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Elephants in the News

Elephant Editors

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ELEPHANTS IN THE NEWS

"MOTTY"--BIRTH OF AN AFRICAN/ASIAN ELEPHANT AT CHESTER ZOO

The first tidings about "Motty" were received in our office on August 11, 1978. In his letter, Jack Adams wrote, "I have recently returned from England where I have seen an unusual result of crossbreeding among elephants."

Below is the zoo's account, received in our office from A. L. Howard, secretary of the North of England Zoological Society

<u>MOTHER</u>	X	<u>FATHER</u>
ASIAN - 22 years of age		AFRICAN - 17 Years of Age
Name - SHEBA		Name - JUMBOLINO (Bubbles)

MOTTY

Sex: Male Born: July 11, 1978

PREVIOUS OBSERVATIONS:

Although several matings were observed, none coincided with the date of birth, so no accurate length of gestation is known. For several months prior to birth the female's temperament had changed. She had always been a placid animal and did not show any signs of aggression. She also spent a considerable amount of time on her own. Any attempt by Jubilee, the young Asian bull, to play was quickly rebuked with a thump of her trunk.

February 6, 1978 - A fluid sack developed underneath the abdomen, between the fore and hind legs.

May 26, 1978 - The extent of the swelling had grown to two feet in length and seven to eight inches in width at the widest point. Treatment was given to reduce the fluid, as pregnancy was not suspected. It was decided to use Vetridex tablets as for cattle in similar circumstances.

DOSE:

Four tablets morning and four tablets evening for the first day, then two tablets were administered morning and two evening for a further four days.

A period of time was allowed to elapse after the treatment; the swelling did not subside. A further treatment for a longer period of time was given - two tablets morning and evening; this seemed to rapidly reduce the swelling.

July 1, 1978 - The fluid sack had completely disappeared. As the swelling reduced, the abdomen in the stomach area was getting larger. This

had been observed several times since January, 1978. The abdomen was more pointed on the left side than on the right.

July 10, 1978 - Sheba was seen to spread her legs, as if to urinate. Instead of a great flow, there was a small amount of milky discharge. This happened throughout the day. The bull (African) was more temperamental than usual. He was very interested in Sheba but the other Asian female, Judy, mother of Jubilee, was anxious to keep him away from Sheba. This she did by constantly chasing him, as she does whenever he steps out of line.

July 11, 1978 - 9:20 a.m.: The calf was born in the outside paddock. The foetal sack was removed by a keeper as the mother seemed to be having some difficulty. The placenta followed immediately and was complete.

The calf was small and quite weak and, with the lack of hair, was estimated to be six weeks premature. Sheba did not know what to do at first, as every time the calf made an effort to stand, she pushed him down.

After several hours the calf had not stood up to take milk from the mother, so it was decided to bottle feed, to give it the strength to stand.

One feed of glucose every hour was given.

5:00 p.m.:

As the calf had not stood by now, it was fed as follows: eight ounces of milk made up of 6½ oz. of cow's milk, 1½ oz. of the mother's milk, one tablespoonful of Duphalyte, which contains Vitamin B, amino acids and electrolytes, and five drops of Abidec. As Sheba is a gentle animal and quite intelligent, she allowed me to milk her. This was done mainly so that the calf received the colostrum, so badly needed to resist infection.

Hourly feeds were maintained throughout the night.

July 12, 1978 - Between periods of sleep the calf continued attempting to stand. Each time he went down, the mother allowed us to tuck him in with hay, but then covered him over with hay.

8:35 p.m.:

The calf managed to stand. His mother immediately stood by him to hold him up, her trunk feeling the navel and genital area.

9:20 p.m.:

The calf managed to stand and walk for twenty minutes, without falling. The scratches received during the falls were dressed with terramycin. These were mainly on the cheek of the face and the knees.

July - 12:30 p.m.:
13, 1978 By this time the calf was walking well but still had not suckled. It was decided that he would be strong enough to walk into the house. To do this it was necessary to let out the other elephants. There was great excitement; the Asian female, Judy, closely followed by Jubilee, were first to meet the calf. She kept touching and smelling him with her trunk. Judy and Sheba greeted each other with roars and a lot of touching with trunks to the mouths and temporal areas. Bubbles, the African bull, was very careful not to harm the calf and only touched him with his trunk tip. If he came too close, Judy immediately pushed him away.

