2) per bird, and a minimum aviary height of 2 m (6.5 ft). In the wild, seriemas nest and roost 1-5 m (3-16 ft) off the ground (del Hoyo 1996), and so elevated perches should be provided for them to meet their desire to roost high. They like to

run and need long exhibits in which to exercise. Long runs are also important for chicks which need plenty of exercise to avoid developmental problems. A suggested boundary for enclosures is one-inch chain link mesh but other similar sized mesh will work as well. This size mesh reduces the chances of chicks getting out and large rodents getting in. Site barriers, such as thick shrubs give the birds a sense of security in pens of minimum size. Areas of full sun should be provided as seriemas are heavy sunbathers. Additionally, areas of shade should be available, especially in hotter climates.

Feral predators are dangerous for both adult and young seriemas. Foxes and/or raccoons can fatally wound adult birds. Thus, enclosures must be built to minimize predator access. Digging predators (e.g. dogs, foxes) can be excluded by burying the base of the boundary 0.3m (1 ft) in the ground. Surrounding the enclosure with electrical wire deters climbing predators (e.g. raccoons). In areas where large predators (e.g. coyote, bobcat, cougar) are common, birds may need to be housed indoors at night.

Housing requirements: Zoos in zones where temperatures fall below 0°C (32°F) must have winter holding facilities available for housing birds during inclement weather. Seriemas are susceptible to frost bite and must not be left outside when temperatures are below 0°C (32°F). They should be housed during periods of freezing rain or snow. Sheds should be heated to 10° - 15.5°C (50-60°F). Heat bulbs, if used, should be encased in protective wiring to prevent bulb breakage in case a bird makes contact with the bulb. Lights should be installed that can be turned on during the day and off at night. Skylights, which allow for natural light in the stalls, may be advantageous for birds that must be housed for extended periods. A small night-light turned on at night will provide some degree of light for the birds during the overnight hours. The floor of the shed can be dirt or sand which can be covered with bedding hay (straw). Perches should be provided in sheds so that birds can roost off the ground. Even zoos that do not experience extremely cold weather should have a shelter available. The shelter can be used for times when pen repairs are needed, for medical confinement, to minimize food loss from wild birds or when birds must be caught.

Mixed species exhibits: Seriemas can be exhibited with a wide variety of bird and mammal species. Seriemas are hunters though, and small fledglings of any avian species will be consumed if the opportunity presents itself. Birds including cinnamon teal *Anas cyanoptera*, ringed teal *Callonetta leucophrys*, Egyptian goose *Alopochen aegyptiacus*, black-necked swan *Cygnus melanocoryphus*, paradise shelduck *Tadorna variegate*, common shelduck *Tadorna tadorna*, Andean goose *Chloephaga melanoptera*, white ibis *Eudocimus albus*, kookaburra *Dacelo novaeguineae*, hyacinth macaw *Anodorhynchus hyacinthinus*, scarlet ibis *Eudocimus ruber*, boat billed heron *Cochlearius cochlearius*, king vulture *Sarcorhamphus papa*, grey-winged trumpeter *Psophia crepitans*, red-billed hornbill *Tockus erythrorhynchus*, tawny frogmouth *Podargus strigoides*, common peafowl *Pavo cristatus* as well as various species of guan *Penelope sp.*, dove *Columba sp.*, turaco *Tauraco sp.*, thrush *Garrulax sp.*, stork *Ciconia sp.*, crow *Corvus sp.*, conure *Aratinga sp.*, have all been exhibited with seriemas at zoos but caution should be used with any species exhibited with seriema because of their hunting nature. Mammals species such as collared peccary *Pecari tajacu*, Brazilian tapir *Tapirus terrestris*,

squirrel monkey *Saimiri ustus*, capybara *Hydrochaeris hydrochaeris*, guanaco *Lama guanicoe* and giant anteater *Myrmecophaga tridactyla* have all been successfully exhibited with seriemas.

Social organization: Seriemas are most often exhibited alone or in pairs. Groups of three or more birds are most likely parents and offspring. More than one pair of seriemas cannot be exhibited in the same enclosure as they are extremely territorial. Seriemas should not be introduced to new mates during the breeding season because males can be overly amorous in their efforts to breed causing undue stress upon a newly introduced female. Two males must never be exhibited together.

Water: Seriemas require only small areas of water from which to drink. They are not heavy drinkers but do drink on a daily basis. Heated water dispensers for northern zones are recommended. Seriemas do not bathe in water so pools are not needed in exhibits (unless for aesthetic reasons). If pools are present in enclosures, they should be shallow enough that a bird can walk through the water and the sides should gradually slope to the deepest portion. Pools deeper then 0.6m (24in) are not recommended. Pools should be lowered once chicks leave the nest to prevent accidental drowning.

Diet: From the limited data available, it appears that although these birds are omnivorous, their dietary habits may be primarily insectivorous/carnivorous, as hypothesized by Redford and Peters (1986). The gastrointestinal tract of the seriema was noted to have a large gizzard, but no visible crop (Boyle 1917). This type of gastrointestinal tract is seen with insectivores, herbivores and omnivores. With this in mind, seriemas may be best adapted for an omnivorous/insectivorous feeding strategy. Diets for captive seriemas are varied, but most zoos feed a combination of small and large mice, mealworms, crickets, canned dog or cat food, avian pellets and either horse meat or beef. Fruit may be occasionally consumed. Food should be offered twice daily and on the ground in a pan. When chicks are present, hardboiled egg and pinkies should be given and all amounts of food should be increased. Food should be offered a minimum of three times per day when chicks are present.

Breeding: In captivity, breeding can occur at any time of the year especially in southern zones. In colder climates of the US, breeding typically commences in early March. Males as young as eight months have bred (Collins 1998); females have bred at one year (Hallager 2004). The male initiates the breeding season by showing off his flight feathers, stretching them to one side. The display is also accompanied by strutting in front of the female, with head pointed down and crest raised. The male often presents food to the female. Both birds call, thereby strengthening the bond between them as well as defining the territory of the pair (Redford and Peters 1986). Copulation occurs on the ground (de Almeida 1994).

Once a pair shows signs of nesting (carrying sticks), keepers should provide extra nesting material such as twigs, dried grasses and small branches. Nest building is done by both sexes, although the male does more of the construction. Nests are usually in a tree 1-5 m (3-16 ft) off the ground and construction generally takes one month. Pairs will use the same nest site from

year to year. The nest is assembled of twigs and branches, and is lined with mud and leaves. It is usually placed so that the birds can jump up to it in one or two leaps. Commonly, two (or three) white, slightly spotted eggs are laid (57-71 x 46-50 mm in *Cariama cristata* and 56-61 x 42-46 mm in *Chunga burmeisteri* (del Hoyo 1996)). Incubation is carried out by both sexes. Captive pairs sometimes eject the first clutch of the season and some pairs are notorious for repeatedly ejecting eggs. It may often take several years for the pair to stop this behavior or even re-pairing of birds to correct this problem. Following a 27-28 day incubation period, the chicks hatch.

Chick development: Chicks are nidicolous and helpless when they hatch, but only for a short period as their growth rate is very fast. At birth, the eyes are open but chicks cannot stand. Chicks are born with brown colored down and weigh about 40-60g. At one week, pin feathers begin to emerge and chicks attempt to stand. Young birds may utter the species characteristic vocalization at this age. As chicks approach 10 days, they are able to stand and by 14 days, may even leave the nest, although most chicks remain in the nest for 3-4 weeks. Chicks are brooded by their parents for the first three weeks of life. After three weeks, the juvenile birds roost in trees at night. Because they are unable to fly at this age, they must have perching positioned so that they can reach high roost sites at night. Fledging occurs at about 30 days. At three months, the parents will start to wean the chick by encouraging them to pick up food for themselves. By three and half months, chicks are nearly full grown although their plumage is still in juvenile form. At four to five months of age, chicks can be moved to their own enclosure or sent to other zoos.

Artificial Incubation: Eggs are best left under the parents, but this is not always possible as some pairs routinely eject eggs from the nest. Should artificial incubation be necessary, eggs should be placed in the incubator horizontally. The automatic turners should be set to turn every 2 hours with an incubation temperature of 37.2°C (99.0°F) and a relative humidity of 55-65%. The humidity should be increased to 75% once the chick enters internal pip. Eggs hatch after 26-27 days of incubation.

Parent-rearing: If the egg has been artificially incubated, pull the dummy and replace the real egg at external pip. Leave the chick and parents alone for the first 24 hours to allow bonding to occur. Seriema parents are normally very attentive, but sometimes chicks need some extra help if they are not growing at the proper rate or they appear weak. Younger siblings can get pushed out or dominated by older chicks and may require supplemental feedings from keepers. The parents usually accept these extra feedings but keepers should be mindful of the sharp talons of adult seriemas when providing supplemental feedings to chicks. Occasionally if two or more chicks are hatched, one chick may die or be killed by the parent (likely the weakest chick) and fed to the remaining chick. Seriemas in the wild are reported to sometimes only raise one chick (del Hoyo 1996).

Hand rearing: Information on hand rearing is available from the studbook keeper.

HISTORY OF THE CAPTIVE POPULATION

Red-legged seriemas were first reported in North American zoological collections in 1891 when the National Zoological Park acquired its first specimen. The Philadelphia Zoo received a bird approximately one year later. From 1903 through 1939, 14 wild caught red-legged seriemas entered the United States. Many lived ten or more years. Two birds imported into the San Diego Zoo in 1935 lived 20 years.

After 1939, no wild importation's occurred until 1966. When the Oklahoma Zoo imported a pair in 1966, there was only one red-legged seriema alive in a zoo in the United States. Wild importation's continued through the 1960's, with 11 additional birds entering the country. Many of these birds lived 15 years or more.

Another 11 birds were imported during the 1970's. In the early 1980's six birds arrived, marking the final importation of wild caught red-legged seriemas into the United States. Due to the breeding success at zoos and private facilities, no wild caught red-legged seriemas have been imported since 1981.

The first hatching of a red-legged seriema in a US zoo occurred at the San Antonio Zoo in 1973. In 1978, Ollson's Rare Bird Farm (Glendale) became the second facility to breed the species. During the 1970's and 1980's, Glendale was the major breeder of captive bred red-legged seriemas in the US. In 1980, the Tulsa Zoo became the first facility to achieve second generation breeding in the species. Breeding quickly escalated in the 1980's at several zoos and private facilities and continued to remain strong through the 1990's, although has declined significantly in the past few years. Third generation breeding was reached at Woodlands Park Zoo in 1992.

Today, there are no wild caught birds remaining and the captive population of redlegged seriemas in North America is 100% captive born.

AGE STRUCTURE OF LIVING BIRDS

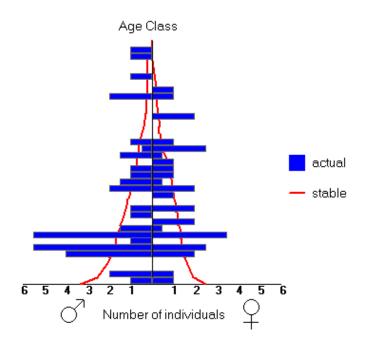




Photo by Josh Carballo, Tampa's Lowry Park Zoo

FECUNDITY & MORTALITY REPORT

Taxon Name: CARIAMA CRISTATA

Taxon Name: CARIAMA CRISTATA										
Age	Fe Male	cundit N	y [Mx] Female	N 	Mo: Male	rtality N	[Qx]. Female	N 	Survival Male	[Lx] Female
0- 1	0.00	81.8	0.00	80.2	0.31	111.1	0.31	109.4	1.000	1.000
1- 2	0.04	76.8	0.10	74.1	0.08	81.1	0.07	78.1	0.690	0.690
2- 3	0.11	83.6	0.11	76.2	0.06	86.9	0.05	79.3	0.635	0.642
3- 4	0.09	78.6	0.11	73.6	0.07	81.5	0.08	76.6	0.597	0.610
4- 5	0.15	69.9	0.20	67.5	0.04	70.9	0.05	69.7		0.561
5- 6 6- 7	0.14	58.8 54.1	0.15 0.09	60.3 58.3	0.07	60.9 54.1	0.03	61.8 58.8	0.533 0.495	0.533 0.517
7- 8	0.08	49.2	0.09	53.5	0.00	49.6	0.03	53.9	0.495	0.501
8- 9	0.19	44.8	0.08	53.2	0.00	44.8	0.00	53.2	0.486	0.491
9-10	0.14	40.3	0.06	50.0	0.11	43.6	0.08	52.5	0.486	0.491
10-11	0.14	37.8	0.06	46.4	0.03	38.0	0.00	46.4	0.432	0.452
11-12	0.24	34.5	0.08	44.1	0.06	36.2	0.02	44.3	0.419	0.452
12-13	0.11	33.2	0.18	41.5	0.03	34.0	0.05	42.0	0.394	0.443
13-14	0.22	32.2	0.17	38.1	0.03	32.6	0.05	39.0	0.382	0.421
14-15 15-16	0.14	28.5 26.0	0.08	34.3 31.7	0.08	30.6 26.0	0.01	34.5 32.6	0.371 0.341	0.400
16-17	0.17	24.3	0.19	30.0	0.04	25.1	0.03	30.6	0.341	0.384
17-18	0.02	21.9	0.13	27.5	0.13	23.0	0.03	28.5	0.327	0.372
18-19	0.08	19.7	0.12	26.5	0.00	19.7	0.11	27.7		0.358
19-20	0.06	17.4	0.25	19.1	0.08	18.0	0.24	23.0	0.285	0.318
20-21	0.17	14.9	0.11	14.8	0.07	15.1	0.13	15.1	0.262	0.242
21-22	0.15	13.5	0.10	11.0	0.00	13.5	0.09	11.5	0.244	0.210
22-23	0.08	13.4	0.00	10.2	0.04	13.5 12.8	0.14	10.5	0.244	0.191
23-24 24-25	0.34	10.6	0.06 0.27	8.5 7.7	0.27	8.5	0.06	9.0	0.234 0.171	0.165 0.155
25-26	0.27	7.6	0.27	6.5	0.25	8.1	0.15	6.5	0.171	0.155
26-27	0.09	5.5	0.00	4.9	0.00	5.5	0.18	5.5	0.128	0.132
27-28	0.29	5.2	0.00	4.5	0.00	5.2	0.00	4.5	0.128	0.108
28-29	0.00	3.9	0.00	3.5	0.00	3.9	0.00	3.5	0.128	0.108
29-30	0.00	3.2	0.00	2.2	0.14	3.5	0.20	2.5	0.128	0.108
30-31	0.00	2.7	0.00	2.0	0.00	2.7	0.00	2.0	0.110	0.086
31-32 32-33	0.00	2.0	0.00	1.0	0.00	2.0	0.50	2.0	0.110 0.110	0.086
33-34	0.00	1.5	0.00	0.2	0.00	1.5	1.00	1.0	0.110	0.043
34-35	0.00	0.9	0.00	0.0	0.00	0.9	0.00	0.0	0.110	0.000
35-36	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.110	0.000
36-37	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	0.110	0.000
	Ge	estatio	on Peri	od: 27	days					
	Т	= 12.	.182	T = 1	0.772	30 d	lay mort	tality	: 22%	
Ro = 1	la		1.02	lambda:					g of birth	date)
	r	= 0.	.021	r =	0.014					
				known a						
(A)			births	to fema	ale par	ents an	nd 227 l	births	to male p	parents.)
	plus.		O LINIK	or MULT	ciroc					
				or MULT						
	173 dea	ath eve	ents wi	th know	n age t	abulate	ed for (Qx		
									s confide	nce
					parent	s have	been pr	roport	ionately	
factore	d into t	the fed	cundity	•						

