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NEWSLETTER

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Amigo, shown here with his newest friend, Roger Harmon, was found abandoned, tied on a three foot rope where he had been several days prior to his rescue. The Texas animal control folks placed him with Roger, a long-time LIOC member and past Life director. Roger says, now that Amigo's been treated well, he's a lovely well-behaved cat and has fully recovered from his travails.



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Contributions:

The newsletter consists of articles, photos and artwork submitted by members. We depend on you for our material -- we can only publish what you send us. Articles of all types on all exotic cat subjects are gladly accepted. We also have a reader's write column. Materials should be sent to the Editor by the first day of odd numbered months for inclusion in the next issue.

LIOC Convention 88 Registration Form

Speakers:

Dr. Mike Jones, DVM
Point Defiance Zoo Veterinarian

Roland Smith
Curator of Mammals
Point Defiance Zoo

Helen Freeman
Director, Snow Leopard Trust

Events:

Banquet Dinner on August 6th
Tour of Point Defiance Zoo
Cruise of Commencement Bay
Tour of Native American exhibit
Salmon bake
Auction
Lotty Presentation
Goodbye Breakfast on August 7th

Accommodations:

Convention is being held at the Tacoma Dome Hotel, 2611 East E Street, Tacoma, WA 98421. (206) 572-7272. Special rates for LIOC members are \$58/single, \$62/double and \$100 for an executive parlor. You must mention LIOC to get these rates. The hotel requires a bankcard number (Visa, Mastercard, American Express or Diners Club) or a first night's deposit one week prior to your arrival to guarantee your reservation. Only kittens will be allowed into the hotel and if a kitten is brought the hotel will require a \$50 damage deposit. The deposit will be refunded after a final inspection of the room shows no damage. You must provide litter box facilities and the contents must be properly disposed of (in the garbage, not the toilet or tub). Housekeeping will provide ample plastic bags. The hotel does not provide a shuttle from Sea-Pac airport. You might want to use Shuttle Express from Sea-Pac to Tacoma; their number is 626-6088.

Auction and Raffle Items:

We will be holding our annual auction and raffle after the banquet. Gift items for these events may be sent to the Convention Coordinator along with registration forms or they may be brought to convention.

1988 LIOC Convention Registration Form

Name:

Street:

City, State and Zip:

Phone:

Date of Arrival:

Date of departure:

Number of registrations for which payment is enclosed:

Names of those attending:

Registration is \$70 per person. Please make checks out to Barbra Wilton. Send this form and payment to: Barbra Wilton: Convention Coordinator, 7800 Southeast Luther Rd., Portland OR, 97206. For more information call Barbra at (503) 774-1657 or Ethel Hauser at (206) 892-9994. Convention

Conservation Manifesto

This manifesto has been prepared by the Cat Specialist Group of the Species Survival Commission, International Union for Conservation of Nature and Natural Resources (IUCN), as a contribution to the World Conservation Strategy.

PREAMBLE

Cats have been part of the environment, culture and mythology of human beings for thousands of years. The lion, in particular, has been widely used as a symbol of royalty and state to the present day. In pre-Columbian civilizations in Mexico and Central America, the jaguar had high ritual significance. The tiger has figured in the art and culture of the great civilizations of Asia. Domestic cats were revered in ancient Egypt, and in many countries today they rival the dog as a beloved companion of man.

Nevertheless, almost all species of wild cats are declining seriously in numbers because of human impact, some subspecies are already extinct, and others are on the brink of extinction.

The extinction of species of wild cats would be an inestimable loss to the world, not least because of their ecological role as predators. It behooves us to make every effort to prevent it, because human activities are largely responsible for their deteriorating status.

WHY CATS SHOULD BE CONSERVED

Human beings have no right to eliminate other species. Indeed, in view of the extent of human domination of the natural environment, we have a responsibility and obligation to all species and to our descendants to perpetuate their existence. Extinction is forever.

The decline of a carnivore generally alters the ecological balance of its biological community. Cats are linked through predation to herbivores, which are, in turn, linked to each other through competition and to plant communities by their foraging. They are particularly sensitive to environmental disturbance, and the decline or disappearance of these vulnerable cat species serves as an indicator of changes in the ecosystem, which may be the result of natural phenomena or, as is increasingly the case in present times, of the impact of human activities. These changes frequently involve a deterioration of the human environment, such as the loss of forests and grass lands and their valuable animal and plant products, or impairment of water supplies essential to human life and agriculture. Furthermore, large cats, being at the pinnacle of the food chain, need considerable space, and are, therefore, key species in determining the area required to define an appropriate ecosystem.

In addition to the ecological consequences of the disappearance of these carnivores, many people feel a sense of inner loss when such magnificent and mysterious animals are gone from the wild.

PROBLEMS FACED BY THE CATS

Accelerating loss of habitat has now reached a critical stage as human population continues to soar. In many cat ranges, remaining habitat represents but a small percentage of what existed in the past, and what remains could be wiped out in the near future.

Cats have long been hunted. They are killed because they have been viewed as competitors for prey. They are killed because they have taken livestock. They are killed for sport, and their body parts are used in some places as medicine. Young cats are captured for pets. And some, especially spotted cats, are killed for the fashion trade, which has often led to over-exploitation.

At the same time, the disappearance of natural prey has frequently deprived cats of their normal sustenance and contributed to conflict with humans and their livestock, leading inevitably to reprisal killing of cats, often including those not actually involved.

Where cat populations have been reduced to small numbers they are increasingly vulnerable to extinction due to fortuitous local events, such as epidemics, fires and floods. Some scientists also fear the possibility of deterioration through inbreeding depression and loss of genetic diversity in the long term, which might reduce the ability of small populations to adapt to changes in their environment.

THE DECLINE OF THE CATS

Cat populations have long been in decline and today every indicator suggests that declines are accelerating and have reached, in some cases, a critical stage.

The Asiatic lion is a classic example of decline because of human impact. Ranging 2,000 years ago from Asia Minor to Central India, it was hunted and exterminated, so that by the beginning of this century only a few survived in India's Gir Forest. Fortunately, conservation efforts have succeeded in maintaining a lion population in the Gir, but it is confined to this single habitat, and thus is still dangerously vulnerable.

In 1947 the last recorded Asiatic cheetahs in the Indian sub-continent were shot. The subspecies still survives in Iran, but only in small numbers in fragmented habitats.

The Bali tiger is thought to have already become extinct before 1940, and during this present decade of 1980s, its neighbor, the Javan tiger appears to have passed into oblivion. No trace of the Caspian tiger has been found for several decades, and reports suggest that the Amoy tiger, which is endemic to China, is on the verge of extinction, and that other subspecies of tiger may have vanished from the wild there by the end of the century.

The Indian or Bengal tiger had declined to dangerously low numbers by 1970, but has recovered as a result of dedicated, internationally-supported conservation programs implemented by the Indian and Nepalese governments. Nevertheless, it will remain vulnerable unless these programs continue.

Among the small species, the Irimote Cat, endemic to a Japanese island east of Taiwan, is nearly extinct because of destruction of its habitat and human over-exploitation of its natural prey.

These examples of the decline of the cats and of suitable habitat are representative of the general situation throughout their world range.

PROBLEMS OF CAT CONSERVATION

There is still only limited knowledge of the distribution, numbers, biology and behavior of almost all species of cat. Research to increase understanding of these factors is essential to the planning and implementation of effective conservation methods.

Economic planners and decision-makers often fail to recognize the importance for human welfare of wild lands, including ecosystems of which cats are part. Consequently development programs are carried out with little or no consideration of the longer-term impact, which may result in the decline and extinction of many species, including cats, as well as impoverishing the human environment.

As a result of increasing fragmentation of habitat and the pressure of human activities in their vicinity, large cats may become problem animals, particularly through livestock predation, and in rare cases taking human life. Demands may then arise for elimination, not only of the offending animals, but of all large cats in the area.

