

# Riverbanks Zoo's Elephant Profile

**Scientific Name:** *Loxodonta africana*

**Common Name:** African Elephant

**House Name:** Petunia

**Acquisition Date:** 19 Oct 2007

**Sex:** Female    **Birth date** ~1973

**Birth Place:** Wild Caught

**Weight** 8520 lbs.

## Transaction History:

Date	Type	From	To
~1974	Capture	Africa	Toledo
25 Sept 1975	Transfer	Toledo	Knoxville
21 Feb 1998	Transfer	Knoxville	Disney AK
19 Oct 2007	Transfer	Disney AK	Riverbanks

### ❑ **Recurring Medical Problems and Current Physical Condition:**

- Petunia receives Cosequin BID due to a history of stiffness in right rear leg
- Petunia has a recurring condition of folliculitis on tail. Current treatment includes daily application of hoofmaker cream to the infected areas in order to soften tissue for removal.

### ❑ **Socialization, Temperament, and Behavior History:**

- Petunia has diverse socialization experience with other elephants.
- Petunia currently ranks second in the hierarchy structure
- Petunia continues to maintain a bond with Robin #9849, but she does not rely on that bond for acceptance and security. She has developed a solid bond with the matriarch Belle #7031.
- She is comfortable on exhibit alone or in multiple combinations with herd mates

#### - **Management System:**

- Managed utilizing protected contact.
- Petunia has been conditioned to respond to head, hip and foot targets. She is very compliant performing daily husbandry behaviors such as, body positions and foot/ear presentations.
- No ankus or chains are utilized at this time.

### ❑ **Types of Reinforcement:**

- Desirable behaviors are reinforced with produce, bread, sweet feed, alfalfa hay, warm water, elephant supplement and verbal praise.
- Non-compliant and undesirable behaviors are punished utilizing a "no-response" consequence, which is a temporary loss of reinforcement and interaction.

### ❑ **Breeding Potential:**

- Petunia is no longer a candidate for breeding and considered post reproductive by the Elephant SSP.
- Small amount of regression has occurred while operating doors of ERD, so keepers are working on her comfort level and reliability of entering ERD

*Updated October 2008*



Taxonomic name: *Loxodonta africana africana*

Family: Elephantidae

Common name: South African bush elephant

Order: Proboscidea

**Current information**

Sex:	Female	Sire ID:	WILD at Obtained From Wild
Birth type:	Wild Born	Dam ID:	WILD at Obtained From Wild
Birth Location:	AFRICAN REGION	Rearing:	Unknown
Birthdate-Age:	- 1973 - ~35Y	Hybrid:	Not a hybrid
Time since last Acq:	0Y,11M,26D as of report end date		

<u>Date in</u>	<u>Acquisition - Vendor/local Id</u>	<u>Holder</u>	<u>Disposition - Recipient/local Id</u>	<u>Date out</u>
19 Oct 2007	Donation from DISNEY AK / 980337	COLUMBIA / 9848		

<u>Date</u>	<u>Identifier type</u>	<u>Identifier</u>	<u>Location</u>	<u>Comments</u>
19 Oct 2007	House Name	PETUNIA		
30 Oct 2007	Regional Studbook #	127	AZA	

<u>Date</u>	<u>Type</u>	<u>Value</u>	<u>Units</u>	<u>Comments</u>
10 Nov 2006	live animal weight	3704.5	kilogram	8150 lbs at Disney
27 Apr 2008	live animal weight	3872.0	kilogram	8518 pounds
30 Apr 2008	shoulder height	7.25	feet	Approximate height from withers 7 feet 9 inches

<u>Date</u>	<u>Note type</u>	<u>Comments</u>
19 Oct 2007	Acquisition note	0.2 elephants 9848 Petunia & 9849 Robin arrived today by truck from Disney's Animal Kingdom. They offloaded into the barn without a problem. Disney transferred the elephants to Riverbanks because Petunia & Robin were aggressive to the 3 young calves in their herd and, therefore, could not live with the herd.
19 Oct 2007	Acquisition note	Petunia was imported by Ferndale & purchased by Toledo (ID 1745) on 18 Apr 74. Knoxville (ID 163) purchased her from Toledo on 25 Sep 75. Disney (ID 980337) purchased her from Knoxville on 21 Feb 98.
20 Oct 2007	Behavior note	9848 Petunia and 9849 Robin are adjusting very well to the new surroundings and keepers. To clean the exhibit, SJ1899 Penny and 7031 Belle were shifted into the first stall and paddock area. All elephants responded calmly, smelling the air. Keepers began working Petunia and Robin on target, shifting from one stall to another, coming when called, and standing in line with trainer.
20 Oct 2007	Diet	9848 Petunia and 9849 Robin received 1.5 bales of coastal each throughout the day and 0.5 bales of wheat straw
21 Oct 2007	Diet	9848 Petunia and 9849 Robin began transition to elephant supplement. One pound of elephant supplement was added to four pounds of the high fiber pellet BID. Supplement will slowly be increased.
21 Oct 2007	Behavior note	9848 Petunia and 9849 Robin are transitioning fairly well. In AM, both responded very well to training routine. At mid-day, Petunia was slow to respond to shifting; she seemed anxious when closed into stall 3 and did not want the hay offered to her. SJ1899 Penny and 7031 Belle were given access to stall 1, the paddock, and exhibit overnight. Robin was in stall 3 and Petunia was in stall 4.
22 Oct 2007	Behavior note	During mid-day shift, 9848 Petunia had trouble shifting into stall 3 again. She exhibited the same behavior as yesterday. Therefore, keepers shifted Penny and Belle into the paddock and fed them there, so the exhibit could be maintained. For the evening, Petunia was given stall 1 and 2 and 9849 Robin was given stall 3 and 4. Petunia seems really comfortable in the first two stalls and is very compliant with keepers until she is shifted into stall 3; then she shuts down and is non-responsive. Keepers will start working on increasing the duration she is locked into stall 3
23 Oct 2007	Behavior note	9848 Petunia shifting into stall 3 more reliably and quicker than yesterday. Keepers mixed it up and didn't always shut the door behind her. She was fed grain in stall 3 both times and given rewards for coming into stall 3 when called. SJ1899 Penny and 7031 Belle shifted into stall 1 and paddock for mid-day, Petunia 9848 in stall 3 & Robin 9849 in 4. During evening, Penny and Belle had the exhibit and paddock; Petunia has stalls 1,2 and Robin stalls 3,4.
23 Oct 2007	Animal management note	Petunia and Robin were given short training sessions in afternoon



