

## Patience

Public Name – Patience

Studbook # - 76

Date of birth – JUN 1974

Acquisition Date – 30 OCT 1990

Birthplace – Thailand

Transaction history – Thailand, Brookfield Zoo, Dickerson Park Zoo

Chronic or recurring medical problems – She has a permanent ¼” diameter fistula surrounded by scar tissue beneath her tail as a result of a surgical artificial insemination attempt. This fistula periodically causes her discomfort, and she will hold a bolus over it with her tail.

Weight – 8,500 lbs.

Socialization/behavior history – She is third in the social structure at this time. Socially she has always had a difficult time integrating with herd members. She attempts to dominate visiting elephants with varying success. She exhibits psychotic behavior with other elephant's newborn calves until approximately one year old. She will stalk, attempt to isolate and attack newborn calves that are not her own. She is fearful of Sabu, but appears to enjoy interacting with Khun-Chorn. Behaviorally she is very high-strung. She is very selective in forming relationships with new keepers. She is the most responsive to commands to established keepers under normal circumstances. Under unusual circumstances (i.e. calf introductions, new keeper introductions) she can become aggressive toward keepers.

Commands – trunk up, put it away, open wide, head high, head down, let me see your trunk, salute, bow, kneel, feet, sides, crouch, foot pad, foot front, change feet, come here, move over, back up, move up, tail up, break, push, speak, pick it up, get your butt over, get your head over, move your butt in, move your head in, steady, stretch, lay down, come around, move around, come in line, ears, shake, hand it here, break it, step up, alright, sit it up, stand it up, down on your head, trumpet and come up and salute. Keepers can ride on her neck.

Reproduction – She has produced one calf in 1998. This calf died in 2000 of EEHV at Six Flags Marine World.

Report Start Date  
1/1/1900

# Specimen Report for DICKERSON / 3320

Report End Date  
4/19/2007



Taxonomic name: *Elephas maximus*

Family: Elephantidae

Common name: Asiatic elephant

Order : Proboscidea

## Current information

Sex: Female Sire ID:  
Birth type: Unknown Dam ID:  
Birth Location: Rearing: Unknown  
Birthdate-Age: ~ 1974 - ~32Y Hybrid: Not a hybrid  
Time since last Acq: 15Y,9M,14D 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>
30 Oct 1990	Loan In from CHICAGOBR / 22763	DICKERSON / 3320		
5 Jul 1991	Donation from CHICAGOBR / 22763	DICKERSON / 3320		

<u>Date</u>	<u>Identifier type</u>	<u>Identifier</u>	<u>Location</u>	<u>Comments</u>
3 Nov 1974	House Name	PATIENCE		
3 Nov 1974	Regional Studbook #	76	UNKNOWN STUDBOOK	76 "International Studbook Number" from ARKS 2 records

<u>Date</u>	<u>Sex</u>	<u>Comments</u>
30 Oct 1990	Female	

<u>Date</u>	<u>Rearing</u>	<u>Comments</u>
30 Oct 1990	Unknown	

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ELEPHAS MAXIMUS (no subsp)           Sex: Female           Acc. #: 3320
Asiatic elephant                     Age: 32Y Est.        Birth: 3.Nov.1974
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14.May Purpose/Problem: Stiff/sore forleg
      Rx: PHENYLBUTAZONE 4000mg PO BID for 3 days.
      Rx: PHENYLBUTAZONE 4000 mg PO BID for 3 days. (JB)
17.May P) Recheck L-front leg.
      O) Remains very stiff in leg, abducting entire leg at shoulder, but
      is
         flexing at carpal joint now.
      A) Myositis/ Hyperflexion or hyperextension of shoulder or elbow
      joint
      T) Continue Phenylbutazone BID PO
      Continue Warm hydrotherapy 15 min BID to TID (DH)
19.May P) Recheck L foreleg. Appears to be using leg normally. (DH)

2.Jun Purpose/Problem: annual tetanus vacc.
      Vaccination: TETANUS TOXOID 1ml IM SID

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Dispensing Note: Dispense one dose. Each dose: 1 ml.

P) Annual Tetanus vacc.  
T) Rx: TETANUS TOXOID 1 ml IM for 1 dose. (Ft. Dodge 277336A) (DH)

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6.Jun Purpose/Problem: trauma
      Rx: PHENYLBUTAZONE 8000mg PO SID (2.54 mg/kg)

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Dispensing Note: Dispense one dose. Each dose: 8 tablets. Use 1000.0 mg tablets.

NITROFURAZONE DRESSING 0.2% topically SID  
Topical treatment: Apply to abraided lesions.

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Dispensing Note: Dispense one dose. Use 4.00 mg/gm ointment.

P) Wounds present/ L-ear torn from altercation with other elephants  
O) Wounds are mainly positioned around head and trunk and are thin skin

layer only. A 3 x 6 inch section is missing from the upper lateral edge of the left ear is missing. No bleeding present.