Insufficient resources are made available to pursue necessary research, and to implement protective measures and conservation management of natural habitats of cats, often because of failure to recognize their ecological significance and through lack of political will.

HOW CATS CAN BE CONSERVED

Protected habitats of sufficient size and productivity to support viable populations of cats must be preserved, and linking corridors maintained wherever possible.

The distribution of each species and the habitat available to it needs to be established in detail down to the level of discrete populations.

Legislation to ensure long-term conservation of cat species and their prey, including controls on trade, national and international, must be passed and enforced.

Conservation of cats has to be reconciled with the needs of humans. Some conflict may be inevitable in areas where agriculture or livestock farming impinges on cat habitats, but it should be minimized by appropriate management measures. For many cats, and particularly large cats, parks and reserves may not be adequate and use patterns in adjacent areas need to be designed so that they are compatible with use by both humans and cats.

Local people must feel that efforts are being made to protect their interests. Information about the role of cats and ways to conserve them should be part of conservation education at all ages and levels of the community, including the politicians, officials, industrialists and businessmen who are the decision-makers.

Captive propagation programs should be considered as an important precaution to serve as a genetic and demographic reservoir, which could, in appropriate circumstances, be used to reintroduce wild populations.

All these measures should be included in an overall conservation strategy for each species to insure its survival.

CONCLUSIONS

Species need not be lost provided action is taken to conserve them. Experience has shown that seemingly desperate situations can be reversed, if protection is given to species and their ecosystems.

The Cat Specialist Group is pledged to do all in its power to achieve the conservation of all cat species, and appeals for the cooperation of all people to ensure that these magnificent animals continue to co-exist with humans as they have through the ages.

Cats and Poison

Reprinted in part from Cornell Animal Health Newsletter

RODENT POISONING

Cats are relatively resistant to warfarin, a frequently used rodent killer and would have to ingest a very large number of poisoned rodents to be seriously endangered. However, brodifacoum, a new anti-rodent compound, is 10 to 20 times more effective than other, previously used poisons. It takes four to five days for signs of warfarin poisoning to appear. These include depression, fever, skin discoloration, labored breathing, and prostration. Brodifacoum is much faster-acting than warfarin, and clinical signs of hemorrhagic disease have been noted within one day.

HAZARDOUS POISONS

Chemical poisoning can occur when a cat breathes in automobile exhaust, pesticides, smoke, gas escaping from a stove or heater, or other toxic fumes.

Fresh air is the first remedy for a cat that has inhaled deadly fumes. Indeed, get the cat out in the air regardless of weather. If the cat is unconscious and not breathing well, artificial respiration may have to be administered. Once at the vet's oxygen or respiratory stimulants may be necessary and recovery should occur within a few hours. If deprived of oxygen for any length of time, the cat may suffer from temporary blindness or deafness; it usually disappears spontaneously within days or weeks.

MEDICATION REACTIONS

Severe reactions can be caused by an over-the-counter drug given to the cat. The cat is unique in its susceptibility to poisoning by aspirin or acetaminophen (Tylenol). As little as one tablet can lead to toxicity within four hours, bringing on cyanosis, shallow breathing, depression, weakness or swelling of the paws.

CLINICAL SIGNS

Signs of real trouble are excessive drooling, difficulty breathing or swallowing, muscle spasms, fever, trembling, vomiting or diarrhea.

If a cat has been poisoned, the vet should be told the type of poison, the clinical signs that the cat exhibits, the cat's previous physical condition, any other medications being given and the first-aid being given.

If the cat is unconscious or convulsing, wrap it securely in a blanket and take it immediately to the vet.

If the cat is conscious and not convulsing, the first step is to induce vomiting (DO NOT ATTEMPT TO INDUCE VOMITING IF THE CAT HAS SWALLOWED AN ACID, AN ALKALI, KEROSENE OR OTHER CAUSTIC SUBSTANCE.)

To induce vomiting, use a solution of one-half spoon of syrup of ipecac, one to two teaspoons of hydrogen peroxide, or a portion made of a solution of one tablespoon dry mustard mixed with a cup of water.

It might be necessary to repeat or alternate these measures every 5-10 minutes until the cat vomits. Save both the vomit and the chemical container to make identification of the poison easier.

or call a poison control center.

If no specific antidote is available, it may be necessary to force feed water or milk to dilute the poison already in the cat's system. Activated charcoal (medical grade charcoal-not charcoal briquettes) mixed with liquid will absorb poison already in the intestine allowing it to pass out of the body without entering the blood stream.

DO NOT GIVE CHARCOAL IF SYRUP OF IPECAC HAS ALREADY BEEN GIVEN. Coating the intestines with one to three tablespoons of vegetable oil or egg whites will also slow absorption of the poison.

DEALING WITH ACIDS

Acids, alkalis and kerosene are caustic and capable of burning the throat and mouth during swallowing and vomiting. An antidote for acids is either a solution of baking soda and water or a single dose of one teaspoon of milk of magnesia per 5 pounds of body weight. For alkalis, give one to five teaspoons of a mixture of vinegar or lemon juice diluted with an equal amount of water. These substances can be diluted in the system by coating the intestines with milk, vegetable oil, or egg whites.

The best cure for accidental poisoning is simply prevention. Common sense can prevent tragedy.

Toys for Exotics

By Valerie Werner, Zookeeper
Milwaukee County Zoo

In an attempt to provide "amusement" and to stimulate activity for viewing by zoo visitors, the keepers at the Milwaukee County Zoo's Feline building have experimented with various natural toys for use by the two species of small felids exhibited there: servals and caracals.

Included among the more successful toys are rounded pieces of wood, pinecones, and the knotted ends of rawhide bones. These all provide a rolling, ball-like action when struck, inviting the animal to chase it. Care must be taken to ensure that these toys are large enough to prevent accidental swallowing by the animal, and the pinecones should have scales with smooth edges, not sharp bracts or thorns. At our zoo, we have installed drain covers to prevent clogging should the toy roll near or into the drain opening.

Balls made of tanned sheepskin, with the fleece intact, were also successful toys. Not only could they be rolled about, but because of their light weight and fibrous make-up, these toys could be tossed and caught by even the smallest kitten. Unfortunately for us, the animals enjoyed playing with the sheepskin too much; they were reduced to practically nothing in a few hours. Replacing these toys regularly became quite expensive.

Our alternative to the sheepskin is rabbit fur. Since we feed rabbits to both the servals and caracals weekly, the fur is readily available. A small portion of the rabbit is skinned; the fur rolled into a ball-like shape and placed in our refrigerator's freezer section to harden before being presented to the animal. The freezing allows the "ball" to retain its shape for a longer period of time and also prolongs the life of the skin with regard to decomposition.

Rabbit fur toys have proven just as successful as sheepskin without the expense. When our cats tire of playing with the fur, it is often ingested. If not, care is taken to remove the skin before it begins to decompose.

All of the toys discussed have been used to alleviate boredom in solitary animals, both adults and kittens. Where two or more animals are housed in the same enclosure, a toy is provided for each animal to prevent any fighting that might occur over possession of a single toy.

We have also used these toys as a means of enticing an animal out of a shift area into a display cage, or into an unfamiliar area such as a squeeze cage or shipping crate. In the latter case, we usually attach a cord to the toy so that it can be quickly retrieved before the animal catches hold of it.

In conclusion, these various natural toys have not only provided our animals with a safe source of mental and physical stimulation, but have also helped present a more active display for our zoo's visitors.

Reprinted from WFS Newsletter

Common Antibiotics

Many times antibiotics are prescribed for our felines to treat a multitude of problems-however, how many of us think to ask if these should be given before or after feeding or what the common side effects might be? Below is a chart of the most commonly prescribed antibiotics listed under their generic name and some of the brand names they are sold under.