CENSUS REPORT

as of 31 Dec	# Insts	Obser Specimen		Annual	Geometric Mean
2012	33	31.24.10	(65)	1.07	
2011	33	29.24.8	(61)	0.94	1.00 (last 2 yrs)
2010	34	30.26.9	(65)	0.97	0.99 (last 3 yrs)
2009	33	30.28.9	(67)	1.02	1.00 (last 4 yrs)
2008	27	30.29.7	(66)	1.08	1.01 (last 5 yrs)
2007	27	29.27.5	(61)	1.22	1.04 (last 6 yrs)
2006	27	22.23.5	(50)	1.00	1.04 (last 7 yrs)
2005	27	23.23.4	(50)	1.09	1.04 (last 8 yrs)
2004	25 23	20.22.4 19.23.4	(46)	1.00 0.98	1.04 (last 9 yrs) 1.03 (last 10 yrs)
2003 2002	24	20.23.4	(46) (47)	1.04	1.03 (last 10 yrs) 1.03 (last 11 yrs)
2002	24	20.23.4	(45)	0.98	1.03 (last 11 yrs)
2001	23	19.23.4	(46)	0.85	1.01 (last 13 yrs)
1999	24	22.26.6	(54)	0.98	1.01 (last 14 yrs)
1998	22	24.27.4	(55)	1.04	1.01 (last 15 yrs)
1997	24	24.26.3	(53)	0.87	1.00 (last 16 yrs)
1996	24	28.29.4	(61)	1.07	1.01 (last 17 yrs)
1995	23	24.30.3	(57)	0.98	1.01 (last 18 yrs)
1994	26	24.32.2	(58)	1.05	1.01 (last 19 yrs)
1993	27	23.29.3	(55)	1.04	1.01 (last 20 yrs)
1992	26	22.30.1	(53)	0.96	1.01 (last 21 yrs)
1991	29	25.29.1	(55)	1.10	1.01 (last 22 yrs)
1990	28	24.25.1	(50)	0.91	1.01 (last 23 yrs)
1989	30	25.28.2	(55)	0.90	1.00 (last 24 yrs)
1988	27	27.33.1	(61)	1.11	1.01 (last 25 yrs)
1987	30	25.28.2	(55)	0.93	1.00 (last 26 yrs)
1986	25	28.28.3	(59)	1.13	1.01 (last 27 yrs)
1985	20	28.24.0	(52)	1.04	1.01 (last 28 yrs)
1984	19	27.23.0	(50)	1.06	1.01 (last 29 yrs)
1983	18	26.19.2	(47)	1.04	1.01 (last 30 yrs)
1982	15	23.19.3	(45)	1.25	1.02 (last 31 yrs)
1981	14	19.17.0	(36)	1.03	1.02 (last 32 yrs)
1980	13	17.18.0	(35)	1.30	1.03 (last 33 yrs)
1979	11	13.14.0	(27)	1.17	1.03 (last 34 yrs)
1978	9	10.13.0	(23)	1.15	1.03 (last 35 yrs)
1977	8	10.10.0	(20)	1.05	1.03 (last 36 yrs)
1976	9	9.10.0	(19)	1.00	1.03 (last 37 yrs)
1975	9	9.10.0	(19)	1.00	1.03 (last 38 yrs)
1974 1972	10 10	9.10.0 8.8.1	(19) (17)	1.12 1.06	1.03 (last 39 yrs) 1.03 (last 41 yrs)
1971	9	8.8.0	(16)	1.23	1.03 (last 41 yrs) 1.04 (last 42 vrs)
1970	7	7.6.0	(13)	0.93	1.04 (last 42 yrs)
1969	7	8.6.0	(14)	1.08	1.04 (last 44 yrs)
1968	6	7.6.0	(13)	1.44	1.04 (last 45 yrs)
1967	5	5.4.0	(9)	1.13	1.05 (last 46 yrs)
1966	5	4.3.1	(8)	2.67	1.07 (last 47 yrs)
1965	2	1.1.1	(3)	3.00	1.09 (last 48 yrs)
1964	1	0.0.1	(1)	1.00	1.09 (last 49 yrs)
1963	1	0.0.1	(1)	1.00	1.09 (last 50 yrs)
1962	1	0.0.1	(1)	1.00	1.09 (last 51 yrs)
1961	1	0.0.1	(1)	1.00	1.08 (last 52 yrs)
1960	1	0.0.1	(1)	1.00	1.08 (last 53 yrs)
1959	1	0.0.1	(1)	1.00	1.08 (last 54 yrs)
1958	1	0.0.1	(1)	1.00	1.08 (last 55 yrs)
1957	1	0.0.1	(1)	0.33	1.06 (last 56 yrs)
1956	2	0.0.3	(3)	0.75	1.05 (last 57 yrs)
1955	2	0.0.4	(4)	1.00	1.05 (last 58 yrs)
1954	2	0.0.4	(4)	1.00	1.05 (last 59 yrs)
1953	2	0.0.4	(4)	1.00	1.05 (last 60 yrs)

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	_					
1952	2	0.0.4	(4)	1.00	1.05 (last 61 yrs)	
1951	2	0.0.4	(4)	1.00	1.05 (last 62 yrs)	
1950	2	0.0.4	(4)	1.00	1.05 (last 63 yrs)	
1949	2	0.0.4	(4)	1.00	1.04 (last 64 yrs)	
1948	2	0.0.4	(4)	1.00	1.04 (last 65 yrs)	
1947	2	0.0.4	(4)	1.00	1.04 (last 66 yrs)	
1946	2	0.0.4	(4)	1.00	1.04 (last 67 yrs)	
1945	2	0.0.4	(4)	1.00	1.04 (last 68 yrs)	
1944	2	0.0.4	(4)	1.00	1.04 (last 69 yrs)	
1943	2	0.0.4	(4)	1.00	1.04 (last 70 yrs)	
1942	2	0.0.4		1.00	1.04 (last 71 yrs)	
			(4)		_	
1941	2	0.0.4	(4)	1.00	1.04 (last 72 yrs)	
1940	2	0.0.4	(4)	0.80	1.04 (last 73 yrs)	
1939	3					
		0.1.4	(5)	1.00	_	
1938	3	0.1.4	(5)	1.67	1.04 (last 75 yrs)	
1937	2	0.1.2	(3)	1.00	1.04 (last 76 yrs)	
					_	
1936	2	0.1.2	(3)	0.75	1.04 (last 77 yrs)	
1935	2	1.1.2	(4)	1.00	1.04 (last 78 yrs)	
1934	3	0.1.3	(4)	1.33	1.04 (last 79 yrs)	
1933	2	0.2.1	(3)	1.00	1.04 (last 80 yrs)	
1932	2	0.2.1	(3)	1.00	1.04 (last 81 yrs)	
1931	2	0.2.1	(3)	1.00	1.04 (last 82 yrs)	
1930	2	0.2.1	(3)	1.50	1.04 (last 83 yrs)	
1929	1	0.2.0	(2)	1.00	1.04 (last 84 yrs)	
1928	1	0.2.0	(2)	1.00	1.04 (last 85 yrs)	
1927	1	0.2.0	(2)	1.00	1.04 (last 86 yrs)	
1926	1	0.2.0	(2)	0.00	(last 87 yrs)	
1925	0	0.0.0	(0)	0.00	(last 88 yrs)	
1924	0	0.0.0	(0)	0.00	(last 89 yrs)	
1923	0	0.0.0	(0)	0.00	(last 90 yrs)	
1922	0	0.0.0	(0)	0.00	(last 91 yrs)	
1921	0	0.0.0	(0)	0.00	0.82 (last 92 yrs)	
1920	1	0.0.1	(1)	1.00	0.82 (last 93 yrs)	
1919	1	0.0.1		1.00	0.82 (last 94 yrs)	
			(1)		_	
1918	1	0.0.1	(1)	1.00	0.82 (last 95 yrs)	
1917	1	0.0.1	(1)	1.00	0.83 (last 96 yrs)	
	1					
1916		0.0.1	(1)	1.00	0.83 (last 97 yrs)	
1915	1	0.0.1	(1)	1.00	0.83 (last 98 yrs)	
1914	1	0.0.1	(1)	1.00	0.83 (last 99 yrs)	
1913	1	0.0.1	(1)	1.00	0.83 (last 100 yrs	
1912	1	0.0.1	(1)	0.50	0.83 (last 101 yrs)
1911	2	0.1.1	(2)	2.00	0.83 (last 102 yrs)
					_	
1910	1	0.0.1	(1)	1.00	0.84 (last 103 yrs	
1909	1	0.0.1	(1)	0.50	0.83 (last 104 yrs	
1908	2	0.0.2	(2)	2.00	0.84 (last 105 yrs)
1907	1			0.00	(last 106 yrs	
		0.0.1	(1)			
1906	0	0.0.0	(0)	0.00	(last 107 yrs)
1905	0	0.0.0	(0)	0.00	(last 108 yrs)
1904	0	0.0.0	(0)	0.00	0.84 (last 109 yrs	
1903	1	0.0.1	(1)	0.00	(last 110 yrs	
1902	0	0.0.0	(0)	0.00	(last 111 yrs)
1901	0	0.0.0	(0)	0.00	(last 112 yrs	
1900	0	0.0.0	(0)	0.00	(last 113 yrs	
1899	0	0.0.0	(0)	0.00	(last 114 yrs)
1898	0	0.0.0	(0)	0.00	(last 115 yrs	
					_	
1897	0	0.0.0	(0)	0.00	0.85 (last 116 yrs	
1896	1	0.0.1	(1)	1.00	0.85 (last 117 yrs)
1895	1	0.0.1	(1)	0.50	0.85 (last 118 yrs	
1894	2	0.0.2	(2)	1.00	0.85 (last 119 yrs	
1893	2	0.0.2	(2)	1.00	0.85 (last 120 yrs)
1892	2	0.0.2	(2)	2.00	0.86 (last 121 yrs)
1891	1	0.0.1	(1)	0.06	0.84 (last 122 yrs)

Note: Lambda values include Imports and Exports...

REPRODUCTIVE PARAMATERS

Female data

191 at NZP-WASH had chick 199 (d<30 days) at age 1Y,0M,2D 226 at METROZOO had chick 240 at age 1Y,2M,25D 242 at WILD WRLD had chick 259 at age 1Y,5M,15D 60 at DALLAS had chick 64 at age ~1Y,8M,20D 278 at WORLDBIRD had chick 282 at age ~1Y 81 at DALLAS had chick 99 at age 1Y,9M,1D 171 at CROFT L had chick 103 at age ~2Y,3M 90 at CALDWELL had chick 112 at age 2Y, 3M, 16D 281 at WORLDBIRD had chick 286 at age ~2Y 47 at TULSA had chick 61 at age ~2Y, 4M, 22D Oldest dams at first reproduction: 196 at GILLIS had chick 195 at age ~18Y 120 at COLUMBIA had chick 246 at age 15Y,9M,21D 31 at BATONROUG had chick 86 at age ~15Y 156 at CRAWFRD W had chick 283 (d<30 days) at age 14Y,10M,21D 22 at GLENDALE had chick 42 at age ~12Y 48 at LAKEBUENA had chick 148 at age 12Y, 10M, 28D 164 at KNOXVILLE had chick 256 at age 12Y, 0M, 30D 69 at LANNOM had chick 211 at age 11Y,5M,5D 207 at ORLANDO had chick 301 (stillborn/prem) at age 11Y,0M,16D 178 at FRESNO had chick 255 at age 10Y, 10M, 27D Oldest dams to have reproduced: 81 at DALLAS had chick 298 at age 25Y, 2M, 1D 81 at DALLAS had chick 292 (d<30 days) at age 24Y,3M,8D 81 at DALLAS had chick 291 (d<30 days) at age 24Y,3M,6D 88 at SEDGWICK had chick 289 at age 23Y,11M,29D 88 at SEDGWICK had chick 288 at age 23Y,11M,28D 81 at DALLAS had chick 290 (d<30 days) at age 23Y,10M,12D 81 at DALLAS had chick 263 (d<30 days) at age 21Y,10M,2D 81 at DALLAS had chick 262 at age 21Y, 10M, 1D 81 at DALLAS had chick 254 (d<30 days) at age 20Y,10M,13D 81 at DALLAS had chick 252 at age 20Y, 10M, 12D

	Median	Average	N
Age at first reproduction:	5Y,2M,5D	6Y,8M,19D	35
During all reproduction:	~8Y,3M,29D	9Y,10M,24D	206
Age at last reproduction:	~11Y,5M,8D	9Y,10M,24D	35

Shortest interclutch intervals

Dam	Interval	Offspring			
45	 18 days between	 65 & 67			
31	20 days between	106 & 107			
57	22 days between	122 & 125			
31	28 days between	86 & 89			
31	30 days between	93 & 95			
57	32 days between	133 & 135			
31	37 days between	105 & 106			
171	37 days between	103 & 186			
178	43 days between	267 & 269			
242	43 days between	260 & 261			
22	46 days between	49 & 50			
191	51 days between	214 & 216			

Hatch seasonality (clutches to known dams)

(clutches	to	known	dams
January:		 6	 4%
-		2	
February:		_	1%
March:		4	3%
April:		27	18%
May:		31	20%
June:		35	23%
July:		18	12%
August:		12	8%
September:		8	5%
October:		8	5%
November:		1	1%
December:		1	1%



Photo credit Jason Collier, SeaWorld Orlando

Clutch size	N	
1	94	59%
2	55	35%
3	10	6%

159 total clutches, mean size is 1.5 eggs

Viability:

	Liv > 1	ved year	Died < 1 y	-	Died < 30			InShell & Embryo	×
Rearing: Parent (86)	54	63%	6	7%	26	30%	0	0%	
Hand (37)	28	76%	6	16%	3	8%	0	0%	
None (2)	0	0%	0	0%	1	50%	1	50%	
Unknown (109)	82	75%	11	10%	16	15%	0	0%	
TOTALS	164	70%	23	10%	46	20%	1	0%	

First hatches to dams at an average age of $^{\circ}6Y, 8M, 13D$ 69.8% lived >1 year 7.0% died <1 year 23.3% died <30 days N = 30 N = 10

Subsequent hatches to dams at an average age of ~10Y,4M,11D 70.5% lived >1 year 10.5% died <1 year 18.9% died <30 days N = 134 N = 20 N = 36