A) Trauma  
T) Rx: Phenylbutazone 8000 mg PO AM and then 4000 mg PO PM today.  
Rx: Nitrofurazone topically 1 - 2 times daily for several days.  
(DH)

22.Jun Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.  
NO PARASITES SEEN

21.Jul Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.  
NO PARASITES SEEN

15.Aug Khun Chorn observed chasing patience, no mounting observed. Khun

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- 15.Aug Chorn possessive, unwilling to separate from Patience. (JB)
- 18.Aug Khun Chorn readily separated from Patience and entered ERD this AM, normal behavior. Khun Chorn refused to separate from Patience 15, 16, and 17 Aug.
  
- 1.Oct Blood sample: (EDTA) (11:00.0) Chemistry results.  
       BUN:10 MG/DL;  
       Contractions, possible abortion  
       S) Called in on Saturday, Patience reported to be in contractions. A door was left open, and Patience and Minyahk battled during the night. She is eating and BAR.  
       O) PCV 24 and 27 with 1% attributed to WBC on each hematocrit tube.  
           HR 40 (doppler on left auricular vein, back of ear)  
           TP = 9.4, very mild dehydration is possible (9.1 high normal).  
       A) Possible abortion (could be due to fighting, genetic, nutritional, mycotoxin, etc.) Normal.  
       P) Chem submitted Cox Walnut Lawn. Blood smears made. No evidence of WBC abnormalities. No herpes inclusion. No anisocytosis.  
       Submit feed for mycotoxin survey. (SB)
- 2.Oct Normal activity and chemistry results  
       S) BAR, no clinical signs of illness reported by keeper Stephani.  
       O) See chem results for total.  
           1. Minimally elevated globulin 6.6 (5.1 +/- 0.9) (dehydration possible, infection)  
           2. Elevated TP 9.7 (8.3 +/- 0.8)  
           3. Albumin 3.1 (4.2 +/- 1.0)  
       P) CBC submit Monday (SB)
- 3.Oct Blood sample: (EDTA) ( 9:00.0) Hematology results.  
       WBC:11.40 \*10<sup>3</sup>/UL; HCT: 41.2%;
- 19.Oct Hay tested for mycotoxins as possible etiology of abortions.  
       O) MU: no mycotoxins detected in Brome hay. (SB)
- 26.Oct Elephant committee discussed options to enhance breeding success. Decided to pair #1101 "CONNIE" and #3320 "PATIENCE" and place with #5500 "SABU" in north yard during the day. #65 "MINYAHK" paired with #4022 "MOOLA" in south yard. #1101 and #3320 separated at night to avoid possible tail biting etc. This situation will provide SABU with prolonged experience with females with the hopes of resulting in breeding success. (JB)
- 28.Oct Connie and Patience parted from Sabu due to excessive aggression towards Patience. Patience sustained numerous scrapes and bruises, no significant injuries. (JB)
  
- 7.Nov Left rear limb lameness examined  
       S) Patience was slightly sensitive to left rear limb during stretch

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7.Nov  with keeper SL.  I watched as SL went through several stretches with
      no signs of lameness
      P) Monitor, but reluctance to stretch is likely temporary
      discomfort, not a clinical condition. (SB)
14.Nov  Parasitology examination: (DIAGNOSTIC EXAMINATION) Fecal sample.
      NO PARASITES SEEN
      Fecal direct neg for fungal conidia
      S) See Moola's record, searching for fungal fruiting bodies in
      feces. (SB)
21.Nov  Parasitology examination: (DIAGNOSTIC EXAMINATION) Fecal sample.
      NO PARASITES SEEN
30.Nov                                     Weight: 3394 Kg ( 7480 Lb)
4.Dec   Bred by Khunchorn today 4-5 PM (per SK JG and keeper LH)
      S) Animals went inside after breeding (temps below freezing this
      PM). (SB)
27.Dec                                     Weight: 3430 Kg ( 7560 Lb)

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3.Jan                                     Weight: 3421 Kg ( 7540 Lb)
10.Jan  Purpose/Problem: Painful right stifle
      Rx: IBUPROFEN 20.66gm PO BID for 3 days. (6 mg/kg)
      Right stifle swollen and painful to the touch.
      S) Right stifle is swollen on palpation. Keepers report she is
      painful. She does appear hesitant for manual palpation of the
      stifle.
      P) Ibuprofen for pain and inflammation. RADs if condition does not
      resolve in next two days.
      Rx: IBUPROFEN 20.66 gm PO BID for 3 days in Kayro syrup. (SB)
      Weight: 3444 Kg ( 7591 Lb)
11.Jan  Right stife recheck
      S) Patience is moving in yard and barn with no signs of lameness
      upon my inspection at 4PM. Jeff detected some mild lameness. She
      appears to still be mildly apprehensive on palpation of the joint
      which remains swollen, but her apprehension at palpation is less
      than yesterday.
      A) Mild swelling and associated pain in right stifle due to possible
      slip in wet yard (rained yesterday). Mobility is greatly improved
      from yesterday. Discomfort is much less. Ibuprofen appears to be
      working at 6mg/kg Q12h.
      P) Continue to monitor. Requested blood yesterday. Need a CBC and
      chemistry run. RADs for Connie's feet are planned for tomorrow AM.
      Will attempt to take RAD of stife on Patience then. (SB)