DRUG	PRECAUTIONS*	HOW TO TAKE**	SIDE EFFECTS***
AMOXICILLIN Amoxil Polymox Larotid	Should not be taken if sensitive to Penicillin. May not be advised if there is a history of kidney disease or a history of allergy to other drugs or allergies in general	Can be taken with or without food	Rash, itching, fever
AMPICILLIN	Same as AMOXICILLIN	On an empty stomach	Rash, itching, fever
CEFACLOR Ceclor	Should not be taken if sensitive to any cephalosporin drug	Can be taken with or without food-if stomach upset occurs try taking with food	Rash, itching, fever
CEPHALEXIN Keflex	Same as CEFACLOR	Same as CEFACLOR	Rash, itching, fever
CLINDAMYCIN Cleocin	Avoid if sensitive to lincomycin Not advised if kidney, liver, stomach or intestinal disease is present	With a full glass of water on empty stomach unless otherwise prescribed	Rash diarrhea
DOXYCYCLINE Vibramycin Vibra-Tabs	Should not be taken if sensitive to any tetracycline drug should not be given to pregnant or nursing mothers	Best with water on empty stomach but may be taken with food if drug upsets stomach Do not give iron preparations within 2-3 hours of taking Do not give calcium, antacids bicarbonate of soda, magnesium, containing compounds, milk or other dairy foods within 1-2 hours after drug.	Stomach irritation, nausea vomiting, possible diarrhea Will cause tooth discoloration of baby teeth in young animals or pregnant mothers may cause sun sensitivity
ERYTHROMYCIN Erthrocin E-Mycin	No special precautions	1 hour or 3-4 hours after feeding. Some forms can be taken without regards for meals	Rash, upset stomach
MINOCYCLINE Minocin	Same as DOXYCYCLINE	Same as DOXYCYCLINE	Same as DOXYCYCLINE
NITROFURANTOIN Furadantin Macrochantin	Should not be given in last stages of pregnancy or to nursing mothers Avoid with kidney or lung disease Avoid if allergic to related drugs such as furazolidone or nitrofurazone	Give with food or milk	Nausea, vomiting, diarrhea rash
PENICILLIN G Biclin Pentids Pfizerpen G	Same as AMOXICILLIN	With water on empty stomach	Rash itching, fever
PENICILLIN V V-Cillin K Pen.Vee K Ledercillin K	Same as AMOXICILLIN	with water on empty stomach	Rash, itching, fever
POLYMYXIN B+BACITRACIN +NEOMYCIN Neosporin Alba-3	Not advised if sensitive to related drugs such as gentamycin or kanamycin	For skin: to clean, dry area. For eyes: keep eye closed 1-2 minutes after inserting under lower lid	Rash
CHLORAMYCIN Chromycin Tysteclin	Same as DOXYCYCLINE	with water on full stomach otherwise same as DOXYCYCLINE	Same as DOXYCYCLINE

DO NOT give any drug if there has been a previous reaction to it. **An empty stomach means at least 1 hour BEFORE meals two hours AFTER meals ***a side effect of ANY antibiotic may be other infections due to overgrowth of yeast organisms. counter this with lactobacillus, or any cultured milk product such as buttermilk or yogurt (lactobacillus is available at most pharmacies and does not require a prescription.)
The antibiotics shown above (brand names) are for human use-get the GENERIC name of the drug if it is a veterinary product

By Paul Richert-Boe

Law enforcers in the endangered species trade have always faced certain disadvantages: medical investigators have their Centers for disease control and the FBI has its national crime lab, but wildlife investigators have only a cottage industry of small forensic labs scattered across the country. There is no national lab devoted to helping prosecute smugglers, poachers and others violating endangered species laws and treaties.

That's destined to change late this year when the U. S. Fish & Wildlife Service opens the doors of a million-dollar building in Ashland, Oregon, fills it with a million dollars worth of equipment and starts pumping at least a million dollars a year into the local economy.

Using forensic techniques usually reserved for crimes involving humans, scientists at the National Forensics Laboratory will assist investigations into a black-market industry, often more lucrative than the drug trade, that has thrived in the U.S. and abroad despite laws and treaties such as the Endangered Species Act and CITES (the Convention on International Trade in Endangered Species).

Soon, when a Miami wildlife agent suspects that a bottle of skin lotion contains oil from the protected green sea turtle instead of from the garden variety, it will be the Ashland forensic lab's job to find out. The lab will also be the international center for such investigations under CITES, representing 92 nations. Technicians will study animal parts and materials from all over the world and review those studies every year at the international conference hosted by the wildlife service and the lab.

Why Ashland: The quality of life is cited as one factor. More importantly, the local police department happens to have a computer system that will allow the lab easy access to national computers at the FBI and other organizations. Ashland is also the new home of the National Bald Eagle Repository, the federal storehouse for feathers and claws taken from dead eagles found on government land or taken by wildlife agents.

Condensed from Pacific Northwest
Contributed by Barbara Wilton

Dr. Melody Roelke, a veterinarian who has been studying the Florida panther (*Felis concolor corymbosus*), said that only 20-30 remained. She and her colleagues had found an array of medical and potential genetic and reproductive problems.

In especially poor condition were the females. She says the most likely causes are poor nutritional status, chronic blood and iron loss (from internal and external parasites and fetal development in the females). The poor condition of the females would account for the apparent low rate of reproduction.

Roelke says several potentially pathogenic viral agents were identified. Antibody indicating prior exposure to feline panleukopenia virus, a highly contagious devastating viral disease of all felids was found in 1 of 14 panthers and 17 of 34 bobcats. Antibodies to calicivirus, a respiratory pathogen, was found in 7 of the panthers and 12 of the bobcats.

Analysis of semen from three wild Florida panthers indicated they had highly pleomorphic spermatozoa, with abnormal sperm forming more than 93% of the total count, whereas semen from a limited number of captive cougars of various subspecies have considerably lower abnormal sperm counts.

The U.S. Federal Government has agreed to include panther crossing in the design of Interstate 75, which will cut through the heart of the Florida panther's habitat. Several cats have been killed by cars on the Alligator Highway which Interstate 75 will replace. Plans call for 36 underpasses to permit the animals to cross under the highway, and fences to keep them from wandering on the road.

Roelke said that two possible re-introduction sites had been identified in northern Florida and there was a linked captive breeding program by the Florida Game Commission. However, only one male was currently in captivity and the question of catching some females was being discussed. The U.S. Fish and Wildlife Service is providing funds for land acquisition.

Dr. Douglas Miller, National Wildlife Federation's Vice-President for Research, Education and Development, has proposed that there should be an Interagency Panther Commission. He has also proposed application of comparative effects analysis to panther habitat management and initiation of research on panther and prey species in the Everglades National Park.

Condensed from IUCN Cat News.

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**John Perry
6684 Central Avenue NE
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Big Cypress Preserve

Reprinted from National Wildlife Federation

Florida's Big Cypress National Preserve was created by Congress to buffer the northern border of Everglades National Park and to protect crucial habitat for the endangered Florida panther.

But at its present 570,000 acres, Big Cypress is too small to adequately protect either the park or the panther.

In response, the House of Representatives has passed legislation (H.R. 184) that would expand the preserve by 136,000 acres. In addition, Florida's two senators, Lawton Chiles and Bob Graham, are co-sponsoring legislation (S.90) similar to the House bill. Senate Energy's Public Lands Subcommittee held a hearing on S.90 in February and the bill could be passed soon.

Big Cypress is one of the few places in Florida that still harbor the 30 or so Florida panthers that remain in the wild.

The preserve's varied habitats—cypress sloughs, hardwood hammocks, and sandy slash pine islands—support alligators, wild turkeys, deer, mink, black bears, bald eagles, wood storks, and herons. Incredibly, this wilderness, like that in the neighboring Everglades National Park, persists just 50 miles west of downtown Miami.