July - 12:30 p.m.:
14, 1978 An opportunity arose to put the calf on Sheba's teat. She was upset at the time and her attention was distracted. Up to this point the calf was walking well and still receiving his bottle hourly. The mother would not let him suckle and kept moving away. When she realised he was suckling, she moved him away gently with her trunk. This was not taken lightly by the calf, who immediately bellowed his annoyance.

On a few occasions we managed to get him on the teat by distracting Sheba with food.

July - 12:45 a.m.:
15, 1978 On returning with the calf's bottle, I found him suckling from Sheba. From then on until 10:00 p.m. he did not take a full bottle feed and continued to suckle from Sheba.

10:00 p.m.:
Because he was doing so well on the mother's milk, it was decided to stop bottle feeding. He was much more contented and slept for longer periods.

ANALYSIS OF COLOSTRUM OF SHEBA

	Percent		Percent
Fat	3.00	Protein	3.27
		Lactose	2.95
Solids not fat	8.03	Ash	1.81
Total solids	11.03		8.03

July - A sample of faeces was taken for analysis. It showed there was a slight infection of the bowel. As the calf was suckling, it was thought better to delay treatment and see if the infection would clear itself.
16, 1978

July - The calf was drinking well and sleeping soundly. Sheba showed great affection and attention to the calf. She threatened the African bull whenever he approached the island where she and the calf were housed.
17, 1978

- July 18, 1978 - 8:00 a.m.:
The calf seemed very restless and complained continuously. Sheba was very concerned; she kept caressing the calf gently with her trunk. On closer examination it was found that the calf had an infection in the umbilical scar (treated from birth with Terramycin spray). A two-day course of antibiotic (Tribrissen) was started immediately - one tablespoon three times daily, administered in 8 oz. of cow's milk.
- July 19, 1978 - 10:00 a.m.:
The calf had received the full course of treatment. There was no discharge from the umbilical scar and the animal seemed more settled.
- July 20, 1978 -
The calf was greatly improved and sleeping for longer periods between feeds. He was given supplementary feeds - 8 oz. of cow's milk with added vitamins.
- July 21, 1978 - 9:00 a.m.:
The calf was found dying, comatose. A cardiac stimulant was administered at the same time as massage was attempted. Although extra warmth was applied, the calf died within one hour of treatment.

Death was due to a necrotic entero-colitis. This is not uncommon in newly born animals. It is often symptomless. In this case it may have been caused by a stress factor associated with weakness due to prematurity (body weight of 166 lbs. estimated to be minimum of 50/60 lbs. below normal expected birth weight).

PRELIMINARY PATHOLOGY REPORT EX-VFS

There was a focus of adhesions in the posterior abdomen. The large intestine was necrotic and discoloured. In one area it was almost perforated. The lymph nodes in the area were hyperplastic. The opened gut showed a diphtheritic membrane replacing the mucosa. The lesion was about 18 inches long. Proximal to this, the gut was rather reddened. Distally it was relatively normal.

There was some inspissated pus in the umbilicus artery remains; this did not appear to be related to the abdominal lesion.

Bacteriology samples and histology sections have been taken from the lesion and other abdominal viscera and a further report will be submitted.

DESCRIPTION OF CALF

- Ears - Large African shape with pointed lobes.
Head - Sloping forehead with one dome and two smaller domes behind.
Trunk - Deeply wrinkled, like African, but with one finger on the tip.
Body - Over-all like African but with centre hump, as in Asian, and hump at the rear, as in the African.
Tail - Long, hangs below the ankle; flat with hairs in small groups

forming two rows, one row on each edge.
 Feet - Asian, fore feet five nails; rear feet four nails.
 Legs - Long and slim, like African.

Measurements taken on July 12, 1978

Height at highest point	84 cms.		
Front of head to base of tail	90 cms.		
Chest to base of tail	74 cms.		
Top of head to chin	26 cms.	Ears:	
Tail, base to tip	47 cms.	Vertical ..	34 cms.
Feet, circumference:		Horizontal ..	21 cms.
Fore ..	42 cms	Eyes:	
Hind ..	44 cms.	Vertical ..	2.5 cms.
Chest at broadest part	125 cms.	Horizontal ..	4 cms.