REPRODUCTIVE PARAMATERS

Male data

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Youngest sires at first reproduction:
     162 at CL SPR AV had chick 174 at age 10M,22D
     246 at FRESNO had chick 255 at age 1Y,0M,24D
     59 at DALLAS had chick 64 at age ~1Y,7M,24D
     279 at WORLDBIRD had chick 282 at age ~1Y
     216 at ALEXANDRI had chick 234 at age 1Y,9M,7D
      55 at SANDIEGOZ had chick 65 at age 2Y, 0M, 2D
     286 at had chick 301 at age 2Y, 2M, 1D
      92 at CALDWELL had chick 112 at age 2Y, 2M, 19D
     280 at WORLDBIRD had chick 286 at age ~2Y
      46 at TULSA had chick 61 at age ~2Y, 3M, 25D
  Oldest sires at first reproduction:
     194 at GILLIS had chick 195 at age ~23Y
      86 at DALLAS had chick 243 at age 18Y,6M,21D
     155 at CRAWFRD W had chick 283 at age 14Y,9M,25D
     193 at GILLIS had chick 171 at age ~13Y
      21 at GLENDALE had chick 42 at age ~12Y
      63 at BATONROUG had chick 170 at age 12Y, 1M, 15D
      71 at LANNOM had chick 211 at age 11Y, 1M, 24D
      43 at SANDIEGOZ had chick 111 at age ~10Y
     174 at COLUMBIA had chick 246 at age 9Y,11M,21D
      64 at LAKEBUENA had chick 148 at age 8Y, 10M, 14D
  Oldest sires to have reproduced:
      92 at LOWRY had chick 306 at age 26Y,11M,30D
      92 at LOWRY had chick 305 at age 26Y, 11M, 29D
      64 at WILD WRLD had chick 297 at age 26Y,11M,7D
      64 at WILD WRLD had chick 296 at age 26Y, 9M, 16D
      64 at WILD WRLD had chick 284 at age 25Y,9M,25D
      64 at WILD WRLD had chick 300 at age 25Y,9M,20D
      64 at WILD WRLD had chick 285 at age 25Y,9M,19D
      86 at DALLAS had chick 298 at age 24Y,11M,10D
      64 at WILD WRLD had chick 275 at age 24Y,9M,9D
      64 at WILD WRLD had chick 274 at age 24Y, 9M, 8D
                                   Median
                                                    Average
Age at first reproduction: 4Y,5M,21D
During all reproduction: 8Y,10M,14D
                                                  6Y,6M,27D
                                                                      34
                                                                      210
                                                   10Y,5M,5D
 Age at last reproduction:
                                10Y,9M,16D
                                                  11Y,8M,20D
                                                                     34
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AGE REPORT

ma	ales: ales:	25th %† 2Y,5M, 3Y,4M,	ti. ,20	animals surviving to at least 30 days le Median 75th %tile Maximum N 5D 5Y,10M,26D 13Y,10M,28D ~25Y 49 7D 10Y,10M,0D 18Y,11M,21D ~33Y,1M,23D 50 1D 1Y,3M,10D 5Y,0M,27D ~29Y 34
Oldest				
27	Wild			Died at LAKEBUENA/081102 at age of ~25Y captivity for 24Y,0M,0D
24	Wild	hatched		Died at TORONTO/16855 at age of ~25Y
41	Wild	hatched		captivity for 24Y,2M,19D Died at COLUMBIA/SJ1167 at age of ~23Y
30	Wild	hatched		captivity for ~21Y,2M Died at EVANSVLLE/288104 at age of ~23Y
0.5	~ .			captivity for ~23Y
95 43	_	hatched		Died at KNOXVILLE/101 at age of 23Y,1M,27D Died at ORNATUS/281491 at age of ~20Y
25	Wild	hatched		captivity for ~17Y Died at SAN ANTON/680072 at age of ~19Y
36	Wild	hatched		captivity for 17Y,7M,16D Died at TOLEDO/711508 at age of ~17Y
63	Cant			captivity for ~16Y Died at DALLAS/938556 at age of 17Y,10M,29D
21		hatched		Died at GLENDALE/ at age of ~17Y captivity for ~16Y
Oldest :	female	s:		
49			ed	Died at SAN ANTON/791240 at age of ~33Y,1M,23D
26		hatched		Died at GILLIS/ at age of ~31Y captivity for 28Y,8M,24D
47	Capt			Died at TULSA/3288 at age of ~26Y, 4M, 16D
28				Died at LAKEBUENA/081103 at age of ~25Y
				captivity for 24Y, 0M, 0D
23	Wild			Died at TORONTO/16856 at age of ~22Y
				captivity for 21Y,6M,23D
51		ive hatched		Died at CL SPR AV/ at age of ~21Y,6M,10D
29	WIIA			Died at TRACY AV/850515 at age of ~20Y captivity for ~20Y
48	Capt	ive hatche	-d	Died at LAKEBUENA/081101 at age of 20Y,7M,27D
112	_			Died at KANSASCTY/202783 at age of 19Y,9M,4D
31		hatched		Died at BATONROUG/89 at age of ~19Y
		-	In	captivity for ~17Y
Oldest 1	anknow:	n sex:		
16		hatched	Τn	Died at NZP-WASH/16886 at age of ~29Y captivity for 27Y,11M,16D
12	Wild	hatched		Died at SANDIEGOZ/413627 at age of ~23Y
11	Wild	hatched		captivity for ~23Y Died at SANDIEGOZ/413626 at age of ~22Y
15	Wild	hatched		captivity for ~22Y Died at NZP-WASH/ at age of ~19Y
5	Wild	hatched		captivity for 17Y,6M,6D Died at NZP-WASH/ at age of ~14Y captivity for 13Y,4M,1D