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- 12.Jan Blood sample: (EDTA) Hematology/Chemistry/Serology results.  
WBC:12.40 \*10<sup>3</sup>/UL; HCT: 39.0%; BUN:9 MG/DL;  
RADs on right stifle, CBC & Chem submitted  
S) RADs were unrewarding at 90,15, 2.5 seconds.  
A) Animal moves well. She will raise left rear and bear weight on  
right rear with mild hesitation.  
P) CBC to St. John's attn Steve Whisler (called, left message), same  
1 mL short of of line on EDTA tube. Chem to Cox Walnut Lawn.  
Gave JB permission to continue ibuprofen for 2 more days (my days  
off) if Patience requires more treatment. (SB)
- 15.Jan Chemistry results: NGS  
Mildly elevated amylase  
O) 1. Elevated amylase 7455 (3257 +/- 2472)  
A) Unknown significance, with no other abnormalities = NGS  
P) No intervention necessary  
High normal globulin  
O) 6.1  
A) Possible B cell poliferation  
P) Await CBC results. (SB)
- 18.Jan Weight: 3417 Kg ( 7531 Lb)
- 25.Jan New yard: needs more obstacles to separate public from elephants  
S) Emailed director Mike Crocker, head curator John Collette, and  
senior elephant keeper Jeff Glazier that I feel the public's  
proximity to the pool is too close and there are not sufficient  
barriers or signs to avoid accidents. The public can easily throw  
things at the animals, and people can easily walk over the one  
hotwire to enter the exhibit. Even children can gain access to the  
elephant pool if they can step over a 18 inch hotwire. It  
represents a possible threat to elephant and public safety. More  
barriers and signs were requested.  
Also, elephants will likely learn to splash the public (TB concern).  
P) TB testing next week  
Update: 1/30/06  
S) Director informed me that the barriers are sufficient for AZA  
standards. (SB)
- 2.Feb Moola and Patience allowed access to cow barn, this is the first  
time for Patience. Patience exhibited initial excitement as shown by  
trumpeting but soon relaxed and spent most of the afternoon  
exploring the building and drinking from the waterers.  
The last two days Patience and Moola have had access to cow bldng  
corral from the South bull yard. (JB)  
Weight: 3525 Kg ( 7769 Lb)
- 7.Feb P) Begin 3 day regimen of trunk washes for TB testing. (JB)

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- .....2006...
- 8.Feb Second day of trunk washes for TB testing. (JB)
    - UA: wnl
    - S) Golden yellow urine
    - O)
    - S.G. refractometer 1.009 dog, 1.008 cat
    - pH HACH 9.0, urine strip 9.0
    - wbc neg
    - nitrite neg
    - urobilinogen 0.2
    - protein trace
    - blood neg
    - S.G. 1.005
    - ketone neg
    - bilirubin neg
    - glucose neg
    - A) wnl (SB)
  - 9.Feb Third day of trunk washes for TB testing. (JB)
  - 13.Feb TB negative by trunk washes (3)
    - O) Neg AFB smear by Missouri State TB Lab (SB)
  - 15.Feb Blood sample: (EDTA) Hematology/Chemistry/Serology results.
    - WBC:13.20 \*10<sup>3</sup>/UL; HCT: 36.7%; BUN:10 MG/DL;
  - 16.Feb Moola and Patience allowed access to exhibit yard for first time today for several hours. (JB)
  - 19.Feb Chemistry results from 2/15/2006
    - O) New monthly monitoring of blood
    - 1. Low cholesterol 29 (43-7) diet
    - 2. Mildly elevated globulin 6.1 (5.2-0.7) B cell response?, normal for her?
    - 3. High ALT 16 (4-5) Herd normal
    - 4. Low sodium 124 (131-4) collecting time anomaly
    - P) Monitor monthly, see spreadsheet for tracking chemistry values for analysis (SB)
  - 21.Feb CBC data entered diagnostic module (SB)
 

Weight: 3557 Kg ( 7840 Lb)
  - 23.Feb USDA examined feet of all cow elephants, no non-compliance noted. Suggestion made that follow-up on problem feet be better documented. (JB)
  - 24.Feb Today fed Patience and Moola in Cow barn stantions for first time both AM and PM. Left rear doors open so they could leave when they wanted to. (JB)
  - 28.Feb
 

Weight: 3557 Kg ( 7840 Lb)
  - 7.Mar Observed in yard, eating, moving well, BAR.
    - S) Patience and Moola are adjusting well to new space. (SB)