24 Oct 2007	Behavior note	Petunia continues to do well with shifting into stall 3. She did not go back to the door to check it, instead continued to eat grain and hay. She appeared less anxious while keepers were cleaning
25 Oct 2007	Diet	Elephant supplement has been increased to 2.5 pounds and high fiber diet 2.5 BID per elephant for Petunia & Roblin; slowly transitioning to 100% elephant supplement
27 Oct 2007	Animal management note	0.2 elephants 9848 Petunia and 9849 Robin had morning training sessions
29 Oct 2007	Medical note	First quarantine fecal collected on Petunia & Robin.
30 Oct 2007	Behavior note	After being in stall 3 all night, she shifted very well back into 3. Tonight, due to cold temperatures, Penny and Belle will again have access to the exhibit, paddock and stall. Keepers will continue to monitor Petunia's attitude
31 Oct 2007	Animal management note	Yesterday & today, Petunia and Robin had afternoon training sessions
1 Nov 2007	Diet	9848 Petunia and 9849 Robin are now eating 100% elephant supplement
5 Nov 2007	Medical note	0.2 9848 Petunia and 9849 Robin's second quarantine fecal sample was submitted
6 Nov 2007	Medical note	Robin appears to be doing well; appetite and behavior normal. Fecal output still low, but could be due to the switch from high fiber grain to elephant supplement. Petunia 9848 also has decrease in fecal output
7 Nov 2007	Diet	The amount of 9848 Petunia's straw was increased to 3/4 of a bale; total amount of hay/ straw mixture is 2.24 bales for the day
9 Nov 2007	Diet	9848 Petunia's straw was increased to 1 bale; total amount of straw/hay mixture is 2.5 bales
12 Nov 2007	Medical note	9848 Petunia & 9849 Robin's last quarantine fecal sample was submitted.
13 Nov 2007	Medical note	Hair follicles on Petunia & Robin trunks seemed to be infected or irritated. Vet staff examined. Keepers will continue to monitor.
22 Nov 2007	Introduction Note	0.2 9848 Petunia and 7031 Belle had their second tactile introduction. Again, both animals were non-submissive. Belle appeared to have more confidence when interacting with Petunia.
23 Nov 2007	Animal management note	Afternoon training session in the barn for Petunia & Robin
24 Nov 2007	Introduction Note	A short 15 minute introduction for 7031 Belle & 9848 Petunia. Both animals were non-submissive. The last 10 minutes was calm. Belle spent most of that time smelling around Petunia and her stall.
24 Nov 2007	Medical note	Keepers lightly scrubbed infected hair follicles on 9848 Petunia and 9849 Robin's trunk. Robin's are more pronounced and whitish in color. Petunia's are more skin color and are not that raised or abundant. Both animals did well with this new training.
30 Nov 2007	Introduction Note	SJ1899 Penny, 9848 Petunia and 9849 Robin had tactile introductions. Penny was cautious to approach the new females and was not completely submissive.
1 Dec 2007	Introduction Note	Introductions with 7031 Belle & 9848 Petunia; and with SJ1899 Penny and 9849 Robin.
4 Dec 2007	Introduction Note	This afternoon, tactile introductions between Belle and Petunia were conducted. Belle seemed to utilize her space more today, she went outside. Both animals were non-submissive.
6 Dec 2007	Animal management note	Belle 7031 in stall 1, SJ1899 Penny in stall 2, 9849 Robin in stall 3 & 9848 Petunia in stall 4. Tonight is the first night that all four elephants were locked inside the barn with no access due to very cold overnight temperatures.
7 Dec 2007	Introduction Note	Tactile introduction with Belle and Petunia, both animals were non-submissive.
7 Dec 2007	Behavior note	Elephants seemed to have done well last night locked inside. They will be inside again tonight due to cold temperatures with the same stall set up
13 Dec 2007	Introduction Note	Petunia had access to the paddock and stall 1. She had some interaction through the barrier with Penny and Belle on exhibit. In afternoon, Robin was given access to the paddock and stalls 1-3 with Petunia. Both did really well together as did the two on exhibit
14 Dec 2007	Introduction Note	Morning and afternoon, Petunia and Robin had access to paddock and stall 1. They were shifted inside for lunch. Did very well
15 Dec 2007	Behavior note	0.2 9848 Petunia and 9849 Robin were given access to paddock and Stall 1 for the day. At lunch, Keeper came to check on them and to give them more hay if needed. Petunia chipped small portion of right tusk during interaction with Belle 7031
15 Dec 2007	Animal management note	Keepers added more sand to the paddock and exhibit in front of outside doors. Also, evened out and cleaned up the areas before concrete doors.
16 Dec 2007	Animal management note	Petunia and Robin had access to the paddock and stall 1 for most of the day.
17 Dec 2007	Animal management note	0.2 9848 Petunia and 9849 Robin had access to paddock area and stall 1 for most of the day