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Died at NZP-WASH/_____ at age of ~7Y
       1 Wild hatched
                        In captivity for 6Y,3M,12D
     108 Captive hatched Died at GULF BREZ/378 at age of 7Y,3M,22D
                         Died at NZP-WASH/_____ at age of ~5Y
      10 Wild hatched
                         In captivity for 3Y,11M,15D
     181 Captive hatched Died at WORLDBIRD/990020 at age of 5Y,2M,21D
       2 Wild hatched Died at PHILADELP/20547 at age of ~4Y
                         In captivity for 3Y,6M,23D
Note that median ages are for dead animals only and are NOT average
lifespans.
Ages for animals surviving to present
25th %tile Median 75th %tile Maximum males: 5Y,2M,22D 7Y,4M,15D 16Y,6M,4D ~34Y,10M,25D females: 6Y,11M,30D 13Y,6M,8D 19Y,6M,12D 28Y,6M,24D unknown sex: 2Y,9M,24D 6Y,7M,4D 14Y,1M,16D 19Y,6M,9D
 Oldest living males:
      46 Captive hatched At TULSA/3287 at age of ~34Y,10M,25D
      52 Captive hatched At SAN ANTON/791643 at age of 33Y,6M,13D
      64 Captive hatched At WILD WRLD/6195 at age of 30Y,7M,22D
      86 Captive hatched At CENTRALPK/C11372 at age of 28Y, 4M, 30D
      92 Captive hatched At LOWRY/205356 at age of 27Y,8M,17D
     155 Captive hatched At CRAWFRD W/____ at age of 20Y,6M,18D
     176 Captive hatched At NZP-WASH/213705 at age of 18Y,8M,4D
     186 Captive hatched At LOSANGELE/991063 at age of 16Y,6M,24D
     189 Captive hatched At WORLDBIRD/990021 at age of 16Y,5M,28D
     192 Captive hatched At SEDGWICK/8965 at age of 14Y,11M,3D
 Oldest living females:
      81 Captive hatched At CENTRALPK/C11373 at age of 28Y,6M,24D
      88 Captive hatched At SEDGWICK/10408 at age of 28Y, 4M, 28D
     116 Captive hatched At RIO GRAND/B21734 at age of 24Y,8M,6D
     120 Captive hatched At CALDWELL/106745 at age of 24Y,6M,13D
     156 Captive hatched At CRAWFRD W/_____ at age of 20Y,6M,18D 157 Captive hatched At DENVER/990191 at age of 20Y,5M,20D
     164 Captive hatched At KNOXVILLE/2656 at age of 19Y,6M,12D
     182 Captive hatched At LOWRY/205357 at age of 17Y,6M,13D
     185 Captive hatched At TORONTO/39385 at age of 16Y, 7M, 18D
     191 Captive hatched At SCOT NECK/_____ at age of 15Y,7M,2D
 Oldest living unknown sex:
     166 Captive hatched At CINCINNAT/293130 at age of 19Y,6M,9D
     167 Captive hatched At CRAWFRD W/_____ at age of 19Y,3M,27D
     200 Captive hatched At CRAWFRD W/_____ at age of 14Y,6M,4D
     208 Captive hatched At CL SPR AV/_____ at age of ~13Y,11M
     250 Captive hatched At SCOT NECK/_____ at age of 8Y,4M,8D 265 Captive hatched At COAL VAL/____ at age of 6Y,7M,4D
     293 Captive hatched At LOWRY/205899 at age of 4Y,8M,12D
     296 Captive hatched At WILD WRLD/8860 at age of 3Y,8M,14D
     297 Captive hatched At WILD WRLD/8902 at age of 3Y,6M,24D
     305 Captive hatched At JNGLARY F/UNK at age of 6M,26D
```

Note that median ages are for living animals only and are NOT average lifespans.

31 24 11

Births from 1 January 2010 – 1 January 2013

======= Stud#	Sex	==== Ha	tch l	===== Date	======= Sire	 Dam	Location	==== Dat	==== :e	1	LocalID	Event	
303	 М	30	Apr	2012	286	207	ORLANDO	30	Apr	2012	RLS255	Hatch	
305	?	6	Jun	2012	92	182	LOWRY JNGLARY F	-			206430 UNK	Hatch Transfer	
306	?	6	Jun	2012	92	182	LOWRY			2012	206431	Hatch Death	
307	?	12	Jun	2012	155	156	CRAWFRD W					Hatch	
308	F	27	Jul	2012	286	207	ORLANDO	27	Jul	2012	RLS256	Hatch	
309	М	29	Jul	2012	286	207	ORLANDO	29	Jul	2012	RLS257	Hatch	

TOTALS: 2.1.3 (6)

Transfers from 1 January 2010 – 1 January 2013

======= Stud#	Sex I	Hatc	=== h Г				Location					Event
=======	=====		===	======	=======			===:	====		=======	==========
81	F	7 J	un	1984	59	60	DALLAS				844042	
							CENTRALPK	16	Dec	2011	C11373	Transfer
86	M	1 A	ug	1984	62	31	BATONROUG	1	Aug	1984	670	Hatch
							GULF BREZ BATONROUG	3	Dec	1988	661	Transfer
							DISNEY AK					
							DALLAS	30	Apr	2002	02E317	
							CENTRALPK	ΤЬ	рес	2011	C11372	Transfer
120	F	18 J	ıın	1988	62	31	BATONROUG	1.8	Tun	1988	6070	Hatch
120	-	10 0	an	1700	02	91	COLUMBIA				004977	
							CALDWELL				106745	
							CILEDWELL	12	000	2010	100713	TIANSICI
227	М	~ J	un	1999	228	UNK	WALSRODE	~	Jun	1999		Hatch
							OUEBEC	11	Apr	2002	A25001	
							GRANBY	26	Oct	2006	B99045	Transfer
							ROCKTON	25	Aug	2010		Transfer
265	?	28 M	ау	2006	92	182	LOWRY	28	May	2006	205488	Hatch
							OMAHA	16	Nov	2006	16778	Transfer
							COAL VAL	16	Jan	2010		Transfer
281	F		~	2006	UNK	UNK	PRIVATE					
							WORLDBIRD					
							JNGLARY F					
							WORLDBIRD	2	May	2012		Transfer
204	E	17 0	a+	2008	270	270	WORLDBIRD	17	Oat	2000	M09016	IIa+ah
294	r	1/0	CL	2008	219	2/8					3345	Hatch Transfer
							NASHVILLE	0	sep	2010	3343	Italister
298	F	3 0	en	2009	86	81	DALLAS	3	Sen	2009	09K004	Hatch
2,70	L	J D	СÞ	2007	0.0	0.1	PHOENIX	12	Man	2010	11422	Transfer
							COLUMBIA	- 6	Dec	2010		Transfer
							COLONDIN			2011		Death
								O	ВСС	2011		Deach
304	M		~	2009	UNK	UNK	UNKNOWN		~	2009	NONE	Hatch
							GREATBEND				209001	Transfer
305	?	6 J	un	2012	92	182	LOWRY	6	Jun	2012	206430	Hatch
							JNGLARY F	6	Dec	2012	UNK	Transfer
======			===					:				

TOTALS: 3.5.2 (10)

Deaths from 1 January 2010 – 1 January 2013

Stud# Sex Hatch Date Sire	Dam 	Location Dat	te LocalID ========	Event =======
49 F ~10 Dec 1978 2 Death by: Euthanasia (medical) †		SAN ANTON 11 2	Dec 1978	Hatch Transfer Death
178 F 29 Jul 1994 19 Death by: Infection associated †		FRESNO 29 NZP-WASH 24 9	Jul 1994 Oct 1995 950222 Oct 2006 215590 Dec 2010 al † Unknown afte	Hatch Transfer Transfer Death r necropsy]
264 F 17 Jul 2006 17 Death by: Environ/Behav condition		28	Mar 2011	Hatch Death abnormality]
280 M ~ 2006 UN	IK UNK	WORLDBIRD 28 JNGLARY F 27	Feb 2007	Transfer Transfer Transfer Death
Death by: Infection associated +	Unknown +			
282 F 23 Oct 2007 27 Death by: Unknown means]	79 278		Oct 2007 M07047 May 2010	Hatch Death
295 ? 14 Apr 2009 27 Death by: Unknown means]	79 278		Apr 2009 M09010 Jan 2011	Hatch Death
298 F 3 Sep 2009 8	86 81	PHOENIX 12 COLUMBIA 6	Sep 2009 09K004 May 2010 11422 Dec 2011 Dec 2011	Hatch Transfer Transfer
Death by: Unknown means]		0	Dec 2011	Death
301 ? ~ 7 Sep 2010 28 Death by: Dead in shell † Unknow	36 207 vn † No necr		Sep 2010	Death
302 ? ~ 7 Sep 2010 28 [Death by: Injury from exhibit m		ORLANDO ~ 7 own † Generali:		Death
306 ? 6 Jun 2012 9 [Death by: Self-inflicted injuri		11	Jun 2012 206431 Dec 2012 eletal † Trauma †	Hatch Death
TOTALS: 1.5.4 (10)				

Living Studbook

Dates: 31 Dec 2012 Report ordered by: current/last location (alphabetic)										
Stud# Sex Hatch Date Sire Dam		·								
CALDWELL - Caldwell Zoo, Tyler, Texas, USA 120 F 18 Jun 1988 62 31 BATONROUG 18 Jun 1988 6070 Hatch										
120 F 18 Jun 1988 62	31		18	May	1989	004977	Transfer Transfer			
269 M 19 Jul 2007 176		NZP-WASH NY BRONX CALDWELL	28	Nov	2007	В07120	Transfer			
Totals: 1.1.0 (2)										
CENTRALPK - Central Park Zoo, Bronx NY	, US	A								
81 F 7 Jun 1984 59	60	DALLAS NY BRONX								
86 M 1 Aug 1984 62	31	BATONROUG GULF BREZ BATONROUG DISNEY AK DALLAS NY BRONX	3 24 25 30	Dec Mar Sep Apr	1988 1995 1997 2002	661 670 970161 02E317	Transfer Transfer Transfer			
Totals: 1.1.0 (2)										
CINCINNAT - Cincinnati Zoo & Botanical 166 ? 23 Jun 1993 64	48		23	Jun	1993	230663				
Totals: 0.0.1 (1)										

COAL VAL 265 Totals: 0	? 2	8 May 1)	2006	92	182	LOWRY OMAHA COAL VAL	16 .	Jan	2010		Hatch Transfer Transfer
		rbank	s Zoo and	d Garden,	Colu	mbia, South SEDGWICK COLUMBIA	Card	olin Aug	a, US 2008	SA 12246	Hatch
Totals: 1	L.O.O (
		ld Bi:	rd Sanctı	uary (wal	ter C	rawford), Vo SEATTLE CRAWFRD W	alle:	y Pa Jun	rk, N 1992	Missouri 920370	, USA Hatch
156	F 1	3 Jun	1992	135	83	SEATTLE CRAWFRD W					
167	?	4 Sep	1993	64	48	LAKEBUENA CINCINNAT CRAWFRD W	26 (Oct	1993	293290	Transfer
200	? 2	8 Jun	1998	176	191	NZP-WASH CRAWFRD W					
307 Totals: 1		5)				CRAWFRD W					Hatch
					88	, Colorado, KNOXVILLE DENVER	12 .	Jul			

204 Totals:				1999	176		NZP-WASH CRAWFRD W QUEBEC GRANBY DENVER	27 4 26	Oct Oct Oct	1999 2002 2006	A25004 B99046	Transfer Transfer Transfer
	F	19 .0 (1)	Aug	2003	186	226	West Palm METROZOO DREHER PA	19 11	Aug Feb	2003 2004	B30232 204011	Hatch
EDMONDS	М -	Wonde	ers (of Nati	ure, St. Pe	etersb	ourg, FL, US.	A				
256 Totals:			_	2005	95		KNOXVILLE CRAWFRD W EDMONDS M	10	Oct	2007	3147	Transfer
	М	.0 (1)	~	2009		UNK	er, Great B UNKNOWN GREATBEND		~	2009	NONE	Hatch Transfer
	F	Jacks 28	sonvi Apr	ille Zo	oo and Gard	dens, 191	Jacksonvill NZP-WASH JACKSONVL	28	Apr	2002	214880	
JNGLARY 305	F -	The N	Japle Jun	es Zoo, 2012	Naples, 1	182	a, USA LOWRY JNGLARY F	6	Jun Dec	2012	206430 UNK	Hatch Transfer

Totals:	0.0.	1 (1)									
					48	Knoxville, LAKEBUENA CINCINNAT CRAWFRD W KNOXVILLE	20 14 19	Jun Jul Jul	1993 1993 1993	230658 293129	Transfer Transfer
205	F	7 Oct	1998	148	171	ST LOUIS ROCHESTER KNOXVILLE	8	Apr	1999	104865	Transfer
270	М	4 Aug	2007	174	120	COLUMBIA KNOXVILLE					
Totals:											
						ardens, Los CROFT L BATONROUG DISNEY AK	7 21	Jun Aug	1996 1996	7812	Hatch Transfer
						METROZOO LOSANGELE	7	May	2002	B20046	Transfer
226	F	28 Apr	2002	176		NZP-WASH METROZOO LOSANGELE	14	Nov	2002	B20257	Transfer
Totals:	1.1.										
LOWRY - 92	Tamp M	a's Lowry 15 Apr	/ Park 1985	Zoo, Tampa 59	60	Drida, USA DALLAS CALDWELL LOWRY	15 6	Jan	1986	000809	Transfer

182	F	19 Jun	1995	64	48	LAKEBUENA WORLDBIRD CALDWELL LOWRY	6 25	Oct Sep	1995 1997	950610 104145	Transfer Transfer
293	M	19 Apr	2008	92	182	LOWRY	19	Apr	2008	205899	Hatch
Totals:											
LUFKIN -	· Elle	n Trout	Zoo, Lu	fkin, Texa	as, U	SA					
					120	COLUMBIA LUFKIN					
Totals:	1.0.0										
METRO700) - 70			Florida,							
					88	SEDGWICK					
Totals:		, ,				METROZOO			2009	B9U314	Iransier
					164	essee, USA KNOXVILLE	18	Aug	2005	3148	Hatch
						CRAWFRD W NASHVILLE					
294	F	17 Oct	2008	279		WORLDBIRD					
Totals:	1.1.0	(2)				NASHVILLE	8	Sep	2010	3345	Transfer
NZP-WASH - Smithsonian National Zoological Park, Washington, DC, USA 176 M 28 Apr 1994 64 48 LAKEBUENA 28 Apr 1994 240419 Hatch											
						ORNATUS	11	Oct	1994	240419	Transfer

			NZP-WASH	8 Nov 1	1995 213705	Transfer
Totals: 1.0						
	Sea World Orlando, 26 Jul 1999	Orlando, Flor 148 171	ida, USA ST LOUIS	26 Jul 1		Hatch
286 M	14 May 2008			14 May 2		Hatch
303 M	30 Apr 2012	286 207	ORLANDO	30 Apr 2	2012 RLS255	Hatch
308 F	27 Jul 2012	286 207	ORLANDO	27 Jul 2	2012 RLS256	Hatch
309 M Totals: 3.2	29 Jul 2012 2.0 (5)	286 207	ORLANDO	29 Jul 2	2012 RLS257	Hatch
		92 182	LOWRY PITTS CA	16 May 2 27 Jan 2	2007 205642 2008 7564	
	- Albuquerque Biolo 25 Apr 1988 L.O (1)	gical Park, A 92 90	lbuquerque, CALDWELL RIO GRAND	New Mexi 25 Apr 1 13 Jun 1	ico, USA 1988 001582 1989 B21734	
	African Lion Safari ~ Jun 1999	& Game Farm	Ltd, Cambric WALSRODE QUEBEC GRANBY	dge, Onta ~ Jun 1 11 Apr 2 26 Oct 2	ario, Canada	Transfer Transfer

Totals:	1.0.	0 (1)									
				ological Ga 25							
271	М	4 Aug	2007	174	120	COLUMBIA SAN ANTON					
			2007	176	178	NZP-WASH SAN ANTON					
Totals:	Z.I. 										
				Waterfowl, 162	139		30 25	May Sep	1997 1997	213963	Transfer
250	?	23 Aug	2004	186	226	METROZOO SCOT NECK					
Totals:	0.1.	1 (2)									
				Zoo, Wichi 62	31		3 20 27	May Apr	1986 1988	86A046 100	Transfer Transfer
			1998	162	139	SEDGWICK CL SPR AV SEDGWICK	28	Jan	1998		
Totals:	1.1.	0 (2)									

Totals: 1.0.0 (1)	176 191	Louis, Missouri, USA NZP-WASH 13 May 2003 215078 AUDUBON 6 Nov 2003 101104 ST LOUIS 21 Mar 2007 105679	Transfer
Totals: 0.1.0 (1)	246 178	coma, Washington, USA FRESNO 22 Jul 2005 250068 TACOMA 22 Jul 2005 T05A02	
TORONTO - Toronto Zoo, Scarbo		o, Canada CL SPR AV 14 May 1996 ORNATUS 7 Nov 1996 CROFT L ~ 1 Dec 1998 PITRE ~ Jan 2001 BOYLE 15 Jun 2001 TORONTO 21 May 2004 39385	Transfer Transfer Transfer Transfer
	163 185	BOYLE 10 Oct 2001 61 QUEBEC 20 Apr 2002 A25002 TORONTO ~ Jun 2008 41434	Hatch Transfer Transfer
Totals: 1.1.0 (2)			
TRACY AV - Tracy Aviary, Salt 278 F ~ 2006	UNK UNK	Ttah, USA PRIVATE ~ Feb 2007 WORLDBIRD 26 Apr 2007 M07035 TRACY AV 14 Sep 2009 2009	Transfer
279 M ~ 2006	UNK UNK	PRIVATE ~ Feb 2007	Transfer
Totals: 1.1.0 (2)			

							Oklahoma, GLENDALE		Feb	1978		Hatch
							TULSA					
Totals:	1.0	.0 (1)	'									
WILD WR	_D -	Wild	life	World	Zoo, Li	tchfield	d Park, Ari	zona	, US	A		