If the proposed addition to Big Cypress National Preserve falls through, the acreage will likely be developed into citrus groves and subdivisions that will threaten water quality and water flows in Everglades National Park and put the Florida panther in even greater peril.

H.R. 184 authorizes the addition in a way that saves taxpayers money. It works like this:

Florida's Alligator Alley (Route 84), which crosses the preserve and the proposed addition, is being rebuilt as an interstate highway. When the interstate replaces the old two-lane road, landowners in the proposed addition will lose access to their property from the rebuilt road.

As compensation, the federal government has agreed to pay them severance money from the Highway Trust Fund.

H.R. 184 calls for putting the \$43.84 million in federal money toward the purchase price of the land.

The federal government would pay for 80 percent of the balance; Florida would pick up the remaining 20 percent.

Under the legislation, the current property owners would retain oil, gas and mineral rights.

The government also may be able to acquire the addition in an exchange. The owner of most of the land has been negotiating with the Interior Department to exchange his Florida property for some Indian lands in downtown Phoenix, Arizona.

Contributed by Jean Hamil

Clouded Leopard Study

Alan Rabinowitz of the New York Zoological Society has begun a two-year study of clouded leopards in Thailand. He has established a field station in the Huay Kha Khaeng Wildlife Sanctuary adjoining the Burmese border.

Rabinowitz, whose jaguar studies in Belize led to the establishment of the world's first jaguar preserve in the Cozumel Basin, chose his clouded leopard research area after surveys in Sabah and Sarawak in northern Borneo and Taiwan. Among his conclusions from these preliminary surveys was that the clouded leopard was not an arboreal cat in the true sense of the word, and most likely used trees primarily as a resting site. He said the clouded leopard still appeared to inhabit many areas in Sabah and Sarawak and seemed to be in no immediate danger of extinction. On the other hand,

Taiwan the only recent evidence of the cat was two remote, isolated areas of the Central Mountain Range—the Yushan National Park and a provincial forest in the Tawu mountains. Rabinowitz stressed that habitat protection was para-

mount if the cat was to survive, along with the prevention of the poaching of potential prey species. He recommended more detailed surveys and the development of a plan to upgrade the area in the Tawu Mountains to a wildlife sanctuary. Last February he conducted a class and workshop to teach wildlife survey techniques to Taiwanese officials and researchers so they could census clouded leopard populations.

The Xinghua Wildlife Restaurant in Huizhou, east of Canton, and several people were fined recently for trading in clouded leopards according to a newspaper from that region.

Tan Bangjie quotes the newspaper as saying that in January, 1986 the restaurant owner bought a clouded leopard from a farmer in Zinjin County for about \$270 and sold it for a profit to the Shangrila Hotel where it died after being displayed for six months outside the hotel. The restaurant owner bought another clouded leopard for the same price in January, 1987 and killed it for meat. Fines were imposed on the restaurant, the hotel and the farmer who supplied the cats.

Reprinted from CAT NEWS.

In-Vitro Kittens

Scientists at the Smithsonian Institution's National Zoological Park have succeeded in producing three litters of kittens in domestic cats by *in vitro* fertilization. The achievement marks the first time "test tube" fertilization has been successful in any type of cat or species of carnivore. The births, on April 3, 6 and 12th, followed two years of research by a team of physiologists and veterinarians at the Zoo's Center for New Opportunities in Animal Health Sciences.

The *in vitro* fertilization process in cats involves several steps. First, ovarian activity must be stimulated in a female cat by means of hormone treatment. Then the eggs are collected from the cat's ovarian follicles at precisely the right time. Next, the eggs are deposited in a vitreous vessel containing a special medium where the sperm from a male cat is added to fertilize the eggs. The embryo is cultured for a period of time and then deposited in the uterus of a receptive cat. A normal pregnancy ensues.

This pioneering work holds promise for increasing the reproductive capacity and the long-term survival of such endangered felids as Pallas' cats and flat-headed cats. With more study, it soon may be possible to collect a large number of ovum and sperm from an endangered species of cat, fertilize the eggs *in vitro*, then implant the embryos in a common species of cat. This would increase the reproductive capacity of individual animals of an endangered species. In the near future, it may also be possible to store indefinitely at extremely low temperatures embryos of endangered species *in vitro*. Years from now, such embryos could be rejuvenated and implanted in surrogate mothers who would nurture the offspring of parents long dead.

Scientists working on the project included reproductive physiologist David Wildt, Chief veterinarian Mitchell Bush and research collaborators Karen Goodrowe and Jo Gayle Howard. "I know their task was particularly challenging because of the relatively small amount of published information on the reproductive physiology of cats," said National Zoo Director Michael Robinson. "However, these kittens are living proof that sophisticated techniques of modern medicine are fast being used to preserve endangered species. Such procedures will make it possible to rescue critically endangered populations of animals from the brink of extinction; these techniques are an essential part of a multi-faceted approach to preserving the biological diversity of our world."

The test-tube kittens produced by this project will be adopted and become household pets.

Reprinted from ZOO NEWS, National Zoological Park.

Tiger Symposium

Two concepts are being invoked with increasing frequency when discussing long-term management of endangered species. One is that in small populations, inbreeding will lead to a reduced fitness and loss of genetic variability. The other is that some species may be maintained and their numbers increased through captive breeding until they can be reintroduced into the wild. Both are valid concepts. However, if these ideas are applied uncritically, there is danger of losing that which we are trying to protect.

Several speakers at the Tiger Symposium revealed a trend in thinking which I find worrisome. Although I was not at the symposium the verbal reports I received from participants prompt these comments.

There is no question that inbreeding could have a deleterious impact on a small population, especially if it remains small for several generations. Conservation biologists now often show an explicit or implicit tendency to relegate such populations to an evolutionary scrap heap as not worth saving. Yet small populations are not necessarily doomed. We know as yet far too little about the genetics of wild populations to justify inaction or a precipitate response with only one conservation option.

I write this with the South China Tiger in mind. It now survives in a few small populations of unknown size. No accurate census of this subspecies has been made, no information on prey abundance is available, no evaluation of habitat exists, and no management plan has been produced. Yet the primary conservation goal seems to be captive breeding. Success with captive breeding has already been achieved (though the animals are from a small gene pool), and, given the ease with which zoo tigers reproduce under proper management, the captive population will surely grow. Of greatest urgency is to maintain the wild populations, even if small; this must be the top priority. Two points should be remembered in this context:

If habitat and other resources are available, and if the area is well protected, the species may increase rapidly.

If several small, isolated populations persist, gene flow may possibly be maintained artificially by an occasional exchange of individuals.

The South China Tiger is poorly protected and its remaining habitat is threatened. Neither is likely to survive unless prompt action is taken! There may ultimately be no place left for the reintroduction of captive-bred animals.

Various herbivores can, with relative ease, be reintroduced into the wild, whereas large carnivores pose great difficulties. Several small introductions principally with lions in Africa, indicate several major problems:

Local people strongly object to the reintroduction of a potentially dangerous carnivore.

Young carnivores have to learn to hunt and kill. Several years of trial-and-error training may be necessary before they can support themselves on wild prey, years during which the animals must receive artificial food to survive. A high mortality rate can be expected with introduced carnivores.

Free-ranging, captive-born carnivores may prey on livestock and threaten people, and then be killed in self-defense. (Reintroduced lions in Africa caused the death and injury of several persons)

It has been suggested that tigers can be reintroduced into northeastern China in the event that the survivors there fail to maintain themselves. These tigers have received as little attention as those in southern China, and there is, at present, no hope for their future, even though occasional immigrants from Russia augment the population. To

reestablish a viable population from captive stock would be exceptionally difficult, for prey density is so low that tigers must range widely to obtain food. In my opinion, every effort should be made to protect the surviving tigers and their prey rather than express faith in an untested reintroduction scheme.