19 Dec 2007	Animal management note	In AM, 9848 Petunia and 9849 Robin had training sessions
20 Dec 2007	Animal management note	Keepers attempted to shift 9848 Petunia and 9849 Robin onto exhibit and Penny SJ1899 and Belle 7031 into the barn and paddock.
29 Dec 2007	Medical note	Petunia has folliculitis on tip of tail. Dr. Benson checked and keepers will begin scrubbing tail daily to clean area & to remove any dead, infected tissue
30 Dec 2007	Medical note	Keepers began daily tail scrubbing for folliculitis
5 Jan 2008	Medical note	Dr. Moore checked Petunia's tail wound.
5 Jan 2008	Foot management	All four of Robin's feet were trimmed and the nails filed
5 Jan 2008	Medical note	Petunia has some discharge coming from her tail hair follicles. Dr. Benson notified and keepers are continue to scrub with novalsan. Further treatment options will be discussed
8 Jan 2008	Animal management note	In the afternoon, a ERD training session with Petunia
8 Jan 2008	Medical note	Petunia's tail hair follicles appear to be more tender and more moist, even before washing. Dr. Benson informed
9 Jan 2008	Animal management note	Morning training sessions with elephants.
10 Jan 2008	Medical note	Cultures from Petunia's tail were submitted to the hospital.
10 Jan 2008	Introduction Note	Physical introduction started in the barn for 0.4 elephants Robin, Petunia, Penny & Belle. Penny was submissive to Petunia
11 Jan 2008	Medical note	Petunia has what appears to be a superficial cut on her back right leg. Keepers will continue to monitor.
12 Jan 2008	Animal management note	Large logs were removed from the elephant exhibit and replaced with new sweet gum logs.
13 Jan 2008	Animal management note	Keepers removed more old logs from elephant yard
15 Jan 2008	Medical note	Petunia tail hair follicles seem to be dryer and less painful
15 Jan 2008	Introduction Note	Physical introduction conducted between 9848 Petunia and 7031 Belle. Petunia was submissive to Belle.  Physical introductions between Belle and Robin. Robin was submissive to Belle
16 Jan 2008	Animal management note	Maintenance worked on elephant hotwire by laying the conduit to connect the final three hotwire cables
18 Jan 2008	Animal management note	Petunia and Robin received ERD training
18 Jan 2008	Animal management note	Maintenance continues to work on elephant hotwire
26 Jan 2008	Animal management note	0.4 SJ1899 Penny, 7031 Belle, 9848 Petunia, and 9849 Robin received training sessions today
31 Jan 2008	Introduction Note	Today, for the first time, 0.2 9848 Robin and 9849 Petunia went onto the exhibit. They had access to the paddock as well. Penny SJ1899 and 7031 Belle were kept in the barn for the day. Robin and Petunia did very well on exhibit and explored the entire area.
1 Feb 2008	Behavior note	9848 Petunia and 9849 Robin went on exhibit again today for 1/2 day & they did very well. They were shut onto exhibit and the other females were given the paddock and the barn. Penny SJ1899 and Belle 7031 went onto exhibit in afternoon, while Robin and Petunia had the paddock and barn.
7 Feb 2008	Introduction Note	Physical introductions with Belle, Petunia & Robin utilizing barn and paddock area.
8 Feb 2008	Introduction Note	Physical introduction conducted today with Belle, Penny, Robin & Petunia utilizing barn, paddock, and yard. It went very well. Belle is definitely the matriarch.
9 Feb 2008	Introduction Note	Penny, Belle, Petunia, & Robin were on exhibit with access to the paddock for the day. A brief introduction was conducted between Belle, Robin and Petunia before letting everyone together on exhibit
11 Feb 2008	Introduction Note	Yesterday and today, 0.4 SJ1899 Penny, 7031 Belle, 9848 Petunia & 9849 Robin were given access to exhibit and paddock. All were let out without small group introductions. It went very well and reduced some anxiety. They utilized all the exhibit and interacted very well together
12 Feb 2008	Foot management	Follow up foot and nail work for Robin & Petunia
13 Feb 2008	Animal management note	Stall arrangements were changed for Penny, Belle, Robin & Petunia to help with shifting
15 Feb 2008	Foot management	Petunia's back feet were trimmed and her nails filed
26 Feb 2008	Animal management note	In AM, training sessions were conducted with SJ1899 Penny, 7031 Belle, 9848 Petunia & 9849 Robin.
5 Mar 2008	Medical note	0.1 9848 Petunia has more tail follicles oozing and bleeding. Discussed with vet and decided to try Epsom salt soak BID for 10 minutes to loosen any hard, dead skin and help to open follicles.
7 Mar 2008	Medical note	0.1 9848 Petunia tail soak for 10 minutes in epsom salt; she did very well
11 Mar 2008	Medical note	0.4 Elephant SJ1899 Penny, 7031 Belle, 9848 Petunia & 9849 Robin had the first of three tuberculosis