							DALLAS	10	May	1982		
							LAKEBUENA					
							WILD WRLD) 5	Nov	1999	6195	Transfer
206	M	8	Oct	1998	148	171	ST LOUIS	8	Oct	1998	982001	Hatch
							WILD WRLD) 3	Mar	1999	6119	Transfer
242	F	16	Oct	2003	192	88	SEDGWICK	16	Oct	2003	10649	Hatch
												Transfer
258	М	22	Sep	2005	64	242	WILD WRLD) 22	Sep	2005	7683	Hatch
261	М	20	Sep	2005	64	242	WILD WRLD	20	Sep	2005	7682	Hatch
284	М	27	Apr	2008	64	242	WILD WRLD	27	Apr	2008	7640	Hatch
296	?	18	Apr	2009	64	242	WILD WRLD	18	Apr	2009	8860	Hatch
297	?	8	Jun	2009	64	242	WILD WRLD) 8	Jun	2009	8902	Hatch
Totals:	5.1	.2 (8)										
		- -									_	
							Haven, Fl				600	
189	M	4	Jul	1996	95	88	KNOXVILLE					
												Transfer Transfer
							MOLUDDILL	, 4	Aug	1000	J J U U Z I	TTAIISTEL

281	F	~ 2006	UNK	UNK	WORLDBIRD JNGLARY F	~ Feb 2007 28 Jun 2007 M07042 27 Jul 2009 A6B022 2 May 2012	Transfer Transfer
287	F	30 May 2008	279	278	WORLDBIRD	30 May 2008 M08002	Hatch
Totals:	1.2.0	(3)					

TOTALS: 31.24.10 (65) 33 Institutions

HISTORICAL STUDBOOK

tud# ======	Sex	Hatch Date	Sire	Dam ======	Location	Dat	ce ====	I ======	localID	Event ======	Hatch Origin
1	?	~ 1890	WILD	WILD	S.AMERICA NZP-WASH	23	Jun	1891		Capture Transfer Death	Wild Hatch
			[Death k	oy: Unkn	own means]						
2	?	~ 1891	WILD	WILD	S.AMERICA PHILADELP	12	May				Wild Hatch
			[Death k	oy: Unkn	own means]						
3	?	~ 1901	WILD	WILD	S.AMERICA HAMBURG NZP-WASH	7	~ Aug	1903 1903		Transfer	Wild Hatch
USEUM/S	[Deat SMITHSO	ch by: Self-ir DNIAN † Digest	nflicted tive + Tr	injurie rauma]	s † Given t						TORY
4	М	~ 1906	WILD	WILD		11	Apr	1908		Capture Transfer Death	Wild Hatch
igestiv		ch by: Self-ir rauma]	nflicted	injurie	s † Given t						rory museum +
5	?	~ 1907	WILD	WILD	S.AMERICA NZP-WASH	14	Mar	1908			Wild Hatch
			[Death k	oy: Unkn	own means]	10	Jul	1741		DCUCII	

6	?	~ 1907	WILD	WILD by: Unkn	S.AMERICA L RUHE PHILADELP own means]			Capture Transfer Transfer Death	Wild Hatch
7	F	~ 1910	WILD	WILD	S.AMERICA NY BRONX PHILADELP own means]	~ 1	.911 NONE .911	Capture Transfer Transfer Death	Wild Hatch
8	F	~ 1925	WILD	WILD		~ 1	.926 NONE .926	Capture Transfer Transfer Death	Wild Hatch
			[Death	by: Unkn	own means]				
9	F	~ 1925	WILD	WILD	S.AMERICA JOSEPH E PHILADELP	~ 1	.926 NONE .926	Capture Transfer Transfer Death	Wild Hatch
			[Death	by: Unkn	own means]	20 0411 1		200011	
10	?	~ 1930	WILD		S.AMERICA NZP-WASH		.930 NONE .931	Capture Transfer Death	Wild Hatch
			[Death	by: Unkn	own means]				
11	?	~ 1934	WILD	WILD	S.AMERICA IBANEZ SANDIEGOZ	~ 1	934 NONE 934 935 413626 956	Capture Transfer Transfer Death	Wild Hatch
			[Death	by: Unkn	own means]				
12	?	~ 1934	WILD	WILD	S.AMERICA	~ 1	.934 NONE	Capture	Wild Hatch

				IBANEZ SANDIEGOZ	~ 1934 5 Sep 1935 31 Jan 1957	413627		
			[Death by: 1	Unknown means]				
13	М	~ 1933	WILD W	ILD S.AMERICA L RUHE PHILADELP	~ 1934 ~ 1934 22 May 1934 10 Jun 1934	20552		Wild Hatch
			[Death by:	Unknown means]				
14	М	~ 1934	WILD W		~ 1935 ~ 1935 21 Nov 1935 7 Jan 1936			Wild Hatch
			[Death by:	Unknown means]	, can 1900		Beach	
15	?	~ 1938	WILD W	ILD S.AMERICA NZP-WASH	~ 1938 27 Jun 1939 ~ 1957			Wild Hatch
			[Death by:	Unknown means]				
16	?	~ 1938	WILD W	ILD S.AMERICA NZP-WASH	~ 1938 27 Jun 1939 13 Jun 1967	16886	_	Wild Hatch
			[Death by:	Unknown means]				
17	М	~ 1964	WILD W	ILD S.AMERICA J HANAN OKLAHOMA	~ 1966 ~ 1966 8 Feb 1966 28 Feb 1973	072001	Transfer	Wild Hatch
	[Dea	ath by: Environ	n/Behav cond	itions + Unkno				y, secondary]
18	F	~ 1964	WILD W	ILD S.AMERICA J HANAN OKLAHOMA				Wild Hatch

			[Death by: In]	jury from predator † Unknown † Generalized † Trauma]
19	М	~ 1966	MITD MITI	S.AMERICA ~ 1968 NONE Capture Wild Hatch HERMOSA B ~ 1968 Transfer SANDIEGOZ 17 Oct 1968 200602 Transfer TOLEDO 10 Feb 1977 771509 Transfer LEBEDA 26 Oct 1989 ltf
20	М	~ 1964	WILD WILD	CHASE B ~ 1966 Transfer SANDIEGOZ 26 Sep 1967 413628 Transfer 25 Dec 1968 Death
21	М	~ 1964	WILD WILI	CHASE B ~ 1965 Transfer SOLANO C ~ 1965 Transfer GLENDALE ~ 1970 Transfer ~ 1981 Death
			[Death by: Unk	known means]
22	F	~ 1964	MITD MITI	S.AMERICA ~ 1965 NONE Capture Wild Hatch CHASE B ~ 1965 Transfer SOLANO C ~ 1965 Transfer GLENDALE ~ 1970 Transfer ~ 1981 Death
			[Death by: Unk	
23	F	~ 1965	WILD WILI	S.AMERICA ~ 1966 NONE Capture Wild Hatch ABILENE 1 Jul 1966 200 Transfer TORONTO 28 Oct 1982 16856 Transfer 23 Jan 1988 Death
			[Death by: Inf	Tection associated + Unknown + Digestive + Metabolism]
24	М	~ 1965	WILD WILI	S.AMERICA ~ Jan 1966 NONE Capture Wild Hatch ABILENE 1 Jul 1966 201 Transfer TORONTO 28 Oct 1982 16855 Transfer

			[Death	by: Euth	anasia (med	19 Sep lical) †			Death sculoskele	tal +	Toxicity]
25	М	~ 1966	WILD	WILD	S.AMERICA SAN ANTON		1968		Capture Transfer Death	Wild	Hatch
			[Death	by: Unkn	own means]						
26	F	~ 1966	WILD	WILD	S.AMERICA SAN ANTON GILLIS	8 Apr 6 Apr	1968 1992		Capture Transfer Transfer Death	Wild	Hatch
			[Death	by: Unkn	own means]						
27	М	~ 1966	WILD	WILD	S.AMERICA SAN ANTON LAKEBUENA	1 Jan	1968 1978	NONE 680097 081102	Capture Transfer Transfer Death	Wild	Hatch
			[Death	by: Unkn	own means]						
28	F	~ 1966	WILD	WILD	S.AMERICA SAN ANTON LAKEBUENA	1 Jan	1968 1978	081103	Capture Transfer Transfer Death	Wild	Hatch
			[Death	by: Unkn	own means]						
29	F	~ 1967	WILD	WILD	S.AMERICA CHASE B NZP-WASH NZP-CRC TRACY AV	5 Sep 3 May 17 Sep	1968 1968 1983	33377	Transfer	Wild	Hatch
			[Death	by: Infe	ction assoc			own + Ge		† Trai	ıma]
30	М	~ 1969	WILD	WILD	S.AMERICA CHASE B BATONROUG	~	1969		Capture Transfer Transfer	Wild	Hatch

			[Death by: In	BATONROUG EVANSVLLE	5 Aug 19 10 Aug 19 14 Jul 19		Transfer Transfer Death	zed † Trauma]
2.1	177	1060						
31	F	~ 1969	WILD WILD	S.AMERICA	~ 13 ~ 10	971 NONE 971	Capture Transfer	Wild Hatch
						971 89		
					23 Jun 19	988	Death	
			[Death by: Unk	nown means]				
32	F	~ 1970	WILD WILD	S.AMERICA	~ 19	971 NONE	Capture	Wild Hatch
				FREY W	~ 19	971	Transfer	
						972 20554		
				NZP-WASH		973 201845		
				£	4 Aug 19		Death	
			[Death by: In]	ury from exi	iibit mate	UNKNOWN	Generali	zed Iraumaj
33	?	27 Jan 1998	162 139	CL SPR AV	27 Jan 19	998	Hatch	Captive Hatch
33	?	27 Jan 1998				998 998	Hatch Death	Captive Hatch
33	?	27 Jan 1998	162 139 [Death by: Unk					Captive Hatch
33	?	27 Jan 1998 ~ 1970	[Death by: Unk	nown means]	~ 19	998 972 NONE	Death Capture	
			[Death by: Unk	nown means]	~ 19	998	Death Capture	
			[Death by: Unk	nown means] S.AMERICA MERRIT	~ 19 ~ 19 ~ 19 8 Apr 19	998 972 NONE 972 4099	Death Capture Transfer	
			[Death by: Unk	nown means] S.AMERICA MERRIT CHICAGOLP	~ 19 ~ 19 ~ 19 8 Apr 19	998 972 NONE 972	Death Capture Transfer	
			[Death by: Unk	nown means] S.AMERICA MERRIT CHICAGOLP	~ 19 ~ 19 ~ 19 8 Apr 19	998 972 NONE 972 4099	Death Capture Transfer Transfer	
			[Death by: Unk WILD WILD [Death by: Unk	nown means] S.AMERICA MERRIT CHICAGOLP nown means] S.AMERICA	~ 19 ~ 19 ~ 19 8 Apr 19 16 Aug 19	998 972 NONE 972 4099 972 NONE	Capture Transfer Transfer Death	Wild Hatch
34	?	~ 1970	[Death by: Unk WILD WILD [Death by: Unk	nown means] S.AMERICA MERRIT CHICAGOLP nown means] S.AMERICA FREY W	~ 19 ~ 19 ~ 19 8 Apr 19 16 Aug 19 ~ 19 ~ 19	998 972 NONE 972 4099 972 NONE 972 NONE 972 NONE	Capture Transfer Transfer Death Capture Transfer	Wild Hatch
34	?	~ 1970	[Death by: Unk WILD WILD [Death by: Unk	nown means] S.AMERICA MERRIT CHICAGOLP nown means] S.AMERICA FREY W	~ 19 ~ 19 ~ 19 8 Apr 19 16 Aug 19 ~ 19 ~ 19 19 May 19	998 972 NONE 972 4099 972 NONE 972 NONE 972 20555	Capture Transfer Transfer Death Capture Transfer Transfer	Wild Hatch
34	?	~ 1970	[Death by: Unk WILD WILD [Death by: Unk WILD WILD	nown means] S.AMERICA MERRIT CHICAGOLP nown means] S.AMERICA FREY W PHILADELP	~ 19 ~ 19 ~ 19 8 Apr 19 16 Aug 19 ~ 19 ~ 19 19 May 19 25 May 19	998 972 NONE 972 4099 972 NONE 972 NONE 972 20555 972	Capture Transfer Transfer Death Capture Transfer Transfer Transfer Death	Wild Hatch Wild Hatch
34	?	~ 1970	[Death by: Unk WILD WILD [Death by: Unk	nown means] S.AMERICA MERRIT CHICAGOLP nown means] S.AMERICA FREY W PHILADELP	~ 19 ~ 19 ~ 19 8 Apr 19 16 Aug 19 ~ 19 ~ 19 19 May 19 25 May 19	998 972 NONE 972 4099 972 NONE 972 NONE 972 20555 972	Capture Transfer Transfer Death Capture Transfer Transfer Transfer Death	Wild Hatch Wild Hatch
34	?	~ 1970	[Death by: Unk WILD WILD [Death by: Unk WILD WILD	nown means] S.AMERICA MERRIT CHICAGOLP nown means] S.AMERICA FREY W PHILADELP	~ 19 ~ 19 ~ 19 8 Apr 19 16 Aug 19 ~ 19 ~ 19 19 May 19 25 May 19 Unknown	998 972 NONE 972 4099 972 NONE 972 NONE 972 20555 972 Generaliz	Capture Transfer Transfer Death Capture Transfer Transfer Death ced † Traum	Wild Hatch Wild Hatch

			[Death by:	Euth	TOLEDO anasia (med	28 Dec	1987		Transfer Death Unknown	(after	necropsy)]
37	M	~ 1971			S.AMERICA CHICAGOLP OKLAHOMA	1 Jan	1973	343203	Capture Transfer Transfer Death		Hatch
			[Death by:	Unkn	own means]						
38	F	~ 1972	WILD W	ILD	S.AMERICA CHASE B COLUMBIA NZP-WASH	~ 10 May	1974 1974 1981	SJ0280 206529	Transfer Transfer		Hatch
Smithsor		th by: Injury nstitution † (RY MUSI	EUM
39	F	~ 1972	WILD W	/ILD	S.AMERICA CHASE B BATONROUG CHATFIELD SAN FRAN LOSANGELE	5 Nov 26 Jan 4 Nov	1975 1975 1982 1983 1983	91 283022	Transfer	Wild	Hatch
Bacteria		th by: Euthana	asia (medica	.1) +	Given to a	ın insti	tutio	n: LA MU	S + Muscu	loskele	etal †
40	М	11 Jul 1973	25 [Death by:		SAN ANTON own means]	11 Jul 10 Jun			Hatch Death	Capt:	lve Hatch
41	М	~ 1975	WILD W		S.AMERICA LOSANGELE COLUMBIA own means]	~ May	1977 1977	NONE 06764 SJ1167	Capture Transfer Transfer Death	Wild	Hatch

42	М	~ 1977	21	22		13 Apr	1978		Transfer	Captive Hatch
			[Death	by: Unkn	own means]	z may	1970		Deach	
43	М	~ 1977			S.AMERICA BELLBIRD SANDIEGOZ ORNATUS own means]	22 Jan 19 Oct	1980 1981	281491 281491	Transfer Transfer	Wild Hatch
44	?	14 Jun 1977			SAN ANTON				Hatch Death	Captive Hatch
45	_	~ 1978			SANDIEGOZ SD-WAP	22 Jan 2 Mar 8 Aug	1981 1983 1984	016483 016483	Transfer Transfer Death	Wild Hatch
	ſυe	eatn by: Injury	irom ex	inibit ma	te † Given	to an 1	nstiti	ution:	† Musculos	keletal † Trauma]
46	M	~ 5 Feb 1978	21	22	GLENDALE TULSA				Hatch Transfer	Captive Hatch
47	F	~ 5 Feb 1978	21	22	GLENDALE TULSA	5 Feb	1979		Transfer	Captive Hatch
			[Death	by: Unkn	own means]					
48	F	23 May 1978	25	26	SAN ANTON LAKEBUENA		1978	081101	Transfer	Captive Hatch
	[De	eath by: Euthan	asia (me	edical) +	Incinerate					l abnormality]
49	F	~10 Dec 1978	21	22	GLENDALE	~10 Dec	: 1978		Hatch	Captive Hatch

					SAN ANTON		c 1979 791240 b 2012	Transfer Death	
	ſD∈	eath by: Euthan	asia (medi	cal) †	Unknown +	Genera	lized		ropsy not
received				, .					1 2
50	M	~25 Jan 1979	21	22					Captive Hatch
							n 1980 340		
							n 1982		
							v 1983 283021 v 1983 001483		
						2 Se		Death	
	[De	eath by: Euthan	asia (medi	cal) ‡					sculoskeletal +
Bacteria		Jack Sy. Zachan	2010 (mod1	041,	011011 00 0	211 21100	100010111 1	1002011(110	,
51	F	~23 May 1979	21	22	GLENDALE	~23 Ma	y 1979	Hatch	Captive Hatch
		-					y 1980 801519		1
					NZP-WASH	3 Ma	y 1984 208265	Transfer	
					CL SPR AV		g 1995		
					_	~ 1 De	c 2000	Death	
			[Death by	: Unkn	own means]				
52	М	19 Jun 1979	25	26	SAN ANTON	19 Ju	n 1979 791643	B Hatch	Captive Hatch
53	M	~ 6 Feb 1980	21	22	GLENDALE	~ 6 Fe	b 1980	Hatch	Captive Hatch
						5 Fe	b 1984 349	Transfer	-
						16 No	v 1989	Death	
			[Death by	: Unkn	own means]				
54	F	~ 6 Feb 1980	21	22	GLENDALE	~ 6 Fe	b 1980	_ Hatch	Captive Hatch
					WILD WRLD	5 Fe	b 1984 350	Transfer	-
						27 Ju	n 1989	Death	
			[Death by	: Unkn	own means]				
55	Μ	29 Mar 1980	21	22	GLENDALE	29 Ma:	r 1980	Hatch	Captive Hatch
							g 1980 ${204375}$		-
					SD-WAP	2 Mai	r 1983 204375	Transfer	
					ATASCADER	29 Ju	1 1987 870009	Transfer	

			[Dooth has Hol	SAFARI W	10 Feb 1993 870009 15 Jun 1996	Transfer Death
			[Death by: Unk	nown means,		
56	F	~ 1983	55 45 [Death by: Unk	SD-WAP ATASCADER SAFARI W	~ 1983	Transfer Transfer Transfer
57	F	29 Mar 1980	21 22 [Death by: Unk	SANDIEGOZ ORNATUS	29 Mar 1980	Transfer
58	М	~23 Jul 1980	WILD WILI	BOLIVIA WORLDWIDE	~ 1981 NONE ~ 1981 24 Jul 1981 813001 18 Sep 1992	Capture Wild Hatch Transfer Transfer Death
			[Death by: Oth	er/Unknown		ed † Unknown after necropsy]
59	М	~23 Jul 1980	WILD WILE	WORLDWIDE DALLAS		Capture Wild Hatch Transfer Transfer Transfer Death
			[Death by: Eut	hanasia (med	lical) † Unknown † Ge	