In sum, if a country truly wants wild tigers, it must protect those it has. Protection is easier, cheaper, and more likely to be successful than reintroductions which are difficult, expensive and likely to fail. The future of the tiger in China depends on the correct choices being made now.

Although not present at the 1986 International Symposium on Global Survival Strategies for Tigers, Dr. George Schaller, the pioneer of field studies on this magnificent cat later submitted these comments to the IUCN/SSC from which they are reprinted here.

While these comments are made in reference to tigers specifically, they are applicable to all species of threatened felines and must be considered when planning long-term survival techniques. Editor.

* * * *

Readers Write

Dear Members of New England:

Members like yourself have made this Branch of LIOC very successful. As I'm writing this, I don't want to leave the impression that I am leaving LIOC. However, there will be a new structure for the New England Branch which means I'm going to have help. These changes will enable us to give you certain services. These services and new structure will be a great help to you for education and information. As of April 13, 1988, Albert Porges will be President for New England (617)344-4943, and David Baskin is Vice President (617)588-5093. They will be the persons to direct you to these services as listed:

Conservation & Education
Legal Affairs
Fundraising & Publicity

Please do not hesitate to call on them when needed. I feel very good placing these officers in your hands, together as a team you can make this branch greater than it already is. It has been a great pleasure to serve you.

These past four years as *President*, knowing the satisfaction and support you have given me, I feel very confident that you will give the future officers and directors of this branch the same support.

You can keep them busy by attending meetings with your felines and input. I truly believe this is a great working team. So please attend and be part of that great team.

Again, I want to thank you for your time and support for these past years. If you have any questions please do not hesitate to call on me for help. I'm still here for all my LIOC friends.

Sincerely,

Karen Rousseau

Cat Communication

Lydia A. Hiby communicates with animals mentally, tuning into their emotions and feeling their discomfort. Lydia, an animal analyst and animal psychic, confident in her ability, is also a licensed animal health technician.

She is an associate of Beatrice Lydecker, nationally known author, holistic lecturer and television personality, who is billed as "The Lady Who Talks to Animals." Lydia and Bea have travelled together the last five years to various corners of the globe, helping veterinarians pinpoint causes of animals' illnesses, advising pet owners how to solve their pet's behavioral problems, etc., and teaching non-verbal communication. Lydia can tell you if your pet is happy; she can communicate your pet's thoughts to you. This last year she logged 19,000 miles.

When my ocelots were ill two years ago (having read Beatrice Lydecker's books about ten years previous), I decided to try and find a way to talk to Beatrice. I was able to track her down through the graciousness of Carmelita Pope, Hollywood Office, of the American Humane Society, who talks about Bea's talents on the bookjacket of one of Bea's books.

She was of tremendous help, letting me know of my pet's fears and concerns and how best to help them; My veterinarian and friend, Dr. Del Orchard had met with her before and was most receptive to all of us working together.

Bea came to Portland a short time later to teach her holistic seminar and give lessons in mental communication. We took the course and we became good friends. She stayed with us for six weeks, came to know Portland, liked it, and decided to relocate here. She was working at that time with a local Dr. who has since been manufacturing her vitamin formulas for her, The Beatrice Lydecker ALL-Natural Vitamin and Mineral Supplement line.

So, that is how we met Lydia A. Hiby. Lydia came from California to join Bea here. Lydia lived with us for a while in-between her travels and we really became very well acquainted. Bea was her teacher, and Bea says very proudly that Lydia is the best pupil she has ever worked with. Lydia, who specializes in cats, but also loves to work with horses, is called to many horse barns around the country as well as being on call for a great many more horses, says "I believe God has given me a gift to help animals. I don't do people unless I'm asked."

Hiby and Lydecker, using their ability to "talk" to the verbally uncommunicative, also have helped autistic children work through the traumatic experiences that may have triggered their condition, as well as with people in comas.

Lydia Hiby has been such a help to me that I wanted to share her with everyone who has exotic animals. It is also a lot of fun knowing what your animals want to tell you and haven't been able to. So, we contacted Ken Hatfield, the leading authority on exotics, past president for many, many years of LIOC, and we invited him to meet with Lydia at our home. It was a wonderful evening and Lydia and Ken spent hours talking. It was certainly fun listening to Ken and Lydia, Ken with all his years of experience and knowledge, and Lydia's description of her psychic abilities. Lydia and Ken could certainly write a book together.

She can talk to animals who are not in her presence. She can uncover the cause of an animal's distress by phone, talking to the owner, with the animal hopefully nearby, and she prefers to have a photograph in front of her to see the energies in the animal's body, but in an emergency she will do it without a photograph.

In one case, the owner of a stud horse called from Texas to ask why his horse wasn't doing what was expected from him. "I felt a real pain in my back," Hiby recalls. "I told the horse's owner that the horse had a bad back and I described the location, he touched the horse in that area and the horse almost fell down. It never ceases to amaze even me."

So, Ken Hatfield made arrangements for Lydia to speak at this summer's convention and I am so thrilled because you will all love her and benefit so much from her. I feel so blessed to have Ken Hatfield, Lydia Hiby and Beatrice Lydecker, and Dr. Del Orchard for my friends, to help me when I need help with my animals. It takes a very special person to understand animals, and these people do just that.

You can write Lydia at 10248 Mull Avenue, Riverside, CA 92503. Bea has a local radio show in the Portland area daily on KVIX-AM, at 10:00 AM to 11 AM, 1290 on the dial. Lydia Flies in from California to host his show whenever Bea is travelling. The show is now being syndicated across the US, hopefully it will be in your area soon.

Lydia's phone number is (714)351-9455 and she will return your calls if you specify for her to call collect. Her charges run between \$25 and \$45 for phone, and she prefers you mail a picture before she does the consultation. Lydia will do private appointments at convention this summer for those interested. You can also leave messages for her at (503) 297-2746, my phone number as I generally can always contact her.

Jackie Happel



Obituary

Bonnie Hadley writes that they have lost WIDGET after 22 years. Snookie left them just a month previous. Widget had been deteriorating in health for a couple of months and when Bonnie returned from work and went to feed her she was nearly gone. "I expected it but as always it comes as a shock when it happens. I will miss my kitties very much after this length of time. I expect to become rather inactive in the exotic fancy now because of the rising costs of obtaining and caring for the exotics. Thanks for all the years." Bonnie

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In Memory . . .

It is with a deep and profound sense of loss that we regretfully report the passing of WILLIAM BOYLE.

Bill was a longtime supportive member of LIOC. He had served on the Board in capacity of Term Director and currently as Vice President. He was also an active member of the Northwest Branch.

Bill died of a massive coronary in his home on April 24th. Words cannot express the emptiness we have in knowing Bill's presence will no longer grace us at convention. He was a true friend, not just of LIOC members but of their animals as well.

Roaring Cats

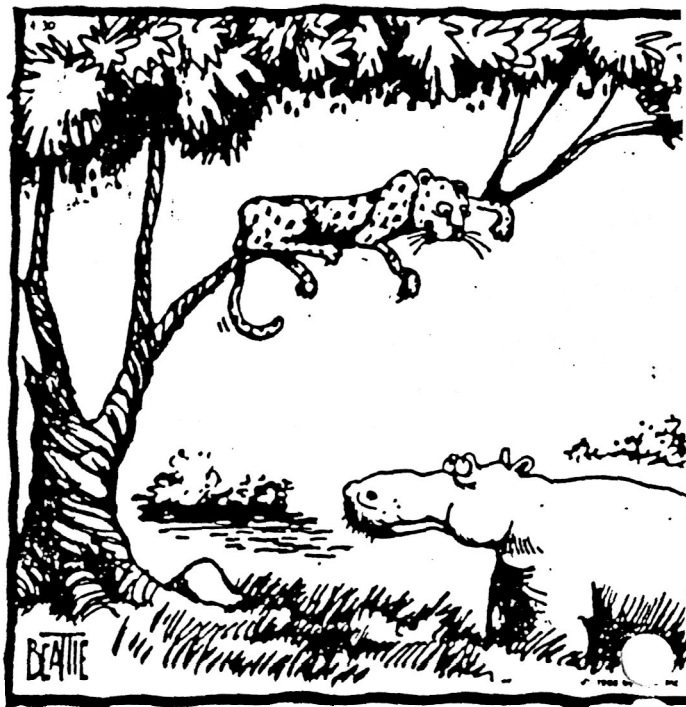
The roaring cats of the genus *Panthera* are distinguished by an elastic ligament in their hyoid bones. This accounts for their deep voices, but does not account for their roaring, according to Malcom Hast, Professor of Otolaryngology at Northwestern University School of Medicine, Chicago.