trunk wash tests

13 Mar 2008	Medical note	0.4 Elephant SJ1899 Penny, 7031 Belle, 9848 Petunia & 9849 Robin had the second of three tuberculosis trunk wash tests
15 Mar 2008	Medical note	0.4 Elephant SJ1899 Penny, 7031 Belle, 9848 Petunia & 9849 Robin had the third of three tuberculosis trunk wash tests
17 Mar 2008	Medical note	Overnight, 9848 Petunia's old upper left tooth fell out to make room for a new one
19 Mar 2008	Medical note	Petunia's tail is more sensitive and it is increasingly difficult to thoroughly scrub. Vet requested that her tail be soaked in epsom salt for 10 minutes at least SID but more often if possible. Will check in a week
22 Mar 2008	Foot management	Petunia's back feet were trimmed and nails filed
8 Apr 2008	Animal management note	More screening was added to the mud hole outside door in elephant paddock
11 Apr 2008	Animal management note	A new fire alarm system was installed in the elephant barn
26 Apr 2008	Animal management note	0.4 SJ1899 Penny, 7031 Belle, 9848 Petunia, & 9849 Robin were trained in the ERD
30 Apr 2008	Diet	SJ1899 Penny receives 50 pounds of hay and 10 pounds of straw; 7031 Belle receives 65 pounds of hay and 10 pounds of straw; 9848 Petunia receives 50 pounds of hay and 10 pounds of straw; 9849 Robin receives 75 pounds of hay and couple flakes of straw to help aid in her transition to straw. Now weighing hay instead of counting number of bales to get a more accurate weight since bale weight varies with each shipment
30 Apr 2008	Physical condition	Approximate height from withers of: SJ1899 Penny 8 feet 3 inches; 7031 Belle 7 feet 5 inches; 9848 Petunia 7 feet 9 inches; and 9849 Robin 7 feet 9 inches
2 May 2008	Foot management	Petunia's front feet were trimmed.
3 May 2008	Animal management note	Yesterday & today, SJ1899 Penny, 7031 Belle, 9848 Petunia, and 9849 Robin were trained in the ERD
9 May 2008	Behavior note	For the past 2 nights, 0.4 elephants had access to the exhibit and barn. They did very well
20 May 2008	Foot management	Petunia's back feet were trimmed and the nails filed
21 May 2008	Animal management note	Elephants have access to the exhibit and barn tonight
22 May 2008	Animal management note	Today, 3 truck loads of sand were delivered to the elephant exhibit. Collected samples from the elephant hay trailer and alfalfa for analysis
22 May 2008	Animal management note	Elephants have access to the exhibit and barn tonight
30 May 2008	Diet	0.4 Elephants hay and straw ratio has changed; they will receive 140 pounds of hay and 60 pounds of straw on the yard when they have access overnight
4 Jun 2008	Medical note	Exudates are coming from Petunia's tail again. Epsom soaks were begun on Sunday 1 Jun 08. Her tail seems to be drying up, but there is one sensitive spot that needs to be monitored
13 Jun 2008	Foot management	Petunia's front feet were trimmed and her nails filled
17 Jun 2008	Foot management	Petunia's back feet were trimmed and the nails filed.
11 Jul 2008	Foot management	Petunia's back feet were trimmed and the nails filed
18 Jul 2008	Foot management	0.1 9848 Petunia's front feet were trimmed
19 Jul 2008	Animal management note	0.4 SJ1899 Penny, 7031 Belle, 9848 Petunia, and 9849 Robin were trained in the ERD today
2 Aug 2008	Animal management note	Elephant hay and straw usage changed from bales to pounds. 350 pounds of hay for the day and 40 pounds of straw per day
15 Aug 2008	Foot management	All four of Petunia's feet were trimmed and her nails filed.
29 Aug 2008	Foot management	All four of Petunia's feet were trimmed
29 Aug 2008	Medical note	The scar under Robin's tail area opened up by Petunia when she was pushing Robin. Just the top layer of skin peeled off. Keepers cleaning with novalsan SID
5 Sep 2008	Foot management	9848 Petunia and 9849 Robin had all 4 feet trimmed
12 Sep 2008	Foot management	9849 Robin and 9848 Petunia trimmed all four feet and filed nails
23 Sep 2008	Foot management	All four of Petunia's feet were trimmed



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<u>Date</u>	<u>Enclosure</u>	<u>Reason</u>
19 Oct 2007	ELEPHANT	Quarantined in Elephant Barn

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<u>Date</u>	<u>Sex</u>	<u>Comments</u>
19 Oct 2007	Female	

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<u>Date</u>	<u>Rearing</u>	<u>Comments</u>
19 Oct 2007	Unknown	

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<u>Date</u>	<u>Parent(s)</u>	<u>local Id</u>	<u>Location</u>	<u>Comments</u>
1 Jul 1973	Sire	WILD	WILD	
1 Jul 1993	Dam	WILD	WILD	

Clinical Notes - Individual Specimen Report  
RIVERBANKS MAMMALS

LOXODONTA AFRICANA AFRICANA  
South African bush elephant  
Name: PETUNIA

Sex: Female  
Age: 36Y Est.

Acc. #: 9848  
Birth: 1.Jul.1973

.....2007...

19.Oct.2007

Obs: Arrived from Disney's Animal Kingdom (TM)

20.Oct.2007

Obs: Keeper reports animals appear to be adjusting well (TM)

21.Oct.2007

Obs: Began transitioning new animals to elephant supplement. Added one pound of elephant supplement to four pounds of the high fiber pellet BID; will slowly increase supplement. (TM)

29.Oct.2007

Lab: QX fecal#1  
Direct: NPS  
Float: NPS (JM)

1.Nov.2007

Obs: Animals were transitioned to our elephant supplement and are now on it 100% (TM)

5.Nov.2007

Lab: QX fecal#2  
Direct: NPS  
Float: NPS (JM)

7.Nov.2007

Lab: Enteric Pathogens (Lexington): No Salmonella, Shigella, Campylobacter, or E. Coli 0157 (JM)

12.Nov.2007

Lab: In house QX#3 fecal  
Direct: NPS  
Float: NPS (JM)

13.Nov.2007

Hx: Keeper reports follicles from hair on trunk are enlarged  
Visual exam: Base of hair follicles is white and enlarged; no evidence of discharge at this time.  
A: Suspect folliculitis which has been seen in these animals previously.  
P: KB rec. to clean the trunk with a scrub brush. (TM)

Clinical Notes - Individual Specimen Report  
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Sex: Female  
Age: 36Y Est.