60	F	~23 Jul 1980	WILD WILE	WORLDWIDE DALLAS	~ 1981 NONE ~ 1981	Transfer

			[Death by: Inf	ection associated \dagger	Unknown + Un	known (after necropsy)]
61	M	25 Jul 1980	46 47		1980 4309 1981 206814 1983	Hatch Captive Hatch Transfer Death
			[Death by: Inf			Digestive + Nutrition]
62	М	~ 1981		CHASE B ~ BATONROUG 6 Apr 12 Feb	1983 1983 550	Capture Wild Hatch Transfer Transfer Death
			[Death by: Unk	nown means,		
63	М	5 Jun 1981	46 47 [Death by: Sel	BATONROUG 2 Sep MONTGOMRY 4 Oct BATONROUG 5 Aug EVANSVLLE 10 Aug BATONROUG 19 Oct DALLAS 9 Sep 5 May	1983	Transfer Transfer Transfer Transfer Transfer Transfer
64	М	10 May 1982	59 60	LAKEBUENA 2 Nov	1982 823255 1982 121101 1999 6195	Hatch Captive Hatch Transfer Transfer
65	F	25 May 1982	55 45	NZP-CRC 23 Mar DETROIT 16 Oct KNOXVILLE 3 Mar WORLDBIRD 23 Sep KNOXVILLE 26 Oct 20 Feb	1983 207661 1985 1617 1988 99 1992 1992 99 2001	Transfer Transfer Transfer Transfer Transfer Death
of+on		_	asia (medical)	† Given to an insti	tution: UTCVM	+ Generalized + Unknown
after n	ecrop	2 À 1				

66	?	25 May 1982	55	UNK	SANDIEGOZ LEVIN	25 May 1982 (29 Feb 1984 ₋		Hatch ltf	Captive	Hatch
67	М	12 Jun 1982	55	45	SANDIEGOZ MICH KEN	12 Jun 1982 (29 Apr 1987 _		Hatch ltf	Captive	Hatch
68	М	13 Jun 1982	55	45	SANDIEGOZ MICH KEN	13 Jun 1982 (29 Apr 1987 _		Hatch ltf	Captive	Hatch
69	F	2 Jul 1982	55	UNK		2 Jul 1982 (26 Feb 1984 ₋ ~ 1995		Hatch Transfer Death	Captive	Hatch
			[Death by:	Unkn	own means]	1990		beach		
70	?	3 Jul 1982	55	UNK	SANDIEGOZ	3 Jul 1982 (14 Jan 1984	082902	Hatch Death	Captive	Hatch
			[Death by:	Unkn	own means]					
71	М	16 Sep 1982	55	UNK	SANDIEGOZ LANNOM	16 Sep 1982 : 26 Feb 1984 _ ~ 1995		Hatch Transfer Death	Captive	Hatch
			[Death by:	Unkn	own means]	. 1993		Deach		
72	?	16 Sep 1982	55	UNK	SANDIEGOZ STEHLY	16 Sep 1982 1 14 Oct 1983		Hatch ltf	Captive	Hatch
73	?	15 Apr 1983	59	60		15 Apr 1983 2 2 Nov 1983		Hatch ltf	Captive	Hatch
74	?	15 Apr 1983	59	60		15 Apr 1983 2 2 Nov 1983		Hatch ltf	Captive	Hatch
75	?	19 May 1983	52	49	SAN ANTON	19 May 1983 3 20 May 1983		Hatch Death	Captive	Hatch
			[Death by:	Unkn	own means]	20 May 1903		Deach		
76	М	20 May 1983	52	49	SAN ANTON	20 May 1983	831537	Hatch	Captive	Hatch

				NZP-WASH	3 May 1984 208264 16 Feb 1994	Transfer Death
			[Death by: In	nfection assoc		+ Generalized + Trauma]
77	M	20 May 1983	52		20 May 1983 831536 3 Oct 1984	Hatch Captive Hatch ltf
78	М	14 Jul 1983	46	BALTIMORE TOLEDO	14 Jul 1983 6118 11 Jun 1987 87957 5 Oct 1988 881591 26 Oct 1989	Transfer Transfer
79	?	19 May 1984	53	54 WILD WRLD	19 May 1984 385 29 May 1984	Hatch Captive Hatch Death
			[Death by: Un	nknown means]	_	
80	F	7 Jun 1984	59	60 DALLAS	7 Jun 1984 844041 2 Nov 1984	Hatch Captive Hatch Death
			[Death by: O	ther/Unknown \dagger	Unknown † Generali	<pre>zed + Unknown after necropsy]</pre>
81	F	7 Jun 1984	59		7 Jun 1984 844042 16 Dec 2011 C11373	
82	F	10 Jun 1984	52	49 SAN ANTON DETROIT	17 Jul 1985 1542	
			[Death by: E	uthanasia (med	21 Aug 1985 dical) † Incinerate	Death † Musculoskeletal † Trauma]
83	F	11 Jun 1984	52	DETROIT BALTIMORE	11 Jun 1984 840654 17 Jul 1985 1543 17 Jul 1987 87966 9 Apr 1988 880117 4 Sep 2003	Transfer Transfer Transfer
			[Death by: In	nfection assoc	ciated † Unknown † G	eneralized † Toxicity]
84	M	26 Jul 1984	46		26 Jul 1984 6834 9 Aug 1985 850514	

			[Death by:	Unknown means]	17 Dec 1987	Death
85	?	27 Jul 1984	46	47 TULSA	27 Jul 1984 6844 2 Aug 1984	Hatch Captive Hatch Death
			[Death by:	Unknown means]		
86	М	1 Aug 1984	62	31 BATONROUG GULF BREZ BATONROUG DISNEY AK DALLAS NY BRONX	1 Aug 1984 670 3 Dec 1988 661 24 Mar 1995 670 25 Sep 1997 970161 30 Apr 2002 02E317 16 Dec 2011 C11372	Hatch Captive Hatch Transfer Transfer Transfer Transfer Transfer
87	F	1 Aug 1984	62	31 BATONROUG ALEXANDRI	1 Aug 1984 642 2 Mar 1992 AV0001 ~ Jun 2003	Hatch Captive Hatch Transfer Death
			[Death by:	Unknown means]		
88	F	3 Aug 1984	62	31 BATONROUG GREENVISC KNOXVILLE SEDGWICK	3 Aug 1984 671 20 May 1986 86A046 27 Apr 1988 100 24 Apr 2003 10408	Hatch Captive Hatch Transfer Transfer Transfer
89	?	29 Aug 1984	62	31 BATONROUG	29 Aug 1984 5673 16 Nov 1984	Hatch Captive Hatch Death
			[Death by:	Unknown means]		
90	F	14 Apr 1985	59	60 DALLAS CALDWELL	14 Apr 1985 854268 6 Jan 1986 000810 24 May 1989	Hatch Captive Hatch Transfer Death
			[Death by:	Environ/Behav o	conditions + Bury + N	
91	?	14 Apr 1985	59 [Death by:	60 DALLAS Other/Unknown	14 Apr 1985 854267 17 Aug 1985 Unknown † Generaliz	Hatch Captive Hatch Death ed † Unknown after necropsy]
			1 -	- ,		

92	М	15 Apr 1985	59	60		6	Jan	1986	854269 000809 205356	Hatch Transfer Transfer	Captive	Hatch
93	?	20 May 1985	62	31	BATONROUG				5769	Hatch Death	Captive	Hatch
			[Death by	: Unkr	nown means]							
94	F	31 May 1985	52	49	SAN ANTON TACOMA WINSTON DRAKE P	27 3	Feb Apr	1986 1989	86A002	Hatch Transfer Transfer ltf	Captive	Hatch
95	М	19 Jun 1985	62	31		20 27	May Apr	1986 1988	5770 86A047 101	Hatch Transfer Transfer Death	Captive	Hatch
			[Death by	: Unkr	nown means]		- 5					
96	?	1 Jan 1986	62	31	BATONROUG			1986 1986		Hatch Death	Captive	Hatch
			[Death by	: Unkr	nown means]		_					
97	?	3 Jan 1986	62	31	BATONROUG			1986 1986		Hatch Death	Captive	Hatch
			[Death by	: Unkr	nown means]							
98	F	3 Apr 1986	UNK	UNK	SD-WAP				029553	Hatch Death	Captive	Hatch
			[Death by	: Unkr	nown means]							
99	F	5 Apr 1986	58	81	DALLAS C. YOUNG		_			Hatch ltf	Captive	Hatch
100	М	5 Apr 1986	58	81	DALLAS AURORA				864606	Hatch ltf	Captive	Hatch

101	F	18 May 1986	52 49		18 May 1986 861507 15 Oct 1987 287189 11 Jun 1990	Hatch Captive Hatch Transfer Death
			[Death by: Unk	nown means]	11 0411 1990	Deach
102	F	25 May 1986	55 56	SD-WAP MICH KEN		Hatch Captive Hatch ltf
103	М	~ May 1996	148 171	CROFT L GILLIS	~ May 1996 ~ Jan 2001	Hatch Captive Hatch ltf
104	?	27 Jun 1986	58 81	DALLAS	27 Jun 1986 864714 17 Jul 1986	Hatch Captive Hatch Death
			[Death by: Oth	er/Unknown +		ed † Unknown after necropsy]
105	?	10 Jul 1986	62 31		10 Jul 1986 5893 4 Apr 1987	Hatch Captive Hatch ltf
106	?	16 Aug 1986	62 31	BATONROUG DISCH J	16 Aug 1986 5916 4 Apr 1987	Hatch Captive Hatch ltf
107	?	5 Sep 1986	62 31	BATONROUG DISCH J		Hatch Captive Hatch ltf
108	?	17 Apr 1987	62 31	BATONROUG GULF BREZ	17 Apr 1987 5983 20 Jun 1987 378 8 Aug 1994	Hatch Captive Hatch Transfer Death
			[Death by: Unk	nown means]	0 110g 1991	20001
109	F	24 May 1987	58 81		9 Dec 1987 439001	Hatch Captive Hatch Transfer Transfer Death
			[Death by: Eut	hanasia (med		sculoskeletal † Trauma]
110	?	12 Jun 1987	52 49			Hatch Captive Hatch Transfer

			[Death by: Euth	anasia (medi	2 Mar cal) †		Death tegumentar	y † Trauma]
111	М	19 Jul 1987	43 57		11 Sep	1987 387823		Captive Hatch
abnormal		th by: Euthan	asia (medical) \dagger	Given to an	instit	tution: + Mu	sculoskele	tal + Mechanical
abilorillar	тсуј							
112	F	27 Aug 1987	92 90	SEATTLE CALDWELL MINNESOTA	20 Mar 9 May 24 Oct	1989 890052 1989 001503 1989 6366 1991 202783	Transfer Transfer Transfer	Captive Hatch
			[Death by: Unkn	own means]				
113	?	3 Apr 1988	58 81	DALLAS MCCOY T		1988 886174 1988	Hatch ltf	Captive Hatch
114	?	3 Apr 1988	58 81	DALLAS MCCOY T		1988 886175 1988	Hatch ltf	Captive Hatch
115	?	3 Apr 1988	58 81	DALLAS MCCOY T	3 Apr 9 Jun	1988 886176 1988	Hatch ltf	Captive Hatch
116	F	25 Apr 1988	92 90			1988 001582 1989 B21734		Captive Hatch
117	F	28 May 1988	52 49	CALDWELL		1989 001592		Captive Hatch
			[Death by: Infe					Trauma]
118	М	7 Jun 1988	55 56	RUNDEL	1 Jun	1988 880025 1989 1989 289015	Transfer	Captive Hatch

				RUNDEL GILLIS	1 Jan 1991 ~ 1994 14 Jul 1997	Transfer Transfer Death	
			[Death by: Un]	known means]			
119	F	7 Jun 1988	55 56	RUNDEL SAN FRAN RUNDEL	7 Jun 1988 880026 1 Jun 1989	Transfer Transfer Transfer Transfer	atch
120	F	18 Jun 1988	62 33	COLUMBIA	18 Jun 1988 6070 18 May 1989 004977 12 Oct 2010 106745	Transfer	atch
121	F	~18 Jun 1988	62 31		~18 Jun 1988 6089 2 May 1989	Hatch Captive Haltf	atch
122	F	26 Jun 1988	43 5		26 Jun 1988 388980 20 Apr 1989	Hatch Captive Ha	atch
123	M	27 Jun 1988	43 5	7 SANDIEGOZ WALSRODE	27 Jun 1988 388985 20 Apr 1989 ~ 1997	Hatch Captive Hatransfer	atch
124	?	18 Jul 1988			18 Jul 1988 886270 29 Jul 1988	Death	
			[Death by: Oth	ner/Unknown †	Unknown † Generalize	ed † Unknown after ne	ecropsy]
125	F	18 Jul 1988	43 5	7 SANDIEGOZ WALSRODE	18 Jul 1988 488139 20 Apr 1989 ~ 1997		atch
126	?	16 Sep 1988	58 81		16 Sep 1988 886295 5 Dec 1988		atch

127	?	16 Sep 1988	58	81 DALL MCCC	AS 16 Y T 5	Sep 1988 886296 Dec 1988	Hatch ltf	Captive Hatch
128	?	15 Apr 1989	58	81 DALL		Apr 1989 896515 May 1989	Hatch Death	Captive Hatch
			[Death by:	Other/Unk				wn after necropsy]
129	?	15 Apr 1989	58	81 DALL		Apr 1989 896516 May 1989	Hatch Death	Captive Hatch
			[Death by:	Other/Unk	nown + Unk	nown † Generaliz		wn after necropsy]
130	М	20 Apr 1989	62	WILD	WRLD 5	Apr 1989 6212 Dec 1989 2640 Dec 1991	Transfer	Captive Hatch
			[Death by:	Unknown m	eans]			
131	F	20 Apr 1989	62	ORNA CROF	TUS 21 1 T L ~ 1	Apr 1989 6213 Nov 1989 6213 Dec 1998 Jan 2001	Transfer	Captive Hatch
132	?	6 Jun 1989	59	60 PHIL		Jun 1989 203956 Jun 1989	Hatch Death	Captive Hatch
			[Death by:	Other/Unk		dered + Unknown		ropsy)]
133	F	7 Jun 1989	43			Jun 1989 389727 Dec 1989	Hatch ltf	Captive Hatch
134	?	16 Jun 1989	46	47 TULS		Jun 1989 9316 Jun 1989	Hatch Death	Captive Hatch
			[Death by:	Unknown m		Can 1909	Doucii	
135	М	9 Jul 1989	43		TLE 3	Jul 1989 389955 Nov 1989 891063 Aug 2000		Captive Hatch
			[Death by:	Infection		d † Unknown † Di		Metabolism]

136	F	12 Jul 1989	43	57		12 Jul 1989 18 Dec 1989		Hatch ltf	Captive Hatch
137	?	10 Aug 1989	46	47	TULSA	10 Aug 1989 21 Aug 1989		Hatch Death	Captive Hatch
			[Death by:	Unkn	own means]	J			
138	?	3 Nov 1989	62	87		3 Nov 1989 5 Dec 1989 14 Mar 1990	2641	Hatch Transfer Death	Captive Hatch
			[Death by:	Unkn	own means]	11 1101 1330		Beach	
139	F	26 Jun 1986	59	60	AURORA NEWMAN	20 Nov 1986 ~ Jun 1990 ~ Jul 1990		Transfer Transfer	Captive Hatch
140	?	10 Mar 1990	62	87	BATONROUG	10 Mar 1990	6407	Hatch	Captive Hatch
			[Death by:	Unkn	own means]	26 Mar 1990		Death	-
141	?	10 Mar 1990	62	87	BATONROUG	10 Mar 1990 22 Mar 1990		Hatch Death	Captive Hatch
			[Death by:	Unkn	own means]	22 Mai 1990		Deach	
142	?	12 Apr 1991	52	49	SAN ANTON KARGER J	12 Apr 1991 24 Apr 1991 ~ Jun 1991		Hatch Transfer Death	Captive Hatch
			[Death by:	Unkn	own means]				
143	?	13 Apr 1991	52	49		13 Apr 1991 24 Apr 1991		Hatch ltf	Captive Hatch
144	?	25 Apr 1991	62	87	BATONROUG	25 Apr 1991 4 May 1991		Hatch Death	Captive Hatch

			[Death by: Unk	nown means]		
145	?	27 Apr 1991	58 81	DALLAS	27 Apr 1991 917089 27 Apr 1991	Hatch Captive Hatch Death
			[Death by: Othe	er/Unknown +		ed † Unknown after necropsy]
146	F	27 Apr 1991	58 81	DALLAS MCCOY T	27 Apr 1991 917090 16 Mar 1992	Hatch Captive Hatch ltf
147	F	29 Apr 1991	58 81	DALLAS MCCOY T	29 Apr 1991 917091 16 Mar 1992	Hatch Captive Hatch ltf
148	М	17 May 1991	64 48	SHARPE M	17 May 1991 210507 Jul 1991	Hatch Captive Hatch Transfer Transfer Transfer Death
			[Death by: Unk	nown means]		
149	F	18 May 1991	64 48	SHARPE M	18 May 1991 210509 31 Mar 1993 ~ 1993 ~ 1996 108	Hatch Captive Hatch Transfer Transfer ltf
150	F	19 May 1991	64 48		19 May 1991 210510 31 Mar 1993	Hatch Captive Hatch ltf
151	F	27 Sep 1991	64 48		27 Sep 1991 210903 23 Apr 1992 6034 18 Jul 1995	Hatch Captive Hatch Transfer Death
			[Death by: Sel:	f-inflicted	injuries \dagger Unknown \dagger	Urinary † Trauma]
152	F	28 Apr 1992	64 48		28 Apr 1992 220413 31 Mar 1993	Hatch Captive Hatch ltf
153	М	28 Apr 1992	64 48	LAKEBUENA SHARPE M	_	Hatch Captive Hatch ltf

154	M	28 Apr 1992	6 4	48	LAKEBUENA SHARPE M					Hatch ltf	Captive	Hatch
155	M	13 Jun 1992	135	83	SEATTLE CRAWFRD W							Hatch
156	F	13 Jun 1992	135	83	SEATTLE CRAWFRD W	13 10				Hatch Transfer		Hatch
157	F	12 Jul 1992	95	88	KNOXVILLE DENVER						Captive	Hatch
158	F	14 Jul 1992	95	88	KNOXVILLE WORLDBIRD	1 · 2 :	Jul Feb Mar	1992 1993 2005	338 338	Hatch Transfer Death	Captive	Hatch
	[Dea	ath by: Infect	ion associate	ed +	Unknown +	Rej	rodu	ctive	† Mecha		rmality]	
159	?	27 Jul 1992				3:	Jul	1992		Death		
			[Death by:	Othe	r/Unknown +	Uı	know	n † G	eneraliz	ed † Unkno	wn after	necropsy]
160	?	22 Sep 1992							920923	Hatch Death	Captive	Hatch
			[Death by:	Unkn	own means]							