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- .....2006...
- 15.Mar Blood sample: (EDTA) Hematology/Chemistry/Serology results.  
WBC:15.50 \*10<sup>3</sup>/UL; HCT: 33.6%; BUN:9 MG/DL;
  - 21.Mar Weight: 3539 Kg ( 7800 Lb)
  - 27.Mar Yarb observation: wnl  
S) Eating in with Moola. BAR. (SB)
  - 30.Mar Weight: 3580 Kg ( 7890 Lb)
  - 4.Apr Tetanus update (no vaccination)  
S) Evaluation of risk of tetanus suggests elephants can go every  
three years for boosting (not every year). (SB)  
Weight: 3580 Kg ( 7890 Lb)
  - 9.Apr Diet reduction  
S) Jeff has reported weights on all the elephants which are  
increased.  
P) Female elephants will receive a slightly decreased amount in  
pellets to maintain ideal body weight. (SB)
  - 12.Apr Blood sample: (EDTA) Hematology/Chemistry/Serology results.  
WBC:12.00 \*10<sup>3</sup>/UL; HCT: 33.1%; BUN:10 MG/DL;  
Blood draw for routine monitoring  
P) CBC and chem collected for routine monitoring program. Submit to  
St. John's and Cox respectfully tomorrow given time. (SB)
  - 13.Apr Mineral added to dirt mounds for enrichment discussed.  
S) Discussed a JB idea of adding mineral to soil piles for elephant  
females to search through. Jeff is concerned about Minyakk eating  
sand, but he was happier if we added mineral to the mud like soil.  
Melissa appears to be in support of idea. I am looking into  
granular mineral that Patti uses with wallabies.  
A) Jeff's point about sand is valid = impaction. (SB)
  - 17.Apr Neg TB culture from trunk. Bloodwork results  
O) Chem:  
1. low glucose 55 (91-21) (SB)
  - 18.Apr Weight: 3530 Kg ( 7780 Lb)
  - 16.May Weight: 3534 Kg ( 7789 Lb)
  - 17.May Blood sample: (EDTA) ( 9:15.0) Hematology/Chemistry/Serology results.  
WBC:12.40 \*10<sup>3</sup>/UL; HCT: 43.1%; BUN:12 MG/DL;  
Hemolysis  
Bloodwork routine: hemolysis  
P) See spreadsheet, no significant parameters (SB)
  - 24.May Routine foot trimming, cuticles, nails and pads. Cuticles  
overgrown, no defects. Pads and nails finished out well, no  
follow-up required.  
Bradford with Glazier handling elephant. (JB)
  - 31.May Endophyte fescue: low infection

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- 31.May S) Dr. Stafford tested grass in elephant yard and found what he considers low level of infection.  
A) Fescue toxicosis is not likely a factor for Moola's pregnancy.  
P) NIN, cut grass, allow non pregnant female to graze down growth.  
(SB)
- 14.Jun Blood sample: (EDTA) Hematology/Chemistry/Serology results.  
WBC:15.60 \*10<sup>3</sup>/UL; HCT: 39.5%; BUN:10 MG/DL;
- 20.Jun Weight: 3457 Kg ( 7619 Lb)
- 26.Jun Parasitology examination: (ROUTINE EXAMINATION) Fecal sample.  
NO PARASITES SEEN
- 10.Jul Johne's culture started at MU VTH  
S) Trek liquid culture system for growth of acid fast bacilli confirmation received from UM VTDL.  
P) Reason: trying to isolate any cause of frequent minor colics.  
(SB)
- 6.Aug Observation in cow barn  
S) Patience was eating normally. (SB)
- 8.Aug Weight: 3548 Kg ( 7820 Lb)
- 9.Aug Patience and Connie in the yard during pool test: BAR & WNL (SB)
- 16.Aug Blood sample: (EDTA) Hematology results.  
WBC:12.20 \*10<sup>3</sup>/UL; HCT: 37.0%;
- 6.Sep West Nile vaccination trials will start with Khunchorn. (SB)
- 17.Sep Purpose/Problem: 1st of 2 West Nile vaccinations.  
Vaccination: WEST NILE VIRUS VACCINE 2ml IM SID  
Approved organic apples minus seeds  
S) JG was excellent again in checking if natural apples provided by Alice Counts were okay to feed. I asked that the seeds just be removed (split apples) to remove minor traces of cyanide in seeds.  
Rx: WEST NILE VIRUS VACCINE 2 ml IM q28d for 2 doses. (SB)
- 19.Sep Acid fast fecal culture negative  
O) Trek liquid culture system negative for growth. (SB)
- 21.Oct Purpose/Problem: Booster West Nile vaccination.  
Vaccination: WEST NILE VIRUS VACCINE 2ml IM SID  
Administered in left tricep with 3" spinal needle.  
Rx: WEST NILE VIRUS VACCINE 2 ml IM SID for 1 day. (SB)
- 23.Oct Mild long cuticles (2 cm) left forefoot.  
P) Requested footwork, planned for this week. (SB)
- 25.Oct Footwork done by JB, JG, and MC.  
S) No problems reported. (SB)

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- 29.Oct Observation: wnl (SB)
  
- 2.Nov Right stifle, mild swelling
  - S) JB reports a mild swelling at right knee. No clinical signs attributable as Patience is moving fine. The swelling may not be new, but it is worth monitoring.
  - P) Asked JB and JG to use a coin for scale and take picture of swelling/mass. If it enlarges or clinical signs develop, a biopsy will be done. (SB)
  
- 5.Nov No change in right stifle, no problems
  - S) Exam again found right knee to be painless and fully functional with free range of motion. The "mass" on the knee is neither warm or changing in size.
  - A) The skin over the right stifle may represent a mild tissue proliferation from using that knee more than the left. Patience shows no clinical signs of discomfort.
  - P) Pictures were taken with scale. If the stifle remains the same size and clinically normal, then NIN (no intervention necessary). Biopsy is a possibility if clinical signs develop. (SB)
  
