

# Frosty's death tied to anesthetic

## Snow leopard suffered reaction to drug, doctor says

By NANCY PERDUE  
Staff Writer

A rare reaction to one of the safest and most commonly used anesthetics caused the death of Frosty the snow leopard, an autopsy has revealed.

San Antonio Zoo veterinarian Dr. Kenneth Fletcher yesterday said tests conducted on Frosty's liver showed tissue destruction caused by the rare reaction to Halothane, a gas commonly used as an anesthetic for both humans and animals because it is an effective muscle relaxer.

"Before his operation, we took blood from him and his liver was normal," Fletcher said, explaining that Halothane had been administered to Frosty when he underwent surgery Oct.

7 to correct a back problem that had crippled him and impaired his ability to breed.

"The odds of having such a rare, adverse reaction of this nature in human anesthesiology is about one in 100,000 people anesthetized," he said.

Frosty, who had sired 31 cubs at the zoo during his 12-year captivity, died Oct. 11.

Fletcher said the cat was approximately 15 years old, but it was difficult to tell his exact age because the animal was captured in the wild in the Soviet Union.

Snow leopards, Fletcher said, are on the endangered species list, with approximately 500 existing in the world with half of them living in captivity.

Frosty's cubs now live in zoos all over the world, including Finland, Switzerland, Holland, Britain and Ireland.



Dr. Kenneth Fletcher holds one of Frosty's offspring, a snow leopard named K'avan.

San Antonio Light/Jim Buwect



FROSTY  
Liver failure

## Liver failure killed snow leopard

Frosty the snow leopard died from acute liver failure caused by an adverse reaction to the anesthesia used during his surgery, San Antonio Zoo officials have determined.

In a report on the necropsy, similar to an autopsy, officials said the leopard's liver suffered severe damage and ceased to function in a rare reaction to halothane, a gas used for anesthesia on humans and

animals. Chances of the reaction are about one in 100,000 for people but are said to be greater for a snow leopard.

The gas was selected for Frosty's back surgery because of its qualities as a muscle relaxant, officials said.

In addition to determining the cause of death, the examination revealed that without back surgery the leopard would have suffered

complete destruction of the spinal cord and would have died within a short time.

The surgery was performed Oct. 9, and Frosty died two days later.

The rare leopard was the father of about 30 snow leopards throughout the country. He had shown signs of recovery after the surgery, and his death was unexpected, officials said.

# Frosty the snow leopard dies at S.A. Zoo after operation

SA EXPRESS Oct 12 1982

by Jeff Franks  
staff writer

Frosty the snow leopard is dead. The big, spotted cat died suddenly at the San Antonio Zoo about 9:30 a.m. Monday. He was recuperating from back surgery performed last week.

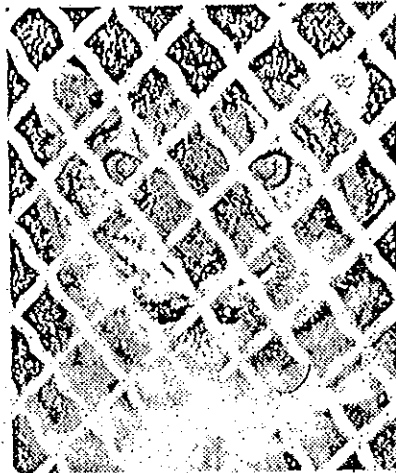
Frosty's demise surprised and shocked zoo officials who did not expect the operation life-threatening. He had been at the zoo since 1970 and was one of its best snow leopard breeders.

Curator Russell Smith said the cause of the 15-year-old cat's death won't be known until an autopsy is performed Tuesday.

"Probably was related to his advanced age," he said, adding that Frosty's advanced age may have contributed to the problem.

Frosty was operated on Thursday by Dr. Bill Bilderback, an orthopedic surgeon who normally works on humans.

The leopard suffered from a protruding spinal disc that had left him partially crippled and severely impaired his ability to breed. It was treated by the surgery, which involved



**FROSTY** peers out from his cage at San Antonio Zoo just a few days before his operation.

STAFF PHOTO BY JOE BARRERA, JR.

the removal of a vertebra to relieve pressure on his spine, would alleviate Frosty's problems.

"He was still showing a lot of post-operative slows, but he seemed to be responding well. He had good nerv-

ous reactions in his back legs and tail," Smith said.

Monday morning "he seemed tranquil and just died," Smith added.

Frosty sired at least 20 cubs during his 12 years in captivity. His offspring are in zoos all over the world.

Smith said there are about 250 snow leopards in captivity and perhaps only about the same number left in the wild. The elusive animals live mostly in Central Asia. Frosty was captured in the Soviet Union.

Even though zoo employees took Frosty's death hard, Smith said his loss is not as bad as it would have been 10 years ago. Snow leopards have become more prolific breeders in captivity because there are more of them and handling techniques have improved.

The cat's body will be stored in a cooling chamber until the autopsy, which will be performed by zoo veterinarian Dr. Kenneth C. Fletcher.

Smith doesn't know what will happen to Frosty's remains, although the leopard could be preserved for exhibition at a museum. Much will depend on the extent of the post-mortem examination, he said.

SA LIGHT 10/12/82

## Snow leopard Frosty dies at S.A. Zoo

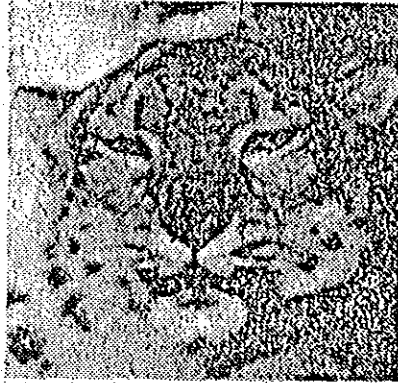
Frosty the snow leopard, one of the San Antonio Zoo's star breeders, has died at an age close to 70 or 80 years in human terms.