161	?	23 Sep 1992	52	49	SAN ANTON				920924	Hatch Death	Captive	Hatch
			[Death by:	Unkn	own means]							
162	М	8 Mar 1993	52	49	SAN ANTON CL SPR AV		Sep	1993			Captive	Hatch
163	М	17 Apr 1993	43	131	ORNATUS CROFT L PITRE	~ :	. Dec	1998		Hatch Transfer Transfer	Captive	Hatch

164 F 20 Jun 1993 64 48 LAKEBUENA 20 Jun 1993 230658 Hatch Captive Hatch					BOYLE	15 Jun 2001 ~ 2003	
[Death by: Other/Unknown + Bury + Unknown (after necropsy)] 166 ? 23 Jun 1993 64 48 LAKEBUENA 23 Jun 1993 230663 Hatch Captive Ha CINCINNAT 14 Jul 1993 293130 Transfer 167 ? 4 Sep 1993 64 48 LAKEBUENA 4 Sep 1993 230905 Hatch Captive Ha CINCINNAT 26 Oct 1993 293290 Transfer CRAWFRD W 27 Oct 1993 Transfer 168 ? 4 Sep 1993 64 48 LAKEBUENA 4 Sep 1993 230906 Hatch Captive Ha 10 Sep 1993 Death [Death by: Other/Unknown + Bury + Unknown (after necropsy)] 169 F ~ 1993 UNK UNK BATONROUG	164	F	20 Jun 1993	64	CINCINNAT CRAWFRD W	14 Jul 1993 293129 19 Jul 1993	Transfer Transfer
CINCINNAT 14 Jul 1993 293130 Transfer	165	?	22 Jun 1993			25 Jun 1993	Death
CINCINNAT 26 Oct 1993 293290 Transfer CRAWFRD W 27 Oct 1993 Transfer 168 ? 4 Sep 1993 64 48 LAKEBUENA 4 Sep 1993 230906 Hatch Captive Ha 10 Sep 1993 Death [Death by: Other/Unknown + Bury + Unknown (after necropsy)] 169 F ~ 1993 UNK UNK BATONROUG ~ 1993 Hatch Captive Ha SLAUGHTER 10 Sep 1996 Transfer DREHER PA 10 Sep 1996 96170 Transfer 16 Jan 1997 Death [Death by: Injury from predator + Unknown + No necropsy planned] 170 M ~ 1993 63 60 BATONROUG ~ 1993 Hatch Captive Ha SLAUGHTER 10 Sep 1996 Transfer DREHER PA 10 Sep 1996 96169 Transfer DREHER PA 10 Sep 1996 96169 Transfer URCHDBIRD 7 Jan 1998 980002 Transfer CALDWELL 4 Jun 2008 106130 Transfer	166	?	23 Jun 1993	64			
10 Sep 1993 Death	167	?	4 Sep 1993	64	CINCINNAT	26 Oct 1993 293290	Transfer
SLAUGHTER 10 Sep 1996 Transfer DREHER PA 10 Sep 1996 96170 Transfer 16 Jan 1997 Death [Death by: Injury from predator † Unknown † No necropsy planned] 170 M ~ 1993 63 60 BATONROUG ~ 1993 Hatch Captive Ha SLAUGHTER 10 Sep 1996 Transfer DREHER PA 10 Sep 1996 96169 Transfer WORLDBIRD 7 Jan 1998 980002 Transfer CALDWELL 4 Jun 2008 106130 Transfer	168	?	4 Sep 1993			10 Sep 1993	Death
SLAUGHTER 10 Sep 1996 Transfer DREHER PA 10 Sep 1996 96169 Transfer WORLDBIRD 7 Jan 1998 980002 Transfer CALDWELL 4 Jun 2008 106130 Transfer	169	F	~ 1993		SLAUGHTER DREHER PA	10 Sep 1996 10 Sep 1996 96170 16 Jan 1997	Transfer Transfer Death
[Death by: Injury from exhibit mate + Unknown + Generalized + Traum	170	М	~ 1993		SLAUGHTER DREHER PA WORLDBIRD CALDWELL	10 Sep 1996	Transfer Transfer Transfer Transfer Death

171	F	~ Jan 1994	193	119	CROFT L	~ 11 Jul	1995 <u> </u>	Transfer Transfer	Captive Hatch
			[Death by:	Anes	th/Restrain	8 Nov nt assoc		Death Unknown (a:	fter necropsy)]
172	F	~ Jun 1998	194	196	GILLIS	~ Jun	1998	Hatch ltf	Captive Hatch
173	F	~ 1994	43	131	ORNATUS CROFT L	2 Feb 3 Feb	1994 1995 1995	Hatch Transfer Death	Captive Hatch
			[Death by:	Unkn					
174	M	23 Mar 1994	162	139		6 Aug	1994 95 1998 6630 2008		Captive Hatch
			[Death by:	Euth	anasia (med	lical) +	Unknown + Ge		Toxicity]
175	M	24 Mar 1994	162	139	NZP-WASH	8 Jun	1994 1995 213649 1997		Captive Hatch
176	М	28 Apr 1994	64	48	ORNATUS	11 Oct	1994 240419 1994 240419 1995 213705	Transfer	Captive Hatch
177						5 May	1994	Death	Captive Hatch
	[Dea	ath by: Other/	Unknown T B	ury T	necropsy p	olanned .	later T Unkno	wn alter ne	ecropsyj
178	F	29 Jul 1994	193	119	FRESNO NZP-WASH	29 Oct 24 Oct	1994 1995 950222 2006 215590 2010	Transfer	Captive Hatch
	[Dea	ath by: Infect	ion associa	ted +	Unknown +	Musculos	skeletal + Un		r necropsy]
179	?	8 Apr 1995	43	131	ORNATUS	8 Apr	1995	Hatch	Captive Hatch

					CARVALHO	~	May	1995		ltf	
180	М	9 Jun 1995	95	88	KNOXVILLE ORNATUS	9 8 15	Jun May Mar	1995 1996 1998	542 542	Hatch Transfer Death	Captive Hatch
			[Death by:	Unkn	own means]						
181	?	17 Jun 1995	64	48	LAKEBUENA WORLDBIRD	24	Aug	1999	990020		Captive Hatch
			[Death by:	Unkn	own means]						
182	F	19 Jun 1995	64	48	LAKEBUENA WORLDBIRD CALDWELL LOWRY	6 25	Oct Sep	1995 1997	950610 104145	Transfer Transfer	Captive Hatch
183	F	~ 1996			CROFT L ORNATUS own means]	23	Aug	1996		Hatch Transfer Death	Captive Hatch
			_								
184	?	~ 1996	43	131	ORNATUS CRAWFRD W	14	Oct	1996		Hatch Transfer Death	Captive Hatch
			[Death by:	Euth	anasia (med						tal † Trauma]
185	F	14 May 1996	162	139	CL SPR AV ORNATUS CROFT L PITRE BOYLE TORONTO	7 ~ 1 ~ 15	Nov Dec Jan Jun	1996 1998 2001 2001		Transfer Transfer Transfer Transfer	Captive Hatch
186	М	7 Jun 1996	148	171	CROFT L BATONROUG DISNEY AK	21	Aug	1996	7812	Transfer	Captive Hatch

					METROZOO LOSANGELE					
187	?	12 Jun 1996	64	48	LAKEBUENA	12 Jun 14 Jun			Hatch Death	Captive Hatch
			[Death by:	Inju	ry from exh	nibit mat	te + t	Unknown	+ No necro	psy planned]
188	?	16 Jun 1996	52	49	SAN ANTON				Hatch Death	Captive Hatch
			[Death by:	Unkn	own means]	19 Aug	1990		Deach	
189	М	4 Jul 1996	95	88	KNOXVILLE LAKEBUENA WORLDBIRD	6 Mar	1997	270314	Transfer	Captive Hatch
190	М	29 May 1997	162	139	CL SPR AV FOSKY				Hatch ltf	Captive Hatch
191	F	30 May 1997	162	139	CL SPR AV NZP-WASH SCOT NECK	25 Sep	1997	213963	Transfer	Captive Hatch
192	М	28 Jan 1998	162	139	CL SPR AV SEDGWICK	28 Jan 24 Jun	1998 1999	8965	Hatch Transfer	Captive Hatch
193	М	~ 1980	21	22	GLENDALE DIAZ GILLIS	~	1992	102	Hatch Transfer Transfer ltf	Captive Hatch
194	М	~ 1974	WILD 1	VILD	S.AMERICA CROFT L GILLIS	~ ~	1975 1995	107	Transfer	Wild Hatch
195	М	11 Oct 1997	194	196	GILLIS	11 Oct	1997	109	Hatch ltf	Captive Hatch

196	F	~ 1979	WILD	WILD	GUNDERSON GILLIS	~ ~ Jun ~ Sep ~	1980 NONE 1980 1981 1995 106 1995 1996 106 1999 106	Transfer Transfer Transfer Transfer Transfer	Wild Hatch
197	M	~ May 1996	148	171	CROFT L GILLIS	~ May ~ Jan	1996 2001	Hatch ltf	Captive Hatch
198	?	11 Oct 1997				11 Oct.	1997	Deat.h	Captive Hatch zed † Trauma]
199	?	28 Jun 1998				30 Jun	1998	Death	Captive Hatch
200	?	28 Jun 1998	176	191			1998 214502 1998		Captive Hatch
203	?	23 May 1999	176	191		27 Oct	1999 214318 1999 2000	Transfer	Captive Hatch
			[Death by:	Unkn	own means]				
204	F	24 May 1999	176	191	CRAWFRD W QUEBEC GRANBY	27 Oct 4 Oct 26 Oct	1999 214319 1999 2002 A25004 2006 B99046 2007 A0727	Transfer Transfer Transfer	Captive Hatch
205	F	7 Oct 1998	148	171		8 Apr	1998 981084 1999 104865 2002 2543		Captive Hatch

206	М	8 Oct 1998	148	171	ST LOUIS WILD WRLD			1998 1999	982001 6119	Hatch Transfer	Captive	Hatch
207	F	26 Jul 1999	148	171	ST LOUIS ORLANDO				990781 RLS250	Hatch Transfer	Captive	Hatch
208	?	~ Jan 1999			CHOULES	~	Jun	1999		Death	Captive	Hatch
209	?	26 Jun 1999			CALDWELL	26	Jun	1999	104401	Hatch Hatch Death	Captive	Hatch
210	?	26 Jun 1999		182	CALDWELL				104400	Hatch Death	Captive	Hatch
211	?	~ Jan 1994		69	LANNOM	~				Hatch Death	Captive	Hatch
212	?	~ Jun 1998	194	196						Hatch Death	Captive	Hatch
213	М	~ Jun 1998			own means]	~	Jun	1998		Hatch ltf	Captive	Hatch
214	?	25 Apr 2000				5	May	2000		Death		
215		27 Apr 2000 ath by: Enviro	176	191		27 2	Apr May	2000	214483	Hatch Death	Captive	Hatch
bnorma		_			, -	•			,	- T - 7 /		

abnormality]

216	M	15 Jun 2000	176	191	NZP-WASH ALEXANDRI		2000	AV0019		Captive Hatch
			[Death by:	Unkn	own means]					
217	?	19 Jun 2000	176	191	NZP-WASH	19 Jun 27 Jun			Hatch Death	Captive Hatch
			[Death by:	Envi	ron/Behav c	conditio	ns 🕂 t	Unknown	No necro	psy planned]
218	М	29 May 2001	176	191	NZP-WASH CL SPR AV DURHAM AV BENNETT R METROZOO BENNETT R	16 Nov 16 Nov 13 Feb 17 Feb	2001 2001 2002 2003	260123 B30023	Transfer	Captive Hatch
219	?	14 Oct 1999	148	171	ST LOUIS ORLANDO		2000	RLS251		Captive Hatch
			[Death by:	Infe	ction assoc					xicity]
220	?	15 Aug 2001	163	185	BOYLE	15 Aug	2001	60	Hatch ltf	Captive Hatch
221	М	10 Oct 2001	163	185	BOYLE QUEBEC TORONTO	20 Apr	2002	A25002	Hatch Transfer Transfer	Captive Hatch
222	M	12 Oct 2001			QUEBEC	20 Apr 9 Apr	2002 2003	A25003	Hatch Transfer Death	Captive Hatch
			[Death by:	Self	-inflicted	injurie	s † Uı	nknown †	Generalize	ed † Trauma]
223	F	~ 1970	WILD	WILD	S.AMERICA CHASE B COLUMBIA		1974 1974		Capture Transfer Transfer Death	Wild Hatch

			[Death by	: Unkn	own means]		
225	F	28 Apr 2002	176	191		8 Apr 2002 214880 Hatch Captive 2 Nov 2002 602376 Transfer	Hatch
226	F	28 Apr 2002	176	191	METROZOO	8 Apr 2002 214881 Hatch Captive 4 Nov 2002 B20257 Transfer 4 Jun 2005 991064 Transfer	Hatch
227	М	~ Jun 1999	228	UNK	QUEBEC GRANBY	~ Jun 1999 Hatch Captive 1 Apr 2002 A25001 Transfer 6 Oct 2006 B99045 Transfer 5 Aug 2010 Transfer	Hatch
228	М	~ Jun 1996				~ Jun 1996 C7626 Hatch Captive 5 May 2000 Death	Hatch
220	2	25 M 1000				5 Mars 1000 227 Habab Garabias	II - + - l-
229		25 May 1988	95	88	KNOXVILLE	5 May 1988 227 Hatch Captive 6 Jun 1988 Death	Hatch
	[De	ath by: Euthan	asia (medi	cal) +	Given to a	institution: UTCVM + Unknown (after	necropsy)]
230	F	8 May 1990	95	88	KNOXVILLE	8 May 1990 228 Hatch Captive 8 Aug 1990 Death	Hatch
	[De	ath by: Other/	Unknown +	Given	to an insti	tion: UTCVM + Unknown (after necrops	y)]
231	?	~ 1971	WILD	WILD		~ Jan 1972 NONE Capture Wild Ha 2 May 1972 06763 Transfer 3 May 1973 Death	tch
			[Death by	: Unkn	own means]	5 Hay 1575 Beach	
232	М	~ 1987	UNK	UNK	QUEBEC	~ 1988 Transfer Unk Hat 2 Feb 1988 895006 Transfer 3 Jul 1992 Death	chType
	[De	ath by: Other/	Unknown +	Incine		sy planned later + Unknown after nec	ropsy]
233	F	~ 1987	UNK	UNK	LAVAL	~ 1988 Transfer Unk Hat	chType

				QUEBEC	12 Feb 1988 ~ 1990	Transfer Death	
			[Death by: Unkn	own means]	1330	200011	
234	М	15 May 2002	216 MULT	ALEXANDRI	15 May 2002 26 Jun 2002	Hatch Death	Captive Hatch
			[Death by: Unkn	own means]			
235	?	2 Apr 2002	163 185	BOYLE	2 Apr 2002 14 Apr 2002	Hatch Death	Captive Hatch
			[Death by: Unkn	own means]	1		
236	?	2 Apr 2002	163 185	BOYLE	2 Apr 2002 3 May 2002	Hatch Death	Captive Hatch
			[Death by: Unkn	own means]			
237	?	7 May 2002	163 185	BOYLE	7 May 2002 2 Jun 2002	Hatch Death	Captive Hatch
			[Death by: Unkn	own means]	2 0 0 11 2 0 0 2	200011	
238	?	8 May 2002	163 185	BOYLE	8 May 2002 10 May 2002	Hatch Death	Captive Hatch
			[Death by: Unkn	own means]			
239	M	13 May 2003	176 191		13 May 2003 6 Nov 2003	Hatch Transfer	Captive Hatch
				ST LOUIS	21 Mar 2007	Transfer	
240	F	19 Aug 2003	186 226	METROZOO DREHER PA	19 Aug 2003 11 Feb 2004	Hatch Transfer	Captive Hatch
241	?	19 Aug 2003	186 226	METROZOO	19 Aug 2003	Hatch	Captive Hatch
			[Death by: Unkn	own means]	22 Aug 2003	Death	
242	F	16 Oct 2003	192 88	SEDGWICK WILD WRLD	16 Oct 2003 8 Apr 2004	Hatch Transfer	Captive Hatch

243	?	16 Apr 2003	86	81	DALLAS	16 Apr 2003 04F035 Hatch Captive Hat 22 Apr 2004 Death	ch
			[Death by:	Envi	ron/Behav o	conditions + Unknown + No necropsy planned	l
244	?	16 Apr 2004	86	81	DALLAS	16 Apr 2004 04F036 Hatch Captive Hat 22 Apr 2004 Death	ch
			[Death by:	Envi	ron/Behav o	conditions † Unknown † No necropsy planned	l
246	М	6 May 2004	174	120		6 May 2004 7984 Hatch Captive Hat 6 Oct 2004 240097 Transfer 26 Oct 2005 Death	ch
			[Death by:	Euth	nanasia (med	Rical) † Unknown † Nervous † Trauma]	
248	М	~ 8 May 2004	176	191		~ 8 May 2004 215273 Hatch Captive Hat 1 Dec 2004 T04A16 Transfer ~20 Feb 2005 Death	ch
			[Death by:	Self	-inflicted	injuries + Unknown + Generalized + Trauma	l
249	М	13 Jul 2004	174	120		13 Jul 2004 8075 Hatch Captive Hat 29 Mar 2005 Transfer	ch
250	?	23 Aug 2004	186	226		23 Aug 2004 B40286 Hatch Captive Hat ~ Mar 2005 Transfer	ch
251	?	25 Aug 2004	186	226	METROZOO	25 Aug 2004 B40289 Hatch Captive Hat 26 Aug 2004 Death	ch
	[De	ath by: Injury	from exhib	it ma	ate † Unknov	on + Unknown (after necropsy) + Trauma]	
252	М	16 May 2005	86	81	DALLAS	16 May 2005 05F693 Hatch Captive Hat 12 Sep 2005 Death	ch
			[Death by:	Euth	nanasia (med	dical) † Unknown † Generalized † Trauma]	
253	М	16 May 2005				16 May 2005 05F694 Hatch Captive Hat 29 Aug 2005 Death	ch
			Death by:	Envi	ron/Benav (conditions + Unknown + Digestive + Trauma]	

254	?	17 May 2005	86	81	DALLAS	17 May 20 May		05F695	Hatch Death	Captive Hatch
			[Death by:	Unkn	own means]	_				
255	F	22 Jul 2005	246	178	FRESNO TACOMA			250068 T05A02	Hatch Transfer	Captive Hatch
256	М	16 Aug 2005	95	164	KNOXVILLE CRAWFRD W EDMONDS M	10 Oct	2007	3147 3147	Hatch Transfer Transfer	Captive Hatch
257	М	18 Aug 2005	95	164		18 Aug 10 Oct ~	2007		Hatch Transfer Transfer	Captive Hatch