According to a report in the *NEW SCIENTIST*, Hast dissected the larynges of 12 species of cat and found that real roarers had very large undivided vocal cords with a large pad of fibroelastic tissue at one end. Thus the tube was like a trumpet, allowing sound to pass from high to low air resistance with a better transfer of acoustic energy resulting in a booming roar.

The only cat in the genus *Panthera* without this structure is the snow leopard, *P.L. Uncia*, which screams and Hast suggests this should make it a separate genus *Uncia*.

Reprinted from CAT NEWS

SNAFU



"I never diet. If I get fat I can't run fast enough to catch my dinner."

New England Reports



Sunday, April 10th, 1988, LIOC New England Branch held their Spring meeting at the lovely home of Albe and Ann Porques in Stroughon, Mass. It was a beautiful sunny day.

The turnout of members and guests was astonishing! Yes, that would be the word for it.... Astonishing with a captial "A". It sure was an exciting day.

Due to the publicity that the Porques family had with the news media concerning his causes and goals for his newly acquired Snow Leopard, he had mentioned that our meeting was open house "so to speak". However we used it to our advantage for Albe's cause. People came from all surrounding towns and neighborhoods. Some came to take a look at this magnificent creature of God's. I will state that this is the only snow leopard in the state, including the zoos. Others came to educate themselves to the matter of safety for themselves. I might add that those folks left well assured, that no mishaps would happen. In fact they were so assured that they signed a petition to the facts of being totally satisfied with the health and safety conditions for the animal as well for the humans.

Upon arrival of the snow leopard, the Town had decided to have the Porques apply for a town permit before the zoning board. This was due to a complaining neighbor. However, Albe Porques is fully permitted by the State and the USDA. The petition will help him when he goes before the board. The town as it stands now does not have any law or regulation controlling such matters. However, it just takes one person in opposition to start the ball rolling. Between the press and the petition I think we "bit them in the butt".

Albe and his attorney will be well prepared for his zoning board meeting to present his application.

When the Press and guests had left, Karen Jusseaume brought the meeting to order. Members present were: Karen & April Jusseaume, Albe & Anne Porques, David Baskin, Lyle Jensen, Priscilla Meallo, David Sparandara, Ed deVarennes, Elizabeth and Albe Boyden, all of Massachusetts it seemed, Charlie & Barbie Whitney, Richard & Robin Fanning, Doris Demarest and all of Connecticut. Thank you members for the nice showing. The total guests were 69. So you can imagine what kind of day it was. It was fun.

The first order of business was Karen putting forth the motion regarding the placing of new officers and Directors for our Branch.

They are as listed: Albe Porques, President; David Baskin as V.Pres., and Director of Conservation; Ed deVarennes as Director for Legal Affairs, April Jusseaume for Member Services. Karen also stated that Sec/Treas and Director of Fundraising positions were still open. Until these are filled, Karen will be helping in these areas. This motion was seconded by Priscilla, and the membership agreed.

The second order of business was the passing out copies of the new By-laws and having a discussion on them. Since the membership had a chance to actually see and study them in the Newsletter, the general response was that they were very representative. Karen assured them that they were back in committee to be changed. She also pleaded with them to send their input and suggestions to Shirley Wagner. She also stated that until such matters are taken care of we will be living by the New By-laws. This means sending the head tax and also working in the new structure. The third order of the day was a financial report

and the cost of the head tax affecting the Branch budget. It was stated that LIOC should have raised the national membership dues to \$25.00 per year, since the going rate for most organizations is \$25. It was also discussed how a LIOC Branch is losing members due to the head tax, and also how national is losing due to the fact they cannot collect for the total branch membership, just paid branch members. The bottom line is that the branches and National LIOC are losing. For example: the estimated total membership for the New England Branch would be 45, in which there are 12 paid branch members at \$5 per head, the income would be \$60 for the branch per year. There is a remainder of 33 members left at \$5 per head or \$165 that national is not collecting. If the yearly national membership fee was increased to \$25, National would have an increase of \$225 from this branch alone and the Branch would not be losing \$60 from their overhead of running a branch.

It was also stated that National LIOC should make a priority of trying to reconcile with the two branches NorthWest and SouthWest to rejoin with LIOC. Karen assured them that reconciliation was not a factor. It is the changing of the by-laws. She also assured them that the individuals behind these branches still have a membership and are there if needed. It was also discussed that these two Branches were an important and active part of LIOC and we should really try to get them back under our wing so to speak.

At this time the meeting was adjourned with a promise that Karen would do her part to try and get the Branches back.

Again, thank you for being present for this exciting meeting. Also for all the fine food and social talk. It was fun and it was great seeing all the members once again.

Submitted by
Karen Jusseaume
Acting Sec/Treas

Animal Ambassadors

Keeping animals in a zoo should be considered a sacred trust, not only for the animals themselves but for future generations of human beings as well. When these animals are removed from the wild and place in a zoo, we assume a God-like control over their destinies. We control every detail of their lives, what they eat, where they live, who will be their mates. We assume total responsibility for their health and safety.

But make no mistake. When an animal is taken from the wild it is removed from the mainstream of species life. In most instances, as far as species survival is concerned, that individual is lost just as surely as if it had been killed by poachers, by natural predators or by starvation because its habitat was completely destroyed. How then, can an animal in the zoo, while living a pleasant life, still contribute to the ongoing species life? It may do so by reproducing its kind in the zoo, so that its offspring can not only go to other zoos but perhaps, someday, hopefully, even be returned to the wild. If you think of the animals in the zoo as ambassadors representing the kingdom of the wild to human society, I believe you will recognize their inestimable value to the animals belonging in the wild.

Like all ambassadors, they must represent their kind to a new and different kind of country. They must represent animal society in such a way that humans will respect, admire, understand and treat them decently. Because our animal ambassadors cannot speak, we who are privileged to work in the zoos serve as their interpreters. This is the awesome responsibility we in the zoo profession must continually bear.

Dr. Theodore Reed
Director, National Zoological Park
Smithsonian Institution

From A ZOO FOR ALL SEASONS

Home Safety

Adapted from an article
By Ed Kane, PhD, Manager
Carnation Feline Research Center

Curiosity killed the cat so they say. But maybe they hadn't taken proper measures to protect their felines against natural inquisitiveness.

While we don't have to worry too much about kitty slipping in the shower or smoking in bed, responsible owners should take time to periodically cast a critical eye around the house for potential safety hazards.

Anticipation beats waiting for the accident to happen every time. Why allow your cat to experience pain, injury or worse - and yourself worry and heartache - if you can apply that ounce of prevention to save that pound of cure.

First, let's talk about when accidents are likely to happen. Certainly cats can get into more trouble when you're not around to "clap" them away from danger. Therefore, a "safe area" is a definite must for any exotic not supervised by a human presence.

Boredom, high spirits, owner inattention and changes in routine - all are situations likely to increase a cat's chances of being hurt.