- 12.Nov No clinical signs observed in right stifle
  - S) No clinical signs observed. Patience moves well. Right stifle remains unchanged in size.
  - A) No change, the extra tissue on the right stifle may be normal for her.
  - P) Monitor (SB)
  
- 19.Nov Right stifle unchanged: NIN (SB)
  
- 15.Dec Weight: 3739 Kg ( 8241 Lb)

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- 4.Jan Vaginal cytology post copulation
  - S) Khunchorn naturally bred Patience over two days. OB sleeve manual palpation and 60 cc sterile saline flush/collection in the vagina was conducted to determine if sperm was present within the vagina. The 60 cc flush collected 1 cc of yellow fluid. Keepers report seminal fluid on the tail and back legs of Patience, but they wanted to discern if any copulation has occurred.
  - O) Direct smears and centrifuged samples found 70-90% stratified squamous epithelial cells and 10-30% basal cells. No sperm present. No bacteria or neutrophils present.
  - A) Very unlikely copulation was successful. (SB)
  
- 9.Jan Allowed full access to calf (6 months) NISHA with other herd members in south bull yard. Approximately 30 minutes without incident. (JB)

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- 10.Jan  Cuticles trimmed, touch up on pads and nails. M. Dixon and D. Luedde attending.  
Hair on back trimmed using electric clippers to more effectively remove dead skin. Back abraded using 16 grit grinder pads, then mineral oil applied. (JB)
- 26.Jan  Nisha access to Patience. North door to #6 stall failed to close complete during PM routine due to chain link catching on clevis. During the night Nisha was able to pass through door and have direct access to other elephants in bldg. This morning Nisha was in with Connie #1101 and Minyah #65. Patience #3320 was in adjoining stalls #1 and 2, Nisha probably went in with Patience as she can pass through the bars fairly easily. All elephants were calm, there was no indication of turmiol or stress. Door to #5 stall was opened partially and Nisha walked through it to her mother Moola (JB)
- 6.Mar  1st of three TB trunk washes. (JB)
- 7.Mar  2nd of Three TB trunk washes. (JB)
- 8.Mar  3rd of three TB trunk washes. (JB)
- 13.Mar  Weight gain  
S) After requesting currents weights of all elephants, Patience was found to be significantly elevated.  
P) JG was aware of the problem and has already begun to rectify the weight gain. Her reduced exercise due to Nisha probably has a lot to do with the weight gain. (SB)
- 14.Mar  Barn observation: wnl. (SB)
- 19.Mar  TB negative (3 washes)  
O) Missouri State Tuberculosis Laboratory: Three consecutive AFB smears negative. Reported 3/16/07 (SB)
- 21.Mar  Molar lost  
S) JG found a molar consisting of at least 7 teeth. (SB)
- 28.Mar  Routine footwork: All pads, nails, cuticles trimmed using rotary grinders. Medial aspect of both front pads moderately worn. No defects. Procedure done in stall #1, Patience standing using tub and radiograph box. Took approximatley one hour.  
Bradford trimmed front, D. Luedde rear feet. (JB)

Weight: 3961 Kg ( 8730 Lb)

0.1 Asian Elephant  
DPZ #3320  
page 80.

- 17 FEB 05 As of today, the elephants have completed three days of daily trunk washes for annual TB testing. – J Glazier
- 07 MAR 05 After letting 0.4 into the North yard this morning, there was an excessive amount of vocalization. When keepers went out to check, nothing appeared to be wrong at first. Upon closer examination, it was noted that Patience has a “tusk” mark on her trunk (directly on one of her “bumps”) above her right eye and a small laceration above her toe on her left (??) foot. – D Luedde
- 26 APR 05 Breeding activity was observed today with Khun Chorn, 699, and Patience, 3320. Three mountings were seen between 11:00 a.m. and noon, possibly more during the course of the day, penetration suspected. Khun Chorn would not leave her this afternoon, so they were left together in stalls #4 and 5 for the night. – J Glazier
- 27 APR 05 Khun Chorn, 699 was observed showing breeding interest in Patience, 3320, this morning. Chasing behavior was observed, but no mounting. Connie, 1101, was put in his yard for part of the day, but no interest was shown in her. At the afternoon routine, Khun Chorn let Connie go, but he would not allow Patience to come in the barn. – J Glazier  
Breeding interest was observed between 699 and 3320 with multiple mountings. Penetration was not observed, although they were together throughout the day and night. – M Carden
- 01 MAY 05 0.4 were in stalls 3-5 yesterday afternoon. This morning it was obvious that Minyahk and Patience had been fighting overnight. Minyahk suffered several abrasions on the left side of head and trunk area, and her right tusk had been broken off up in her lip, leaving only a small 2” sliver of ivory tusk that was treated with Peroxide / Nolvason / Furicon and Albicillin ointment. There appears to be no exposed root or tissue. Minyahk was also given 8 gm Bute in the afternoon as a loading dose, then 4 gram twice daily through 3 May. Patience has several abrasions on the front and sides of her head. Her left tusk was broken off. Keepers flushed and treated it with the Peroxide, Nolvasan, Furicin and Albicillin ointment. Both cows are acting sore. Patience and Minyahk are separated for the evening. Patience and Connie are together. Minyahk and Moola are together with the stall door cracked.
- 02 MAY 05 During the evening routine, keepers noticed fresh scrapes on Minyahk’s left side of her head. There were also marks that looked like she had been pushed up against the rails. It is obvious in the way that Minyahk and Patience are acting that there are still unresolved issues. They had been in the north yard all day. – S Luedde