258	М	22 Sep 2005	64	242	WILD WRLD	22 Sep	2005	7683	Hatch	Captive Hatch
259	М	27 Apr 2005	64	242	WILD WRLD	27 Apr	2005		Hatch Death	Captive Hatch
			[Dooth by	Tnfo	ction assoc					vicitul
			[Death by.	THILE	CCIOII assoc	iateu	OHAH	JWII OI	Inary 10	XICICY]
260	F	8 Aug 2005	_			8 Aug	2005	7681	Hatch	Captive Hatch
260	F	8 Aug 2005	_	242	WILD WRLD	8 Aug	2005		_	_
260	F M	-	64 [Death by:	242 Unkn	WILD WRLD	8 Aug 27 Jan	2005 2006	7681	Hatch Death	_
		-	64 [Death by:	242 Unkn 242	WILD WRLD own means] WILD WRLD DALLAS	8 Aug 27 Jan 20 Sep 6 May 15 May	2005 2006 2005 2006 2007	7681 7682 06G569 B06005	Hatch Death Hatch Hatch Transfer	Captive Hatch
261	M F	20 Sep 2005	64 [Death by: 64 86	242 Unkn 242 81	WILD WRLD own means] WILD WRLD DALLAS GRANBY	8 Aug 27 Jan 20 Sep 6 May 15 May 19 Dec	2005 2006 2005 2006 2007 2009	7681 7682 06G569 B06005	Hatch Death Hatch Hatch Transfer Death	Captive Hatch Captive Hatch
261	M F	20 Sep 2005 6 May 2006 ath by: Infect	64 [Death by: 64 86 ion association	242 Unkn 242 81 ted †	WILD WRLD own means] WILD WRLD DALLAS GRANBY Unknown +	8 Aug 27 Jan 20 Sep 6 May 15 May 19 Dec Cardiova	2005 2006 2005 2006 2007 2009 ascula	7681 7682 06G569 B06005 ar † Mec	Hatch Death Hatch Hatch Transfer Death hanical ab	Captive Hatch Captive Hatch
261 262	M F [De	20 Sep 2005 6 May 2006 ath by: Infect	64 [Death by: 64 86 ion associated 86	242 Unkn 242 81 ted †	WILD WRLD own means] WILD WRLD DALLAS GRANBY Unknown +	8 Aug 27 Jan 20 Sep 6 May 15 May 19 Dec Cardiova 7 May 8 May	2005 2006 2005 2006 2007 2009 ascula 2006 2006	7681 7682 06G569 B06005 ar † Mec 06G570	Hatch Death Hatch Hatch Transfer Death hanical ab Hatch Death	Captive Hatch Captive Hatch Captive Hatch normality]

	[De	eath by: 1	Enviro	on/Behav	cond	ditio	ns † Unknov			2011 coduct		Death Mechanical	abnormality]
265	?	28 May	2006	92		182	LOWRY OMAHA COAL VAL	16	Nov	2006	205488 16778	Transfer	Captive Hatch
266	F	~	1993	UNK		UNK	GILLIS SAFARI W	12	Jul		29499		Captive Hatch
				[Death	by:	Envi	ron/Behav o					· ·	psy planned]
267	?	6 Jun	2007	176			NZP-WASH			2007	215625	Hatch Death	Captive Hatch
				[Death	by:	Unkn	own means]						
268	?	7 Jun	2007	176		178	NZP-WASH			2007 2007		Hatch Death	Captive Hatch
				[Death	by:	Unkn	own means]						
269	М	19 Jul	2007	176		178	NZP-WASH NY BRONX CALDWELL	28	Nov	2007	215650 B07120 106250	Hatch Transfer Transfer	Captive Hatch
270	М	4 Aug	2007	174		120	COLUMBIA KNOXVILLE				9782		Captive Hatch
271	M	4 Aug	2007	174		120	COLUMBIA SAN ANTON				9783 J08008	Hatch Transfer	Captive Hatch
272	F	20 Jul	2007	176		178	NZP-WASH SAN ANTON				215651 A08003	Hatch Transfer	Captive Hatch
273	М	16 May	2007	92		182	LOWRY PITTS CA				205642 7564	Hatch Transfer	Captive Hatch
274	F	11 Apr	2007	64		242	WILD WRLD	11	Apr	2007	8284	Hatch	Captive Hatch

				VADEN M	26 May	2009	ltf	
275	М	12 Apr 2007	64 242			2007 8285 2009	Hatch ltf	Captive Hatch
277	F	17 Jun 2007	95 164	KNOXVILLE		2007 3509 2007	Hatch Death	Captive Hatch
after ne			asia (medical) ⁻	Given to a	ın insti	tution: UTZP		eralized † Unknown
278	F	~ 2006	UNK UNK		26 Apr	2007 <u>M07035</u> 2009 2009	Transfer	Unk HatchType
279	М	~ 2006	UNK UNK		26 Apr	2007 <u>—</u> 2007 <u>M</u> 07036 2009 2008	Transfer	Unk HatchType
280	М	~ 2006	UNK UNK	WORLDBIRD	28 Jun 27 Jul	2007 <u>M07041</u> 2009 A6B021 2011	Transfer	Unk HatchType
abnormal	lity]		[Death by: Info	ection assoc	ciated +	Unknown + Di		Mechanical
281	F	~ 2006	UNK UNK	WORLDBIRD JNGLARY F	28 Jun 27 Jul	2007 <u>M07042</u> 2009 A6B022 2012	Transfer Transfer	Unk HatchType
282	F	23 Oct 2007	279 278	WORLDBIRD			Hatch Death	Captive Hatch
			[Death by: Unk	nown means]	7			
283	?	~ Jun 2007	155 156		~ Jun	2007	Death	_
			[Death by: Inj	ury from pre	edator +	Unknown + Ge	eneralized	† Trauma]

284	M	27 Apr 2008	64	242	WILD WRLD	27 Apr	2008	7640	Hatch	Captive Hatch
285	?	21 Apr 2008	64	242	WILD WRLD KRATHWOHL	21 Apr 10 Dec			Hatch ltf	Captive Hatch
286	М	14 May 2008	280	281	WORLDBIRD ORLANDO	_		M08001 RLS252	Hatch Transfer	Captive Hatch
287	F	30 May 2008	279	278	WORLDBIRD	30 May	2008	M08002	Hatch	Captive Hatch
288	М	28 Aug 2008	192	88	SEDGWICK METROZOO	_		12243 B90314	Hatch Transfer	Captive Hatch
289	M	28 Aug 2008	192	88	SEDGWICK COLUMBIA	28 Aug 19 Nov		12246 10633	Hatch Transfer	Captive Hatch
290	?	16 May 2008	86	81	DALLAS	16 May 18 May		08J046	Hatch Death	Captive Hatch
			[Death by:	Inju	ry from pre			own + Un		er necropsy)]
					D31130		2000	007515	Hatch	
291	?	9 Oct 2008	86	81	DALLAS	9 Oct		080313		Captive Hatch
291	?	9 Oct 2008	86 [Death by:			9 Oct 10 Oct		080313	Death	Captive Hatch
291	?	9 Oct 2008 11 Oct 2008				10 Oct 11 Oct	2008		Death Hatch	Captive Hatch Captive Hatch
			[Death by:	Unkn 81	own means]	10 Oct 11 Oct 11 Oct	2008 2008 2008	08J524	Death Hatch Death	-
			[Death by:	Unkn 81 Inju	own means]	10 Oct 11 Oct 11 Oct dator †	2008 2008 2008 Unkno	08J524	Death Hatch Death	Captive Hatch
292	?	11 Oct 2008	[Death by: 86	Unkn 81 Inju	own means] DALLAS ry from pre	10 Oct 11 Oct 11 Oct dator †	2008 2008 2008 Unkno 2008	08J524 own † Un 205899	Death Hatch Death known (aft	Captive Hatch
292 293	? M	11 Oct 2008 19 Apr 2008	[Death by: 86 [Death by: 92	Unkn 81 Inju 182	own means] DALLAS ry from pre LOWRY WORLDBIRD	10 Oct 11 Oct 11 Oct dator † 19 Apr 17 Oct 8 Sep	2008 2008 2008 Unkno 2008 2008 2010 2009	08J524 Dwn + Un 205899 M08016 3345	Death Hatch Death known (aft Hatch Hatch	Captive Hatch er necropsy)] Captive Hatch

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296	?	18 Apr 2009	64	242	WILD WRLD	18 Apr	2009	8860	Hatch	Captive Hatch
297	?	8 Jun 2009	64	242	WILD WRLD	8 Jun	2009	8902	Hatch	Captive Hatch
298	F	3 Sep 2009	86 [Death by:		DALLAS PHOENIX COLUMBIA own means	12 May 6 Dec	2010		Hatch Transfer Transfer Death	Captive Hatch
299	М	~ 1967	_	VILD	S.AMERICA CHASE B NZP-WASH	~	1968 1968	33376	Capture Transfer Transfer Death	Wild Hatch
300	?	22 Apr 2008	64 [Death by:				2008 2008		Hatch Death	Captive Hatch
301	?	~ 7 Sep 2010			ORLANDO in shell †					
302	?	~ 7 Sep 2010								Unk HatchType zed † Trauma]
303	М	30 Apr 2012	286	207	ORLANDO	30 Apr	2012	RLS255	Hatch	Captive Hatch
304	М	~ 2009	UNK	UNK	UNKNOWN GREATBEND		2009 2011	NONE 209001	Hatch Transfer	Captive Hatch
305	?	6 Jun 2012	92	182	LOWRY JNGLARY F		2012 2012	206430 UNK	Hatch Transfer	Captive Hatch
306	?	6 Jun 2012	92	182	LOWRY	6 Jun 11 Dec		206431	Hatch Death	Captive Hatch

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received]		th by	7: S	elf-infl:	icted in	juries	s † Unknown	+ 1	Muscı	ıloskele	etal +	Trauma +	Necropsy	not
307	?	12 J	Jun	2012	155	156	CRAWFRD W	12	Jun	2012		Hatch	Captive	Hatch
308	F	27 J	Jul	2012	286	207	ORLANDO	27	Jul	2012 RL	LS256	Hatch	Captive	Hatch
309	M	29 J	Jul ====	2012	286	207	ORLANDO	29	Jul	2012 RL	LS257	Hatch	Captive	Hatch

TOTALS: 102.94.107 (303)

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RED-LEGGED SERIEMA ETHOGRAM

From: Padget, Ami Elizabeth, \Structure and possible function of vocalizations of captive red-legged seriemas (Cariama cristata). " Master's Thesis, University of Tennessee, 2010. http://trace.tennessee.edu/utk gradthes/651

A red-legged seriema ethogram was developed from naturalistic behavior observations of 22 captive seriemas. Ethogram behaviors have been grouped into 6 categories, including locomotion, functional, resting/ stationary, maintenance, reproductive, and vocalizations and include a description of 47 basic behaviors and vocalizations.

Locomotion

Walking: Alternating movement of legs at a steady rate.

Running: Alternating movement of legs at a rapid rate.

Flying: Extension of wings, with flapping, with no body part touching substrate.

Jumping: Legs are bent, then extended, and both feet leave the ground simultaneously without wing flapping.

Chasing: Running while directing body toward an animate object.

Hock Walking: Bird has tarsi on the ground and the tibias are vertical, with belly not touching the ground and from this position moves forward using legs.

Pacing: Walking back and forth repeatedly along the same track.

Kicking: Jump and thrust both legs forward.

Startle: Tensing of the body followed by a jump and/or wing flapping.

Functional

Prey Capture: Chasing flying or crawling insects or small vertebrates and detaining them with beak.

Feeding: Pecking, using beak, to consume foliage or may repeatedly drop and shake pieces of food over and over, followed by tearing food, while using beak to tear and feet to hold and then consuming by tilting head back to swallow food.

Digging for Prey: Using beak to burrow into substrate to find and obtain prey.

Allofeeding: Adults bring food to each other and pass and forth between beaks several times before being consumed.

Whack Food or Objects: Throwing food or inanimate objects on ground repeatedly using beak to hold and neck to thrust.

Object Pass: Delivering inanimate items back and forth between individuals using beaks.

Drinking: Consuming water, while standing, using a repeated scooping motion with beak with head tilted back to swallow.

Foraging: Scanning the ground for food while walking.

Pecking: Using beak to investigate substrate, enclosure, another bird, plants, prey, or other objects.

Bill Wiping: Individuals rub the sides of their beak on the ground or other objects.

Defecation: Excreting feces from a standing position with tail feathers raised away from the cloaca.

Looking: Attenuate head and eyes toward observer or a moving object located outside enclosure.

Skyward Looking: Extending neck and using one or both eyes to look upwards. If using only one eye, the head is tilted.

Listening: Attenuate head and extend neck in the direction of a sound.

Resting/Stationary

Standing Perch : Body is positioned in a stationary stance unipedally or bipedally on an elevated object.

Lying Perch: Body is positioned in a lying position on an elevated object.

Hock Sitting: Sitting position, in which the bird has tarsi on the ground and the tibias are vertical, with belly not touching the ground.

Lying: Legs folded and tucked under body with belly touching the ground.

Head Tuck:

Standing with the head tucked against the back of the neck with body feathers fluffed.

Maintenance

Scratching: Using the talons on the feet to rub a body area.

Stretching: Leg and wing on the same aide of the body are extended backward at the simultaneously and may include the upward extension of wings.

Body Fluffing: Feathers on the body, neck, and wings are erected for a few seconds.

Ruffling: Shaking the body in a wavelike manner, from head to tail.

Preening: Grooming feathers using beak to peck, pull, and clean feathers, with or without the use of the preening gland, which is located at the base of the tail.

Dust Bathing: Lying on substrate, usually dirt or sand, to rubs body, wings, head, and neck on ground and may also roll onto the side of the body.

Sun Bathing Lying: Lying on belly in direct sunlight with wings extended and spread on the ground, while lying very still.

Sun Bathing Standing: Standing in direct sunlight with wings dropped to the sides to expose the back of the body.

Bill Gaping: Beak is opened wide and then shut.

Bill Open: The beak is held partially open while standing or walking.

Coughing/ Sneezing: Air is expelled from the lungs noisily and suddenly, voluntarily or involuntarily.

Choke: Beak is opened wide and held opened while extending neck forward. Debris may or may not be expelled.

Reproductive

Copulation: Male climbs onto the back of the standing female to allow transfer of sperm.

Nest Building: Collecting of leaves and sticks by a male/ female pair and consolidating them in a bush or tree.

Incubation: Male and female parents alternate positioning their bodies over the nest, in a lying or standing position.

Vocalizations

Purr: Very quiet, low frequency, short-range sound

Single note: Short, loud, vocalization that consists of a "whooop" sound.

Primary call: Loud vocalization given from a stationary, standing position that begins with U notes and increases in intensity and structure through the climax, involving L and T notes. The beak is pointed upward, while the head and neck move up and down. Head may touch the back of the body.

Hiss: Short-range vocalization directed at non-threatening intruders or nuisances