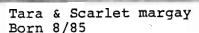
LIOC ENDANGERED SPECIES CONSERVATION FEDERATION, INC. EWSLETTER Cougar Hunt OK'd-Sabotage Planned. . Page 4 President's Perspective. Resignation-A Word in Parting. . . . Page 5 Overview-Survey Response Cats of the World - Clouded Leopard. . Page Page Page 15 Page 16 Page 17 Page 18 News from Around the Jungle. . . . Volume 31 - Number 3 Route 4, Box 377 May/June 1987 Mobile, Alabama 36619 LONG ISLAND OCELOT CLUB,







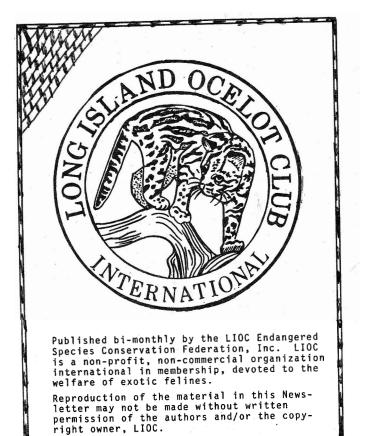
Jeffie Margay at 11 mo.





Sasha margay at 11 months

It's always nice to hear from "old" friends-but especially nice when they include pictures! Above are some of Lillian Smith's feline family. She also included pictures of 16 year old margay Rama-grandpa of those shown above and 12 year old Pasha-however these wouldn't reproduce.



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In order for material to be included in the NEXT issue, it must be received no later than the 1st day of odd-numbered months.

Contributions for the Feature should be sent to Elaine no later than the 1st of EVEN numbered months.

TO AVOID MISSING ANY NEWSLETTERS IF YOU SHOULD MOVE, SEND YOUR CHANGE OF ADDRESS AS SOON AS POSSIBLE TO:

Barbara Wilton P.O.Box 66040 Portland, Ore 97266

PLEASE SEND ALL APPLICATIONS AND MEMBERSHIP RENEWALS DIRECTLY TO BARBARA FOR FAST SERVICE.

ALL NEWSLETTER RELATED MATERIAL SHOULD BE SENT TO THE EDITOR, SHIRLEY WAGNER

Help Wanted

REPORTERS

LIOC <u>urgently</u> needs material for its newsletter publication. We can only share those experiences, funny, happy, sad or tragic, which are sent to us. This sharing is a part of the enjoyment of exotic ownership.

WRITING EXPERIENCE: None whatsoever

PREREQUISITES:

Love of exotic cats

TYPE OF MATERIAL: Articles of happy and sad experiences, technical articles, opinions of any and all exotic cat related subjects (including LIOC) all] short and long items, also day to day experiences, announcements of : adoptions, pregnancies, births, deaths, (with autopsy report if one was done) all subjects of interest; all questions - give other members a chance to help.

SALARY! The love and gratitude of all exotics, their owners and the Newsletter Editor.

STARTING TIME: IMMEDIATELY! The newsletter is waiting on YOU.

Cougar hunting OK'd

By Alan Gathright

Despite the entreaties of schoolchildrenn and an elderly woman's vow to machinegun hunters, the state Fish & Game Commission voted 3-2 to let hunters try to bag up to 190 mountain lions next fall.

The decision to end a 15-year ban on sport hunting of cougars was met with chants of "You're murderers"

and "Fish & Game will take the blame."

Opposition groups immediately threatened to take the commission to court, while radical environmentalists promised "direct intervention" against hunters in

the field.

"We offered a reasonable compromise, and they chose an unreasonable course instead," said Sharon Negri executive director of the Mountain Lion Preservation Foundation. That group, which considers the Fish & Game Department's estimate of 5,100 cougars statewide to be inflated, had offered to help pay for a \$2 million study to pinpoint the status of the big cats if the state would extend the moratorium for five years.