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- 13 MAY 05 After lunch, keeper checked on elephants and noticed that Minyahk and Patience were fighting. This went on non-stop for 15-20 minutes. Connie, who was in the yard, was pacing back and forth watching what was going on. Connie was moved into the east stall with Minyahk and Patience, and the fighting stopped. Patience went and stood in the corner for a while. There was no fighting the rest of the day. Minyahk and Patience had a few new scrapes, but nothing severe. – S Luedde
- 16 MAY 05 Dr. Hardy examined Patience today and felt the problem area was between the elbow and the wrist on the backside of the front leg. Continue to give 4 grams of Bute twice daily through the 19<sup>th</sup>. Dr. Hardy recommended hot towel compresses for 10-15 minutes twice daily. This afternoon hydrotherapy (warm) was used (no towels), and a slight flexing of her wrist was noticed afterward. – D Luedde
- 18 MAY 05 Her leg was much better today. She was moving well and running around the yard. Treatments were discontinued after today. – M Carden
- 20 MAY 05 Today 0.4 were put back together after being separated for a week due to Patience's leg injury. Keepers did not observe any obvious fighting, but Minyahk would not let Patience come into the building to drink. Minyahk stayed in the yard, blocking Patience from trying to get around her. – S Luedde
- 02 JUN 05 Sabu, Moola and Patience received their annual tetanus vaccine this morning. Sabu and Moola were vaccinated in the left triceps. Patience received hers in the right triceps. Each received 1 ml of the Fort Dodge vaccine. – J Glazier
- 04 JUN 05 Patience has been carrying a fecal bolus underneath her tail to cover the old artificial insemination incision several days this week. – M Carden
- 05 JUN 05 First thing this morning, keepers noticed Minyahk and Patience fighting. She was running after Patience, and at one point Connie blocked Patience so she would stop. Keepers drove around toward the east yard where the girls were, and the fighting stopped. Patience ran inside. When keepers came for the routine, Patience had several scuff marks on her, and the tip of her left ear was gone. She is being treated with furacin salve and was given two doses of 8 Bute pills in the morning and 4 n the afternoon. After the routine, girls were put back out together so they could be watched while keepers cleaned yards. Minyahk kept putting her head up on Patience and pushing on her. This continued throughout the day. The girls were separated in the evening. - S Luedde
- 14 AUG 05 Keepers were doing footwork in Connie and were going to run Patience and Moola past Connie and Minyahk so yard could be cleaned. When the door was opened, Minyahk started moving toward Patience in a deliberate manner. This has been seen before. The girls were separated on June 8 due to aggression between Patience and Minyahk. There had been several fights that had resulted in either Patience or Minyahk being treated. – S Luedde
- 20 SEP 05 Weights taken today on recently repaired scale. Patience weighed 7,690 lbs and Moola weighed 8,780 lbs.

- 30 SEP 05 The door was left cracked between Patience and Moola and Connie and Minyahk. Patience had a small abrasion and door marks on her face. Keepers discussed not leaving any kind of access between the sets of girls as there is still evidence of problems between Minyahk and Patience. – S Luedde
- 01 OCT 05 Keepers noticed Patience acting strangely in stall 3 this morning. Her back end was shaking and she kept squatting down and lifting one of her back legs. When doing her routine, she was very slow stretching. Blood was drawn for a chemistry, and a subjective blood smear was done (normal). See MedArks. Blood will be drawn for the next several days and a purple top on Monday for a CBC. – S Luedde
- 22 OCT 05 Sabu was put out with Moola and Patience this morning. Most of his attention was focused on Moola with mounting and following behavior (Moola also would follow Sabu around). After about 30 minutes, Sabu began pushing on Moola hard enough that keepers decided to separate them until there could be a meeting to discuss intros between Sabu and Patience. Primary concern was due to Moola being pregnant and not wanting to injure her calf. – D Luedde
- 25 OCT 05 Weighed 7,300 lbs this morning before food and water. – D Luedde
- 26 OCT 05 Sabu was put in with Patience and Connie for four hours. Sabu only showed minor interest in Patience. He smelled her twice, and near the end of the day he drove her and pushed on her minimally. Patience sustained a dime-sized abrasion on her rump from his pushing on her with his tusks. Sabu was primarily interested in Connie and spent the four hours alternating between sparring with her, attempting to breed her (four times) and eating hay together. Connie did not appear concerned by Sabu. She would often follow him around the yard or into the building. Connie would choose to stand and eat with him instead of at the other hay pile. Connie would spar with Sabu head to head and then submit to him throughout the day until the end of the day when she wouldn't submit and even moved into his space when he would stop sparring. Their last sparring match, Connie continued to keep her head up, challenging Sabu, and he became more aggressive, scraping her forehead twice. Keepers separated them as the aggression escalated. Connie had a dime-sized scrape on her. Sabu weighed 8,650 lbs this morning. – M Carden
- 27 OCT 05 Sabu was placed with Patience and Connie for two hours. It was decided to shorten the introduction from the previous day's four hours due to the increase in aggression at the end of the day. Sabu showed very little interest in Connie, smelling her twice and eating hay with her periodically throughout the time. Connie was calm and seemed undisturbed by Sabu. Sabu's major focus was on Patience today. He frequently would smell Patience and push on her mildly to get her to move forward. If Patience would refuse to move forward, turn sideways to confront him or crouch / stretch, then Sabu would shove her harder until she would get up and move. Patience has about 506 new dime-sized abrasions from Sabu's tusks on her rear. Keepers observed them throughout the intro time to be prepared to