Acc. #: 9848  
Birth: 1.Jul.1973

21.Nov.2007

Rx: GLUCOSAMINE HCL 8 scp PO BID for 60 days. (TM)

22.Nov.2007

Obs: Second tactile introduction between 7031 and 9848 (TM)

24.Nov.2007

Follicles on trunk remian raised, but are not causing any difficulty to the animal and she readliy accepts topical cleaning of the area.  
P: Continue to clean the area with a scrub brush and remove the scurf as needed. (KB)

30.Nov.2007

Obs: Tactile introductions between SJ1899, 9849 and 9848 (TM)

1.Dec.2007

Obs: Introductions beginning between all of the elephants (7031 9848, 9849 and SJ1899) (TM)

15.Dec.2007

Obs: Chipped small portion of right tusk (TM)

29.Dec.2007

Problem: tail - tail (Confirmed)

CC: Crusting of the skin at the tip of the tail

Exam: There is an approximatly 1 inch long area of crusting and excoriation along the follicles of the tip of the tail. This animal has a history of folliculitis of this area.

A: Minor area of folliculitis

P: Keepers to clean the area daily with nolvasan scrub and a surgical scrub brush. (KB)

.....2008...

5.Jan.2008

Problem: tail - tail (Confirmed)

CC: Tail getting worse

S/O: Area on the edge of the tail where the hair is growing is open and cracking. More exudate than what has been there previously (white). Keepers are cleaning tail.

A: Folliculitis progressing.

P: Discussed removing hair from the area to remove the nidus for infection. May need to clean with something different. Discussed neo-pred-f powder. Also discussed cauterizing the hair follicles once the area is cleared of infection so as to remove the cause of the problem as this is a reoccurring problem with this animal and sometimes very difficult and laborious to treat. (TM)

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9.Jan.2008

Problem: tail - tail (Confirmed)

Obs: Discussed situation with keeper. She reports that the entire length of the lesion is somewhat wet, but there are only pockets of purulent material now. Animal sensitive to tissue being pulled off of the area. Discussed cauterizing the follicles once this episode is under control so that we don't continually have the problem and there is not repeated antigenic stimulation for the animal.

P: Use topical lidocaine to see if that will help decrease the animal's sensitivity and thus hasten the time the hair can be pulled. This may also help remove dying tissue. (TM)

10.Jan.2008

Problem: tail - tail (Confirmed)

CC: Have reviewed the file on this animal again. There seems to have been a number of approaches to dealing with the tail folliculitis in the past using various combinations of topical antiseptics (betadine, Nolvasan, H2O2), mechanical debridement, astringents (MgSO4, Domboro solution, Dakins solution, WonderDust), and systemic antimicrobials (largely tribrissen). All seem to have worked to some degree over time but the lesions, as now, return. Have attempted to reach two of the clinicians there to discuss the case as this might prove more efficient in extracting what was the latest thinking on managing this animal's folliculitis.

Presently the keepers are using Nolvasan and a surgical scrub brush to debride the area. The lesion is progressing despite this. Cultures from within the affected follicles have been sent out for aerobic and anaerobic cultures and sensitivities.

Consider the following until information on the identity and sensitivity pattern of the organisms is back. Debride with betadine scrub, flush with warm water and then rinse with domboros solution so as to dry the tissues out. Consider systemic antimicrobials depending on the identity and sensitivity patterns of the organisms recovered.

Dr. Moore has suggested that permanently ablating the follicles might provide a permanent long term solution to the problem, and when the folliculitis is under control that is something that should be considered. Consult with an electrolysisist. (KB)

15.Jan.2008

Problem: tail - tail (Confirmed)

Exam of affected follicles:

There is far less exudate, crusting and odor associated with the follicles this AM. The lesions appears to be resolving. P: continue with Nolvasan scubs and monitor. (KB)

Clinical Notes - Individual Specimen Report  
RIVERBANKS MAMMALS

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LOXODONTA AFRICANA AFRICANA  
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Name: PETUNIA

Sex: Female  
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Acc. #: 9848  
Birth: 1.Jul.1973

16.Jan.2008

Problem: tail - tail (Confirmed)

LAB: Culture from tail follicles: Submitted To Clemson on 1/14/08:  
Candida Albicans, Streptococcus agalactiae, Streptococcus spp, alpha  
hemolytic

Streptococcus agalactiae

Amikacin	r
Ampicillin	s
Augmentin	s
Ceftiofur	s
Cephalothin	s
Chloramphenicol	s
Clindamycin	s
Enrofloxacin	r
Erythromycin	s
Gentamicin	r
Lincomycin	s
neomycin	r
Orbifloxacin	s
Penicillin	s
Piperacillin	nt
Tetracycline	s
TMS	r
Triple Sulfa	r

Streptococcus spp, alpha hemolytic

Amikacin	s
Ampicillin	s
Augmentin	s
Ceftiofur	s
Cephalothin	s
Chloramphenicol	s
Clindamycin	s
Enrofloxacin	r
Erythromycin	s
Gentamicin	s
Lincomycin	s
Meomycin	s
Orbifloxacin	r
Penicillin	s
Piperacillin	s
Tetracycline	nt
TMS	s
Triple Sulfa	s

Clinical Notes - Individual Specimen Report  
RIVERBANKS MAMMALS

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South African bush elephant  
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16.Jan.2008

Problem: tail - tail (Confirmed)

A: Both of these organisms are common skin inhabitant and both have been cultured from similar lesions in this animal in the past. The tail is improving with chlorhexidine scrubs  
P: Consinte chlorhex scrubs. (KB)

20.Jan.2008

Problem: tail - tail (Confirmed)

Rx: GLUCOSAMINE HCL 4 scp PO BID until further notice. Maintenance dose for this animal. Can increase if this seems not to be working any more. (TM)

24.Jan.2008

Problem: tail - tail (Confirmed)

CC: Re-examination of tail folliculitis: There is some thicker dead skin built up between rows of hairs at the original site at the tip of the tail. There is a slo a smaller 0.75-1 inch area along the side of the tail approximately 5-6 inches from the tip. The animal is tolerating the manipulations well. The excessive calloused, almost hornlike skin is tough but can be removed revealing normal skin below. It is slightly uncomfortable as moving the tissue to manipulate it puts pressure on the slightly inflammed follicles.  
P: Gently remove this excessive dry skin and continue with the nolvasan cleansing. (KB)