In trying to make a house "cat-proof" start by checking for "chewables" - mainly electric wires and poisonous houseplants. When you're not prepared to supervise that mischievous little bundle of playfulness, place the cat in a wire-free, plant-free room. Plants that can cause various levels of ill effects include Jerusalem Cherry, poinsetta, oleander, foxglove, dieffenbachia, philodendron, azalea, and croton. As a general rule a strict, paws-off policy should prevail throughout the house. You may think it's "cute" when a kitten bats a leaf or electric cord, but the next step is usually a sharp set of teeth in the wrong place - the results can be fatal!

A firm NO! anytime this happens, accompanied by a loud noise (drop a book?) may help deter this or a squirt of water might be effective.

Tour all areas of your home accessible to the cat, especially utility areas and garages. Cabinets containing poisonous materials such as insecticides, anti-freeze, coal and wood-tar derivatives as well as medicines and cleaning products should either be in "off limits" areas or cat-proofed with a spring loaded latch. Mature cats usually refuse to sample anything that tastes different or strange. However, they can be easily poisoned by licking the toxic substance from their feet and fur - a small "spill" in the bottom of an opened cabinet could spell disaster.

Even "safe" drawers, closets, cabinets, etc. can spell trouble and should be kept closed at all times to prevent the cat from becoming trapped inside. This goes for washers & dryers too! Especially in the case of kittens who would be too small to force their way out or be heard.

Aside from curiosity, cats must be guarded against their propensity to jump up on things. If your cat insists on knocking the same trophy off its shelf, sooner or later it's going to land on his head and may cause injury-why not remove the object and let the cat have this favorite perch?

Windows should never be left "cracked" just a little-a clever cat can work that "little" into a big wide opening to the outside world!

Watch out for needles, pins, rubber bands, all types of plastic and tiny toys. Cats can choke or develop an intestinal obstruction by swallowing these items-don't allow them to stay on the floor!

In seeking warmth, some cats have been known to choose lounging areas that can cause overheating through fur or dehydration of skin and mucous membranes. Radiators, heaters and the tops of gas stoves may be favorite warm spots - and always make sure the fireplace has a sturdy, tip-proof screen.

Once you've completed this safety check, make a mental note to repeat the exercise again in 6-12 months. Chances are your cat may very well have devised new, potentially risky entertainment in the interim.

Population Updates

Reprinted from CAT NEWS

TIGER

There were 677 (363,314) Siberian tigers *Panthera tigris altaica* living in captivity at the end of 1985 according to the International Tiger Studbook kept by Prof. Dr. Siegfried Seifert at Leipzig Zoo. Of the 6 those caught in the wild numbered 89 (45,44)

Captive Sumatran tigers *P.t.sumatrae* in the studbook numbered 168 (73,95) of which 26 (13,13) were wild caught.

Dr. Seifert noted that these were tigers about which information had been received. There might be others which had been registered but about which no information had been received.

Regarding Bengal tigers, *P.t. tigris*, Dr. Seifert said there were more in zoos than those recorded in the studbook, which only registers those of proven origin and definitely pure-bred. Of 50 Bengal tigers recorded as living in zoos at the end of 1985, 28 (10,18) have a white and 22 (11,11) normal coloring.

CHEETAH

An international cheetah studbook is being inaugurated. It will be run by Laurie Marker, based at the Safari Game Search Foundation Inc., P.O.Box 600, Winston, Or 97496.

According to cheetah census figures in the International Zoo Yearbook there were in 1985, 207,225 in 106 collections, of which 127,131 were bred in captivity. Of 59 births in seven collections in 1983, 17 died.

LEOPARD

Leopard studbook keeper Alan Shoemaker reports that there were population increases in 1985 in three of the four leopard species covered by the studbook, and all benefited from growing awareness of the need to develop minimally-related breeding pairs. Some owners continued to sell stock to animal dealers which unfortunately, meant loss of these animals to the managed populations.

Amur leopards *Panthera pardus orientalis*, the rarest of the four managed leopards, increased from 44 (24,20) to 50 (30,20), although there remained a preponderance of males. During 1985, 10 (9,1) young were produced, which caused a problem of space for some owners. A new founder was acquired by Tierpark Berlin from the Pyongyang Zoo.

Persian leopards *P.p. saxicolor* increased more than other races, growing from 71 (36,37) to 82 (43,39) In Europe a regional management plan is being developed by Dr. Goetz Reumpler, Director of the Muenster Zoo, to coordinate future pairings and propagation.

Chinese leopards *P.l. japonensis* continued to need the most management, although they were the most numerous of pedigree forms. Levels of inbreeding were high in many collections, even though the founders from Omaha and San Diego were beginning to be represented in more collections. During 1985, the population increased from 97 (46,51) to 105 (52,53)

Ceylon leopards *P.p. kotiya* were in dire need of a larger effective gene pool. In Europe most animals breeding today stem from only three (1,2) founders. Animals derived from Singapore and Wassenaar founders need to be mingled with those from Krefeld or the future of the race in captivity appears weak. In 1985, the population remained 38, although changing in make-up from 19,19 to 21,17.

If you have a topic you wish addressed at the annual meeting at convention, please place it in the form of a motion and send it to:

Suzi Mufascio
6 E. Lake Circle W.
Medford, N.J. 08055

Exotic Ranch

By Stanley Wellborn

It looked a bit like an Old West cattle drive, but hard-bitten ranch hands stood spellbound as exotic animals by the hundreds - giraffes, wildebeests, zebras, ostriches, and oryxes - ambled across the Rio Grande Valley scrub.

The animals, part of Texas A & M University's research on endangered tropical species, were being moved from a ranch near Laredo to new homes near Austin. Vital purpose of the drive: to begin a controlled breeding program designed to help rescue many kinds of animals from the threat of extinction.

Such strange roundups are becoming a frequent sight across the southern U.S., spurred by wealthy landowners who provide havens on private lands for fauna from rhinos to reptiles. Many of the animals were bought in their native lands and flown to this country.

At least 600 ranches in Texas now are home to rare animals, according to the Exotic Wildlife Association of Kerrville, Tex. and dozens of private preserves have begun in Florida, New Mexico, Hawaii and elsewhere.

"We create a true 'home on the range' for animals that are being killed at a merciless rate in their homelands," explains Tom Manzell, a Fort Worth natural-gas baron whose Fossil Rim Ranch has raised rare animals for more than 10 years. "There are plenty of wide-open spreads in Texas that will make an ideal home for many generations of animals."

The American Association of Zoological Parks and Aquariums (AAZPA) estimates that more than 1,000 animal species will become extinct in their native habitats in the next 60 years. Since 1980, the group's Species Survival Plan has provided zoo stock to selected ranchers in a drive to maintain wide genetic diversity among animals in zoos.

Elvie Turner, director of the Fort Worth Zoo and president of AAZPA, believes that ranchers experienced in breeding of pedigreed livestock may teach zookeepers new ways to propagate animals that traditionally have difficulty mating in captivity. "It is still too early to predict long-range successes, but we think the program has tremendous potential," he says.

The work also has aroused interest among lawmakers considering a three year reauthorization of the Endangered Species Act passed in 1973. "When Congress sees that the private sector is doing its part to preserve rare animals, it makes it a lot easier to vote and continue a program," says Kathryn Fuller, an official of World Wildlife Fund.

Raising "Exotics"-rare species bred for big-game hunting-has long been a pastime among wealthy Texas ranchers and oil executives. But breeders are now more conscience of the plight of tropical animals. Most hunting is limited to older males from herds that need thinning.

Breeders include philanthropists as diverse as the owner of the New Orleans Saints football team, the Chairman of Church's Fried Chicken, and the inventor of Nautilus exercise equipment. Companies such as DuPont and Seagram's also have found that providing financial aid for endangered species offers a high-visibility public relations payoff.

A new effort - International Center for the Preservation of Wild Animals - is under way in Ohio, where four zoos hope to secure a 10,000 acre tract that would be the largest refuge of its kind in the world. The site is owned by Ohio Power Company of Canton, which has reclaimed the land after 40 years of strip-mining. Michael N. Vitantonio, director of the Cleveland Metropolitan Zoo, says the many trees, ponds and rolling grasslands in the reserve will disperse animals in a natural habitat. "Without these projects, our grandchildren will never see some animals in the wild," Vitantonio says.