separate them if aggression escalated as it did on Wednesday. Sabu had a plate-sized smear of mucous on the floor on Tuesday and Wednesday and semi-loose stools. – M Carden

- 28 OCT 05 Patience, Connie and Sabu were put together after break. Initially there were no problems. Sabu came out and checked Connie and Patience and ate some hay and walked around the yard a little bit. After about 5-10 minutes, Sabu came over and started pushing on Patience. When he would approach her, she would drop down in to a "crouch" position or "stretch." Sabu would continue to tusk her, regardless of the position she was in. When she would run, he would chase after her and continue to tusk her. Connie would run interference for Patience every once in a while. During this time, Patience had several stress stools. Sabu continued to tusk her, mostly on her rear, but would also climb on her when she was stretched out and tusk her around her neck area. After he beat around the yard for a solid 30 minutes, Sabu was removed from the yard. Patience had two or three bloody gashes on her head from when Sabu was ramming her into the rails. Her rear area was swollen, as well as her left side. Keepers applied Furacin salve to her abrasions on her head, rear and back left knee. She was started on Bute.  
– S Luedde
- 08 NOV 05 Patience weighed 7,360 lbs today before foot and water. – D Luedde
- 16 NOV 05 Patience weighs 7,390 lbs. – M Carden
- 18 NOV 05 Part-time keeper observed breeding behavior with Khun Chorn and one of the cows, either Patience or Connie. Not sure if there was penetration. Will compare with future blood work. – D Luedde
- 21 NOV 05 Weighed 7,850 lbs in the afternoon. – D Luedde
- 22 NOV 05 The following weights were obtained this morning: 65 – 8,460 lbs; 699 - 11,180 lbs; 1101 – 6,960 lbs; 3320 – 7,430 lbs; and 4022 – 8,620 lbs. – J Glazier
- 30 NOV 05 1101 weighs 6,980 lbs; 3230 weighs 7,480 lbs; 4022 weighs 8,660 lbs; 65 weighs 8,550 lbs; 5500 weighs 7,780 lbs; and 699 weighs 11,020 lbs. – D Luedde
- 04 DEC 05 Breeding behavior observed today between 699 and 3320. Mountings were observed inside around 9:30 a.m. and outside around 4:55 p.m. Khun Chorn refused the ERC both times today and would not allow Patience to come back into the building until after the 5:00 p.m. breeding attempt. Penetration suspected, but not confirmed. Elephants were left together overnight in stalls #3,4 and 5. – J Glazier
- 10 DEC 05 Unable to weigh Connie and Patience due to cold temperature. – D Luedde
- 20 DEC 05 Patience weighs 7,550 lbs. – M Carden

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- 10 JAN 06 Patience's right rear knee is swollen and sore to touch. She is not limping. Twenty-six pills of 800 mg Ibuprofen given orally.
- 12 JAN 06 Patience continues under a three-day course of treatment with oral Ibuprofen for swelling of her right knee. Radiograph taken this morning did not turn out very well. – J Glazier
- 18 JAN 06 Cow pairings were changed this afternoon following last weeks' breeding activity with Connie and Khun Chorn. Moola was taken from the cow barn to the bull building to be with Patience. Connie was taken from the bull building to the cow barn to be with Minyahk. – J Glazier  
Connie weighs 7,110; Moola weighs 8,750; Minyahk weighs 8,790; and Patience weighs 3,320. – M Carden
- 02 FEB 06 Patience and Moola were allowed free access to the entire cow barn, along with the corral area, the south yard and bull building stall #2. This was Patience's first experience in the barn. Moola had been in residence for about a week previously. Both cows spent considerable time inside exploring and using the waterers. – J Glazier
- 07 FEB 06 Administered Sentinel to 5121, 5510, 5511, 5512, 5805, 5915, and 5920. – P Rader
- 07 FEB 06 Administered Sentinel to 5121, 5510, 5511, 5512, 5805, 5915, and 5920.  
– P Rader
- 08 FEB 06 TB trunk wash tests. – M Carden
- 09 FEB 06 Finished TB test. – M Carden
- 15 FEB 06 Drew blood for CBC and chemistry in addition to normal weekly blood draw. To be done monthly for six months as per Dr. Boylan. – J Glazier
- 24 FEB 06 Moola and Patience fed in cow barn starting for first time morning and afternoon. Both did very well. – J Bradford
- 25 FEB 06 Moola and Patience fed in cow barn for morning routine. - J Bradford
- 26 JUN 06 Fecals collected today tested negative for Elephants 65, 1101, 4022 and 3320.  
– D Luedde
- 28 JUN 06 Moola, 4022, was put in the exhibit yard with Minyahk, 65, and Connie, 1101, around 9:30 a.m. The three elephants spent the day together without incident. Pulled Moola back out around 3:00 p.m. – J Glazier