1.Feb.2008

Problem: tail - tail (Confirmed)

Obs: 9848 and 9849 on exhibit for 1/2 day (TM)

7.Feb.2008

Problem: tail - tail (Confirmed)

Obs: Physical introductions between 7031, 9848 and 9849 using the barn and paddock. (TM)

8.Feb.2008

Problem: tail - tail (Confirmed)

Obs: Physical introductions between SJ1899, 7031, 9848 and 9849 using the barn, paddock and yard. (TM)

9.Feb.2008

Problem: tail - tail (Confirmed)

Obs: All four animals (SJ1899, 7031, 9848 and 9849) on exhibit today. (TM)



Clinical Notes - Individual Specimen Report  
RIVERBANKS MAMMALS

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LOXODONTA AFRICANA AFRICANA  
South African bush elephant  
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Acc. #: 9848  
Birth: 1.Jul.1973

27.Feb.2008

Problem: tail - tail (Confirmed)

to come off. There is no real growth of tissue at the center of the lesions where the scab has removed.

P: Continue cleaning with dilute nolvasan. If the initial scab has fallen off, do not remove any developing scab as that will provide a protective layer for the granulation tissue to grow beneath it.  
(TM)

29.Feb.2008

Problem: tail - tail (Confirmed)

Lab: Culture results from scab (Antech)

O: Coagulase positive staph non-aureus, susceptible to everything tested except ampicillin; see hard file for full results

A: Do not want to go with systemic antibiotics at this time; this may also be a contaminant.

P: Monitor. (TM)

4.Mar.2008

Problem: tail - tail (Confirmed)

Lab: Biopsy results

O: See pathology section for full report (#08-042). Severe multifocal coccal dermatitis. Severe focally extensive mycotic dermatitis.

A: The fungal organisms most closely resemble environmental contaminants and therefore may not be contributing directly to the lesions at this time.

P: Continue cleaning with dilute nolvasan and have keepers wash hands well after treating. (TM)

6.Mar.2008

Problem: tail - tail (Confirmed)

CC: Recheck tail folliculitis

At present the keeper staff are cleaning the affected follicles with chlorhexidine scrub, followed by flushing the fissures and defects with a dilute chlorhexidine solution. There are several small areas where the tissue is mild to moderately swollen, and with the increased keratinization, tight. This seems to be contributing to the discomfort when the animal's tail is manipulated. There is a moderate amount of serous to serosanguinous discharge that encrusts those areas. The amount of mucopurulent discharge is minimal at this time. While the scrubs and the cleanings seem to reduce the build up of discharge at the site, it may be stiffening the tissues by drying out the epidermis. In order to encourage drainage and allow for maximum debridement we will try soaking the tissues to soften them.

P: Soak twice daily in dilute magnesium sulfate solution for 10 to 20 minutes. Then scrub and flush the area with chlorhexidine as previously described. Recheck in five to seven days. (KB)

Clinical Notes - Individual Specimen Report  
RIVERBANKS MAMMALS

LOXODONTA AFRICANA AFRICANA  
South African bush elephant  
Name: PETUNIA

Sex: Female  
Age: 36Y Est.

Acc. #: 9848  
Birth: 1.Jul.1973

11.Mar.2008

Problem: tail - tail (Confirmed)  
Procedure: Observed trunk wash for TB test (TM)

13.Mar.2008

Problem: tail - tail (Confirmed)  
Procedure: Observed trunk wash for TB test (TM)

15.Mar.2008

Problem: tail - tail (Confirmed)  
Procedure: Observed trunk wash for TB test (TM)

19.Mar.2008

Problem: tail - tail (Confirmed)  
CC: The tail is somewhat more sensitive. This is likely due to the buildup of the thickened keratin between the bands of hair follicles. Whenever this is manipulated it puts pressure on the opposite side and causes some discomfort. Request that the keepers try to soak the tail at least daily in an effort to soften the material to make it easier to remove manually. Mg+SO4 soaks are recommended initially, to be altered if need be. (KB)

19.Mar.2008

Problem: tail - tail (Confirmed)  
Obs: Per keeper report - animal's tail is more sensitive and it is increasingly difficult to thoroughly scrub. KB requested tail is soaked in epsom salts for 10 minutes at least SID, but more often if possible.  
P: KB to recheck in one week. (TM)

10.Apr.2008

Problem: tail - tail (Confirmed)  
Lab: In house HCT: 32%  
TP: 8.0mg/dl (JM)

12.Apr.2008

Problem: tail - tail (Confirmed)  
Lab: Routine bloodwork results (collected April 10th)  
O: hgb 11.2, Hct 33.6, rbc 2.57, MCV 131, MCh 43.6, MCHC 33.3, platelet count 582, platelet estimate increased, wbc 8000, pm's (36%) 2880, lymphocytes (50%) 4000, monocytes (14%) 1120  
glucose 76, BUN 17, Cr 1.2, tprotein 7.9, albumin 3.2, t.bili 0.2, ALP 70, AST 17, cholesterol 81, Ca 10.9, P 4.7, Na 130, K 5.1, Cl 88, globulin 4.7, CPK 114, GGTP 12, LDH 310, Mg 2.2, fibrinogen 285, amylase 8886, lipase <10  
A: Values are within normal limits. (TM)

Clinical Notes - Individual Specimen Report  
RIVERBANKS MAMMALS

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LOXODONTA AFRICANA AFRICANA  
South African bush elephant  
Name: PETUNIA

Sex: Female                      Acc. #: 9848  
Age: 36Y Est.                    Birth: 1.Jul.1973

=====

30.Apr.2008

Problem: tail - tail (Confirmed)

Note: Keepers have switched to feeding animals by weight, not bales of hay. This animal is receiving 50# of hay and 10# straw. Trying to reintroduce straw back into diet; they didn't eat it well when they were getting bad hay. (TM)

30.May.2008

Problem: tail - tail (Confirmed)

Obs: Animals (7031, SJ1899, 9848 and 9849) now receiving 140# of hay and 60# of straw on the yard. (TM)

4.Jun.2008

Problem: tail - tail (Confirmed)

CC: The exudates from the tail lesion are reduced and seem to be drying up. This lesion is cyclical however and will likely reccur.  
P: Monitor. (KB)

20.Aug.2008

Problem: tail - tail (Confirmed)

Notes from discussion at Sr Keeper Meeting between vets, curator and keeper. Nothing that we do or don't do seems to be making a difference in how Petunia's tail looks. Keeper are now going to discontinue all treatments including: epsom salts, nolvasan spray and hand cream (the latter they haven't been able to do consistently) and then monitor it closely.