"Poaching, destruction of the rain forest, elimination of food chains all are the result of human greed." Some U.S. zoos have long kept a separate grounds for research. New York's Bronx Zoo has an island off Georgia's coast filled with exotic species. Washington D.C.'s National Zoo keeps rare horses, camels, birds and monkeys on 3,100 acres near Front Royal, Virginia.

The facilities are succeeding with reproductive technologies that include artificial insemination and embryo transplants across species lines - such as a zebra born to a horse or a snow leopard implanted in a mountain lion. Eventually, zoo officials envision a "frozen zoo" where thousands of eggs can be fertilized in the laboratory and kept frozen until one is implanted into a surrogate mother. Such efforts may avoid the danger of genetic inbreeding from ever smaller numbers within a species.

"Ultimately," says Thomas Foote, conservation coordinator of the Species Survival Plan of the AAZPA, "zoos have no choice but to become producers of animals, rather than consumers."

The Cooperation of landowners and zoos to propagate rare animals is one of the most innovative efforts every undertaken by animal lovers. But even optimistic scientists worry about the prospects of long-range success.

It may take years for a breeding program to produce viable offspring, and the early failures can be devastating. One example: three of five black rhinos imported from Africa to ranches in Texas last year have died.

In addition, says Christen Wemmer, Director of the National Zoo's Front Royal facility, "most private animal breeders want to break even on their operation, if not make a profit. But raising animals on open ranges is labor intensive and not very efficient. It's hard to make it profitable."

Tom Manzell is one Texan who is convinced that it can be done. In the past year, more than 20,000 tourists have paid nominal fees to drive through his open range and photograph sable antelopes, wildebeests, European red stag, giraffes, Saharan addaxes and Grevy's zebras. His ranch also has generated animal sales of \$600,000 in the past six years.

In the fight to preserve as many species as possible, controlled breeding is a program that is working.

Reprinted from U.S. News and World Report

Lynx News

The lynx of the Pyrenees in France and Spain which appear to survive in a relict micro-population, are probably descendants of the Pleistocene cave lynx and deserve special protection from interbreeding with introduced lynx, according to Professor Dr. Helmut Hemmer.

Commenting in a letter on a draft data sheet on Eurasian lynx, Dr. Hemmer disagreed with the draft's basis that the geographic populations of lynx in Eurasia could be divided into only one or two subspecies. He said that the species showed a clear differentiation that might help understanding of the evolutionary process in other large mammals during the Pleistocene. He said that the extinct Alpine lynx (not the introduced species) had clearly evolved from the cave lynx of the Pleistocene and that the Pyrenean lynx was also a member of this clade, somewhere between F. lynx and F. pardina.

The estate of Caba/eros in the Toledo mountains of central Spain home of the Spanish lynx, Felis lynx pardina, wildcat, F. sylvestris and many birds of prey which are now very rare in western Europe, has been chosen by the Spanish Government as an air-force training area which could entail bombing.

The area is described as the biggest wild Mediterranean forest left in the world, containing 13% of the surviving European breeding population of the black vulture. It is also one of the last strongholds of the lynx whose populations have been gravely depleted and fragmented.



Dur-A-Gard Physical Properties

HARDNESS (Shore D).....	ASTM D-1706	70-80
WATER ABSORPTION.....	ASTM D-543	0.37% after 7 days Immersion
LINEAR SHRINKAGE.....	ERF 12-64	.002" per inch
TENSILE STRENGTH.....	ASTM D-638	3,000 psi minimum
FLEXURAL STRENGTH.....	ASTM D-790	4,000 psi minimum
COMPRESSIVE STRENGTH.....	ASTM D-695	16,000 psi
IZOD IMPACT (ft. lb./in. notch).....	ASTM D-256	0.50
BOND STRENGTH TO CONCRETE.....	ACI-403	Concrete fails before loss of adhesion
ULTIMATE ELONGATION.....	ASTM D-638	20%
HEAT DEFLECTION TEMPERATURE.....	ASTM D-790	No slip or flow at 242°F.
FUNGUS & BACTERIA RESISTANCE.....	MIL-F-52505	Will not support growth of fungus & bacteria
SALT SPRAY RESISTANCE, 25% solution @ 90°F.....		
.....	MIL-F-52505	No effect after 100 hrs.
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ABRASION RESISTANCE, CS-17 Wheels(2)		
.....		.035 Gm Loss
Wgt. Loss, 1000 gr. load, 1000 cycles.....		No chalking or loss of adhesion
U.V. RESISTANCE.....	MIL-F-52505	Non-toxic
TOXICITY.....		23 min. or 45 min.
POT LIFE.....		

Dur-A-Gard may be applied with roller or brush, but it's no paint! Dur-A-Gard's epoxy finish is lustrous and long lasting. In fact one coat of Dur-A-Gard will last longer than ten coats of latex paint! Dur-A-Gard not only wears well, it resists chemicals, acids, solvents, oils, and harsh detergents... retains its waterproof, easy-to-clean, glossy finish in any one of 16

appealing colors. Dur-A-Gard adheres to wood and metal, and it's a "natural" for concrete floors.

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The surface to be covered must be bondable, dry, and clean. The temperature during application, and for several hours thereafter, must be over 50°F. One coat may be satisfactory for many areas, but two coats are recommended for more uniform color and

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DUR-A-GARD RESISTANCE TO CHEMICALS

REAGENT	EXPOSURE		
	45 Min.	24 Hrs.	7 Days
Acetone	E	NR	NR
Acetic Acid (10%)	E	E	G
Acetic Acid Glacial (100%)	E	NR	NR
Ammonium Hydroxide (28%)	E	G*	NR*
Benzene	E	E	E
Chloroform	E	G*	NR*
Calcium Chloride (30%)	E	E	E
Clorox (Full Strength)	E	G*	NR*
Coca Cola	E	E	G*
Cottage Cheese	E	E	E
Chromic Acid (10%)	E	G	NR
Citric Acid (30%)	E	G*	NR*
Ethyl Alcohol (95%)	E	G*	NR
Ethylene Glycol	E	E	NR
Ethylene Dichloride (10%)	E	G	G
Ferric Chloride (10%)	E	E	G*
Gasoline	E	E	E
Glycerine	E	E	E
Hydrogen Peroxide (6%)	E	G	NR
Hydrochloric Acid (20%)	E	E	G
Hydrofluoric Acid (10%)	E	NR	NR
Hydraulic Fluid	E	E	E
Isopropyl Alcohol	E	E	E
Lactic Acid (20%)	E	E	G*
Methyl Isobutyl Ketone	E	E	E
Methylene Chloride	E	NR	NR
Mineral Spirits	E	E	E
Motor Oil	E	E	E
Mustard	E	G*	G
Nitric Acid (10%)	E	G*	NR*
Phosphoric Acid (85%)	E	E	E
Salt Water	E	E	E
Spic and Span (30%)	E	E	E
Syrup	E	E	E
Sulfuric Acid (30%)	E	E	E
Sodium Hydroxide (30%)	E	G*	G
Silver Nitrate (10%)	E	G*	G
Tide Detergent	E	E	E
Trichloroethylene	E	G	NR
Tri-sodium-phosphate	E	E	E
Toluene	E	E	E
Urine (Synthetic-8.6% urea)	E	E	G

Legend: E - Excellent, no chemical deterioration.
 G - Good, slightly deteriorated but no chemical deterioration.
 NR - Not Recommended, sample deteriorated. Contact Dur-A-Gard to ascertain if a more chemical resistant formulation is available.
 *Resistance to attack by this chemical can be improved by using Dur-A-Gard #1 or #2 as a sealant.

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