Zoo Curator Russell Smith said the cat, native to the cold Tibetan plateau of Central Asia, died at 9:30 a.m. yesterday while recovering from spinal surgery performed last week.

Smith said zoo officials won't know for certain what caused Frosty's death until an autopsy is performed later today by zoo veterinarian Dr. Kenneth Fletcher, but added that the leopard's end "was not totally a surprise."

"His condition was serious, that's why he had the surgery," Smith said today. "And, he was an old cat — probably one of the oldest snow leopards around."

The leopard, 15 years old — equivalent to approximately 70 or 80 years in human terms — was suffering from a "degenerative



Snow leopard at S.A. zoo.

disk syndrome" that crippled the animal and impaired its ability to breed, Smith said.

"There was a gradual decline in his ability to walk," he explained. "We don't know how long the animal was afflicted."

Dr. Bill Bilderback, an orthopedic surgeon who usually operates on humans, performed the delicate surgery on Frosty's spine Thursday.

Smith said zoo officials were "as optimistic as we could be" after the operation. "Frosty seemed to be doing all right — there was feeling in his tail."

But, yesterday morning "he seemed tranquil and just died," he added.

Frosty had sired more than 20 offspring during his 12 years in

captivity, including two cubs born in the San Antonio Zoo last year.

"He was quite prolific," Smith said, noting that Frosty's cubs are in zoos all over the world.

The curator said there are approximately 250 snow leopards in captivity and approximately that number in the wild.

The cats, which grow to more than 6 feet in length, have coats of pale gray fur, marked with brown spots. Its pale color helps it to stalk prey unnoticed in its icy habitat.

Although the animal ranges from the Atai Mountains of Central Asia to the Himalayas, Smith said Frosty was captured in the Soviet Union.

Because of its beautiful coat, the snow leopard has been hunted vigorously and has become an endangered species.

# Frosty dies after spine operation

By BOB RICHTER  
STAFF WRITER

Frosty, the San Antonio Zoo's breeding snow leopard, died, four days after having surgery on a spinal disc.

The handsome, cream-colored and spotted cat, which fathered more than 20 offspring, died about 9:30 a.m. Monday, zoo official Russell Smith told *The News*. He said Frosty was approximately 15 years old.

Smith, curator at the zoo, said the cause of Frosty's death will not be determined until an autopsy is performed, probably today. He said the zoo's staff veterinarian, Dr. Kenneth Fletcher, was out of town Monday and could not be reached for comment.

Smith said Frosty never seemed to regain his former vigor following surgery last Thursday. The operation — a dorsal laminectomy — had never been attempted on an animal before, Fletcher said after the surgery.

## Cat's worth

The cat was worth "tens of thousands of dollars" as a breeder, Fletcher said last week. He said the surgery had been necessary because Frosty's bad back made it hard for him to walk and impossible for him to mate.

Dr. Robert Bilderback, a local orthopedic surgeon, performed the delicate 3½-hour procedure on Frosty. He was assisted by Fletcher and a team of veterinarians.

Following the surgery, Fletcher was optimistic about Frosty's future but cautioned it would take months for nerves that had been pinched by the injured disc to regenerate.

## Death cause undetermined until autopsy



## Prize snow leopard ...fathered 20 cubs

Frosty was born in the central Soviet Union, trapped there — losing 1½ toes in the process — and shipped to San Antonio in 1970.

## Here 12 years

In the 12 years since, the 82-pound cat has fathered cubs that have been shipped to zoos all over the world.

Zoo officials estimate there are only about 700 snow leopards in existence. The cats are on the endangered species list.

SA NEWS 10/24/87

# Surgeon operated on leopard at no charge

How much did the San Antonio Zoo have to pay Dr. Bill Bilderback to operate on Frosty the snow leopard that died last week?

Why wasn't a veterinarian who specializes in ailments such as protruding spinal discs used instead of an orthopedic surgeon who normally works on humans?

**BONNIE FERGUS**

Zoo curator Russell Smith said Bilderback volunteered to do the operation at no charge to the zoo.

If Bilderback had not donated his time and expertise, the operation would have been "very expensive," Smith said.

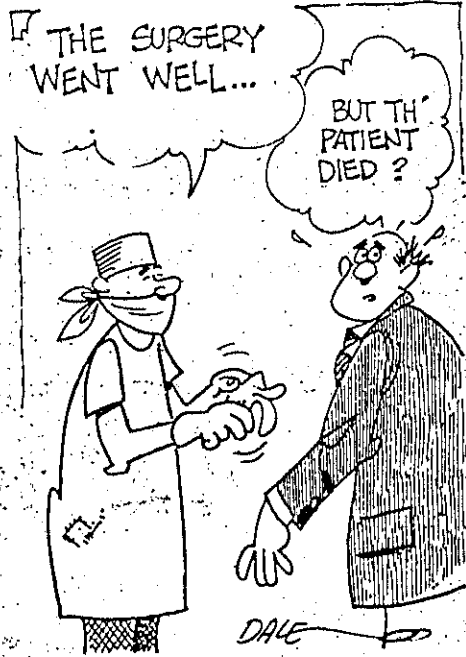
It is hard to obtain the services of a veterinarian with expertise in back problems, Smith said.

As with humans, operations on animals do not always produce the desired results, the curator said.

"The surgery went well although the patient died," Smith said. "We're not sure what he died of yet."

Smith said nothing in the post-mortem examination was "grossly evident" to explain why Frosty died.

Smith also said the zoo's veterinarian, Dr. Kenneth Fletcher, assisted in the operation.



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