Addendum: (KB) this is a temporary DC of hands on efforts to manage the tail in order to provide the animal some more positive expereinces with training. In all likelyhhod it will need intermittant attention over time. (TM)

TM



Department of Pathology and Laboratory Medicine  
2720 Sunset Blvd  
West Columbia, SC 29169  
Phone (803) 791-2400 Fax (803) 791-2406

Petunia

Pathologists: Ervin B. Shaw, MD John B. Carter, MD Kitt R. McMaster, MD Beverly W. Daniel, MD  
E. Jayne Moffatt, MD X. Karen Xu, MD, PhD William R. Armstrong, MD

PT. NAME: ZOO,ELEPHANT 9848      DOB: 01/01/2007  
PATIENT ID: ZO-9848      AGE: 10M      SEX: U  
ACCT NO: H00027085703      PHYSICIAN: Benson,Keith,DVM  
LOC: ZO

11/05/07 STOOL CULTURE ZOO SP  
UNK      ACC. NO.: M62328      TRANSPORT TIME: UNKNO FINAL 11/07/2007  
SPECIMEN DESCRIPTION: STOOL  
SPECIAL REQUESTS: NONE

- CULTURE:
- 1. NO SALMONELLA, SHIGELLA, CAMPYLOBACTER, OR E. COLI 0157:H7 ISOLATED
  - 2. REDUCED NORMAL FECAL FLORA

Pathology Module - Individual Specimen Report  
RIVERBANKS MAMMALS

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LOXODONTA AFRICANA AFRICANA           Sex: Female           Acc. #: 9848
South African bush elephant         Age: 35Y Est.        Birth: 1.Jul.1973
Name: PETUNIA
Time in this collection: > 30 days (127 days)
=====

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**Active Clinical Problems and Procedures:** 08-42  
 29.Dec.2007 tail - tail (Confirmed)

**Active Prescriptions:**  
 20.Jan.08 Rx: GLUCOSAMINE HCL 4 scp PO BID until further notice.

**Recent Prescriptions:**  
 2.Nov.98 Rx: PSYLLIUM HYDROPHILIC MUCILLOID FEED PO for 3274 days.  
 21.Nov.07 Rx: GLUCOSAMINE HCL 8 scp PO BID for 60 days.

**Clinical Notes for 23.Feb.2008 - TM**

CC: Check scabs on ear  
 Hx: Keeper reported yesterday this animal had round lesions on her right ear that reminded her of ringworm.  
 S/O: Multiple, varying sized, circular lesions on the anterior portion of the right ear (most ventral). Some had scabs present, some had the skin removed and SQ tissue exposed, some were just raised skin around an area where the lesion was going to occur. One approximately 15x12mm area was scabbed up with an edge lifted. This was removed; the animal did not seem to respond to the removal of the scab like material. There was purulent material on the bottom of the skin, the skin looked normal grossly but it was thick and scab material was present dorsal to the purulent material (closer to the skin). There was a small amount of bleeding from the area where it was removed (primarily ventrally), but white, cartilaginous looking tissue left. Lesions do not follow visible vasculature.  
 Procedures: 1. Swab of purulent material submitted for culture and sensitivity (Antech).  
 2. Gram's stain of the exudate (in house): 100% gram (+) cocci; mucus strands and debris; no intact wbc's but there were a few that might have been.  
 3. Impression smear with diff-quick staining.  
 A: R/O: bacterial/fungal dermatitis; viral infection contact irritation; insect irritation; parasitic dermatitis; microthrombi and regional necrosis. This animal "doesn't like" to get dirty - so no rolling in the mud or anything, which may help protect her from some of these things.  
 P: Keepers to clean the area with dilute novlase, but that won't stop other lesions from forming. May need to use systemic antibiotics if lesions continue to develop, based on culture and sensitivity results.

Diffquick results from impression smear of scab: mucus/fibrin

Pathology Module - Individual Specimen Report  
RIVERBANKS MAMMALS

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strands; no wbc's nor rbc's seen

**Baseline Data >>>**

Biopsy Obtained: 23.Feb.2008  
Submitted by: Tiffany Moore  
Enclosure: ELEPHANT

Pathology Case Number: 08-42  
(Biopsy Record)

**Gross Examination Data >>>**

Gross Description by: TIFFANY MOORE on 23.Feb.2008

**Gross Examination Report >>**

scab from lesion on the anterior portion of the right ear; circular with white -tan exudate on the deepest portion; skin looks normal

**Laboratory Samples Submitted >>>**

scab

**Histopathology Report >>**

Zoo and Exotics Histopathology Report  
(E08- 374)

A biopsy sample from the ear of an elephant was submitted. It was serially sectioned, processed, and examined histologically. During special staining of individual slides, much of the tissue fragmented and washed off the slide. However, a few features can be discerned. A Gram stain for bacteria reveals many densely cellular colonies of large cocci, deeply embedded within the ear, and in several crevices. GMS fungal stain also reveals lesser but significant numbers of fragmented fungal hyphae deeply embedded in the tissue. They vary from 2-7 micron diameter, are septate, with nonparallel irregular walls and occasional bulbous segments, rarely branching at irregular or wide angles. Acid fast stain did not reveal acid fast organisms. No other microscopic details can be distinguished.