By courtesy of Steve Cartwright, Mel Grundy Photographic Agency
 KEEPERS RAY AND PAUL FEEDING "MOTTY"

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 North of England Zoological Society

"If this alleged cross-breeding turns out to be legitimate, it will certainly require a reevaluation of our thinking on elephant reproduction." Jack Adams, August 8, 1978.

"It's quite interesting (especially after all these years of hearing the two species can't reproduce!)" Joyce Abraham, January 30, 1979.

Editor's note: To our knowledge, this is the first reported cross breeding between Elephas maximus and Loxodonta africana.

**ELEPHANTS AT THE WASHINGTON PARK ZOO
PORTLAND, OREGON, USA**

by

R. L. Henneous, Senior Elephant Keeper
J. S. McCusker, General Curator

The Washington Park Zoo's chapter in the history of captive Asian elephant management really began 17 years ago with the birth of a male calf named Packy. This was followed five months later by the birth of a cow elephant named Me-Tu, who was born to a 13-year-old cow from Thailand named Rosy. Both calves were sired by Thonglaw, a Cambodian bull that was purchased in Thailand and imported to the U.S. by H. M. Berry in the early 1950s.

Following the zoo's purchase of Packy and his mother Belle, Thonglaw and an unrelated female named Pet were donated to the zoo. From Packy's birth on 14 April 1962 to Thonglaw's untimely death on 25 November 1974, Thonglaw sired 15 offspring.

Fortunately for the Washington Park Zoo elephant breeding program and for captive breeding in general, births did not stop with Thonglaw's death. On 10 May 1975, Me-Tu gave birth to a bull calf that was fathered by Packy. This calf was the first full second-generation elephant birth in any zoo in the world. At the time of conception, Packy and Me-Tu were approximately 11 years of age.

The Asian elephant collection, presently housed at the Washington Park Zoo, includes one adult bull, eight cows from eight to 30 years, and the most recent addition, a bull born on 19 May 1978. With the completion of a new, natural substrate outside yard and a mechanical "crush" for safety in handling and veterinary treatment, we hope to continue in the captive management and reproduction of this noble species for years to come.

ELEPHANTS AT THE KNOXVILLE ZOO, KNOXVILLE, TENNESSEE, USA

The Knoxville Zoo keeps elephants basically for exhibition purposes, but has successfully bred two African elephant calves.

"Little Diamond" was the first African elephant to be born in captivity in the Western hemisphere. She was born to "Old Diamond," the largest known African elephant in captivity, and "Toto," on March 2, 1978. Just two months later, on May 16, 1978, "Hillary," also a female, was born. Again, the sire was "Old Diamond," with "Sapphire" as the mother.

**"DIMA" -- 26,000-YEAR-OLD BABY MAMMOTH TISSUES ARE BEING STUDIED
AT THE UNIVERSITY OF CALIFORNIA
AND WAYNE STATE UNIVERSITY, USA**

An intact, completely frozen mammoth calf (named "Dima") was uncovered by a bulldozer operator in June 1977 in the Magadan region of northeastern Siberia (photo). This woolly mammoth (Mammuthus primigenius) is one of many discoveries of Pleistocene mammals which migrated from Asia to North America.

As this calf appears to be better preserved than previous finds, it offers a unique opportunity for histologic and molecular comparisons of Mammuthus to the two living elephants, Loxodonta and Elephas. The time of this mammoth's death is considered to be from 26,000 to 44,000 years ago. Tissue samples from "Dima" were sent to the University of California, Berkeley, California, and to Wayne State University, Detroit, Michigan, for biochemical and histological studies.

Research at both universities indicates the mammoth tissues are very well preserved. Perfectly shaped blood cells and protein reactivities have been reported with living elephants and their relatives. Soviet scientists are compiling into book form all data available regarding this mammoth calf and the ecosystem in which it was found. Both groups of researchers were invited to contribute to this proceeding (see references 468 and 474).



"Dima" at the site of discovery - Magadan. Photograph taken by Dr. Lozhkin and sent to us by Viktor M. Mikhelson.