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- 03 AUG 06 She is being housed in the evening at the cow barn in stall #1. She is separate from all the other cows and calf with one stall between her and the other elephants to begin the introduction back to the herd. Patience is still being placed with Khun Chorn during the day for socialization / enrichment.  
– M Carden
- 08 AUG 06 Calf, 6002, weighs 271 lbs. Patience, 3320 weighs 7,820 lbs. Connie, 1101, weighs 7,290 lbs. Minyahk, 65, weighs 8,780 lbs. Sabu weighs 9,300 lbs. Khun Chorn weighs 12,760 lbs. – D Luedde
- 06 SEP 06 3320 was given stall #1 and 2 in the cow barn for the night to give her closer access to Minyahk and Connie in the transfer stalls. This is the next step to "Howdy" Patience with Minyahk and Connie to get her integrated back into the herd. – M Carden
- 08 SEP 06 All three cows, 65, 1101, 3320, were hanging together at the bars this morning. Re-introductions continue and are going well so far. Khun Chorn, 699, was showing mild breeding interest in Patience, 3320. He was holding her tail and putting his head on her back occasionally. No mounting or serious interest was observed. – M Carden
- 09 SEP 06 Khun Chorn, 699, was holding Patience's tail and guarding her all day. He was difficult to separate from her in the evening. – M Carden
- 10 SEP 06 Khun Chorn, 699, came into the ERC this morning as usual. He was put out into the North yard at the breeding facility with Patience, 3320, for the day. He refused to come into the building in the afternoon and refused to let Patience away from him. They were left together overnight with access to stalls #4 & 5. – J Glazier
- 11 SEP 06 Khun Chorn, 699, refused to go into the ERC and would not allow Patience, 3320, to go into the building during the morning and afternoon routines. Left them together overnight with access to stalls #4 & 5. No breeding activity observed. – J Glazier
- 12 SEP 06 Keepers were able to separate 699 and 3320 for feeding without problem. Breeding might be finished. – M Carden
- 18 SEP 06 Patience, 3320, was given the first of a two-shot series of West Nile vaccine.  
– J Glazier
- 20 SEP 06 Introductions between Connie, 1101, Patience, 3320, and Minyahk, 65, are going well. They are being put together in the exhibit yard for about two hours each morning since Tuesday. Minyahk, 65, showed some initial "watching" behavior in an intimidating manner for about 45 minutes but no actual physical contact was observed. Patience continues to present a submissive attitude toward Connie and Minyahk. – M Carden

- 27 SEP 06 Patience, 3320, and Minyahk, 65, have been left alone together in the exhibit yard for approximately two hours for the past two days. Connie is being kept inside due to her eye treatment. They appear to be getting along well, with Patience still exhibiting submissive behavior toward Minyahk and Connie.  
– M Carden
- 17 OCT 06 Patience, 3320, has been expressing aggressive behavior toward the calf when she vocalizes by hitting the bars in the direction of the calf. She has also stomped the manure in Nisha / Moola's stall and left the other stalls undisturbed.  
– M Carden
- 12 DEC 06 Had a short (approximately 1 hour) introduction session with Patience and Nisha through the bars in the morning. Put Moola, Nisha, Minyahk and Connie in stalls #5 and 6 at the cow barn. Allowed Patience into stalls #3 and 4. Session was uneventful.
- 13 DEC 06 Did another short (approximately ½ hour) introduction session with Patience and Nisha through the bars this morning. Put Minyahk and Connie in with Moola and Nisha in stall #6. Put Patience in the adjacent stall #4 while keepers cleaned the other stalls. Session was uneventful. – J Glazier
- 22 DEC 06 Patience, 3320, and Sabu, 5500, were put in #4, 5 and North yards together for approximately 15 minutes. Patience stood well for Sabu, but Sabu became increasingly aggressive. Sabu was chasing, tusking and shoving Patience. Patience only dropped to a crouch position twice and responded well, but Sabu continued the aggression. Keepers separated them by calling Sabu into Stall #5.  
- M Dickson
- 27 DEC 06 Patience, 3320, was placed with Khun Chorn, 699, in the North yard, #4 and 5 for the day. No breeding interest was noted. – M Dickson
- 28 DEC 06 Khun Chorn, 699, and Patience, 3320, were put together again today. Khun Chorn showed some interest in her (i.e. head over back, holding her tail, holding back legs, smelling / flehmen more than usual.) He did not get an erection or try to mount her. – M Dickson
- 29 DEC 06 Khun Chorn and Patience, 3320, were put together again today. No breeding activity was noted. Khun Chorn was easily separated from Patience in the afternoon. Patience's bloodwork shows she hasn't come into estrus yet. Khun Chorn began draining on the 28<sup>th</sup> from his temporal gland. Khun Chorn, 699, had some swelling on the underside of his trunk near the sulcus and palate. His tusk had minor crusty blood as if he had injured it slightly. It was tender to the touch. - M Dickson