**Histopathology Diagnoses >>>**

PINNA, DERMATITIS, COCCI, MULTIFOCAL, SEVERE, UNILATERAL (RIGHT)  
PINNA, DERMATITIS, LOCALLY EXTENSIVE, SEVERE, UNILATERAL (RIGHT), MYCOTIC

Pathologist: RITA MCMANAMON

Final report signed: 29.Feb.2008

**Additional Comments >>>**

Unfortunately, technical challenges prevent full histological evaluation at this time. Presence or absence of inflammation can not be assessed. The H&E slides and special stains will be repeated early next week. If any additional details are gleaned, an addendum report will be issued. The microorganisms are deeply embedded in the tissue. The cocci resemble Staphylococcus sp. The fungal organisms most

Pathology Module - Individual Specimen Report  
RIVERBANKS MAMMALS

=====  
closely resemble zygomycete fungi, which are environmental  
contaminants. However, bacterial and fungal culture are recommended in  
order to more definitively identify the organisms.

Diagnoses: 1. Severe multifocal coccal dermatitis  
2. Severe focally extensive mycotic dermatitis

**Clemson Veterinary Diagnostic Center**

Accession: 840-08  
Report date: 1-16-08/DNP  
Owner:

Livestock and Poultry Health Division  
PO Box 102406  
Columbia, SC 29224-2406  
(803) 788-2260  
FAX: (803) 699-8910

RIVERBANKS ZOOLOGICAL PARK (Acct: 286)  
ATTN: BENSON, KEITH  
PO BOX 1080  
COLUMBIA, SC 29202-1080

**SUBMISSION  
SUMMARY**

Received: 1-14-08

Species	Animals	Tests	Completed
Misc	1	5	5

(803) 253-6381 (Please fax results)

**\*\* FINAL REPORT \*\***

**MICROBIOLOGY**

ANIMAL ID: 1: 9848, Misc, Elephant  
Completed: 1-16-08/2:42p

Sample: Swab/Culturette

**AEROBIC BACTERIAL CULTURE** 1-16-08/2:42p

SPECIMEN ID: Swab

ORGANISM

Candida albicans  
Streptococcus agalactiae  
Streptococcus spp, alpha hemolytic

**ANAEROBIC BACTERIAL CULTURE** 1-16-08/2:42p

SPECIMEN ID: Swab

ORGANISM

No Growth

**CA ANTIBIOTIC PANEL** 1-16-08/2:43p

Test No. 1

▶ ORGANISM ID: Streptococcus agalactiae

ANTIBIOTIC:	RESULT
Amikacin:	Resistant
Ampicillin:	Susceptible
Augmentin:	Susceptible
Ceftiofur:	Susceptible

CA ANTIBIOTIC PANEL 1-16-08/2:43p (Continued)

Cephalothin:	Susceptible
Chloramphenicol:	Susceptible
Clindamycin:	Susceptible
Enrofloxacin:	Resistant
Erythromycin:	Susceptible
Gentamicin:	Resistant
Lincomycin:	Susceptible
Neomycin:	Resistant
Orbifloxacin:	Susceptible
Penicillin:	Susceptible
Piperacillin:	Not Tested
Tetracycline:	Susceptible
Trimeth-Sulfadi:	Resistant
Triple Sulfa:	Resistant

KBW

Test No. 2

▶ ORGANISM ID: Streptococcus spp, alpha hemolytic

ANTIBIOTIC:	RESULT
Amikacin:	Susceptible
Ampicillin:	Susceptible
Augmentin:	Susceptible
Ceftiofur:	Susceptible
Cephalothin:	Susceptible
Chloramphenicol:	Susceptible
Clindamycin:	Susceptible
Enrofloxacin:	Resistant
Erythromycin:	Susceptible
Gentamicin:	Susceptible
Lincomycin:	Susceptible
Neomycin:	Susceptible
Orbifloxacin:	Resistant
Penicillin:	Susceptible
Piperacillin:	Not Tested
Tetracycline:	Susceptible
Trimeth-Sulfadi:	Resistant
Triple Sulfa:	Resistant

TW  
✓

**Riverbanks Zoo**  
500 Wildlife Pkwy  
Columbia, SC 29210  
Tel: 803-779-8717  
Fax: 803-253-6381

Client # 7949  
Chart #

Accession No. <b>NYPA01475591</b>	Doctor <b>MOORE</b>	Owner <b>ELEPHANT</b>	Pet Name <b>9848</b>	Received <b>02/24/2008</b>
Species <b>Mammal</b>	Breed	Sex <b>U</b>	Pet Age	Reported <b>02/27/2008 12:31 AM</b>

Test Requested	Results		Reference Range		Units
CULTURE & SENSITIVITIES	#1	#2	#3	#4	#5

Source

Please write source of culture on the request form. This aids the microbiologist in isolation and identification of possible pathogens.

Preliminary #1 02/25/2008

Organism #1

Coagulase Positive Staph non-aureus

A Non-Aureus Staphylococcus has been cultured from the submission referenced above. Speciation of Non-Aureus Staphylococci is available. Please call customer service if speciation is desired.

Light growth

Final Report 02/27/2008

SENSITIVITIES	#1	#2	#3	#4	#5
Ampicillin	R				
Clavamox (amoxi-clav)	S				
Chloramphenicol	S				
Clindamycin	S				
Cephalothin	S				
Methicillin	S				
Erythromycin	S				
Baytril (enrofloxacin)	S				
Gentamicin	S				
Neomycin	S				
Trimethoprim/Sulfa	S				
Tetracycline	S				
Marbofloxacin (Zenequin)	S				