The vote capped six stormy hours of public testimony that swung from anger to absurdity. An overflow crowd ranging from hunters in camouflage caps to conservationists sporting lion suits packed a 200-seat

auditorium.

After receiving bomb threats in the morning, state game officers tightened security, and purses and sachels were searched as people entered. Although officials threatened repeatedly to oust rowdy protesters from the meeting, no one was ejected or arrested.'

While the commissioners repeatedly said they would base their decision on whether the hunting proposal was "biologically sound" and didn't endanger the species, the debate came down to a confrontation of philosophies.

Lion lovers agrgued that it was barbaric to tree cougars with dog packs and shoot them at close range. "There's no justification for trophy hunting" said Connie Ross, a member of the radical Earh First! environmental group from Berkley. "The only reasons it exists is for white males who have such a problem with their egos that they have to go out and hunt another predator to show how powerful they are.".

Hunters maintained that a "conservative take" was necessary to keep cougar numbers in check and protect deer and livestock herds. "I hear all these people say that they're right down there with Mother Nature... and you can't shoot lions and you can't shoot deer, said Doug KNox, a burly hunter in a red shirt and orange cap. "But if you (animal lovers) raise a garden, you put pesticide dust on it and kill the aphid!"

It went downhill from there.

The only thing both sides could support was a visit by 40 youngsters from Craigmont School in Berkely. They caused a brief truce in the adult wrangling when they filed into the hall. Some children read letters to the commission.

"If you want a fur coat you should buy a fake," advised Evan Snow ,8. "I am a cougar lover myself and I would like some day to see one. I would appreciate it if you would help that dream come true."

Soft-spoken Sarah Wildon, 8, said: "Let's say you were a baby mountain lion and you were waiting for your mom to come back to the den. And you kept waiting and waiting but she never came back because hunters killed her. How would you feel?"
Classmate Cooper Funk, 7, was more direct: How

would you feel if your heads were cut off and put on a wall for trophies?" He asked the commission.

First, Commissioner Abel Galletti, citing the value of more study, suggested a hunting season restricted to 45 cougar kills in the central and norther parts of the state. Commissioner E.M. McCracken Jr. voted with him for the proposal. Commissioners Robert Bryant and John Murdy III opposed it. Taucher broke the tie by voting it down.

Next, Murdy suggested hunting cougars in four of the five proposed zones across the state. Excluding the southern zone would whittle the proposed 210 permits to 190. The proposal won. Murdy, Bryant and Taucher voted for it, McCracken, and Galletti were against it.

The 79-day season begins the second Saturday in October. Hunters will pay \$5. to enter a lottery for the 190 licenses costing \$75. each.

Condensed from an article in the San Jose Mercury News Contributed by Jean Townes.



Plan to sabotage cougar hunt

By Alan Gathright

Wily opponents of the state-sanctioned cougar hunt have decided that if they can't beat the hunters,

they'll join them.

They plan to raise money to flood the lottery that will award 190 cougar hunting permits for the fall 1987 season with applications, taking up as many of the permits as possible. Those interested in entering - or sabotaging - the hunt must pay a \$5 fee to enter the

ottery for permits that will cost \$75 each.

"Think of it as adopting a cougar for a year giving it a 12 month extension on the privilege to
breathe," said Robert Fleck a Los Angeles film maker whose wife, Jane Allison, was one of the many who thought of "stuffing the ballot box."

State officials, while surprised by the plan, say they hope the lotter requirements, including already having a hunting permit, will limit the impact of the environmentalists' efforts. While not amused by the environmentalists' cat-and-mouse game, Fish & Game officials said there is nothing illegal in their entering the August drawing. They noted that those entering the lottery must prove they have a hunting license and, in order to obtain a hunting license,

they must take a hunter-safety course.

Dave Foreman, an Earth First! co-founder and hunter stressed that some members are not opposed to hunting for food and already have hunting permits. But Foreman called trophy hunters "infantile men who think a mountain lion head looks better on their wall

than on the critter out in the wild"

State officials have estimated that 2,500 to 25,000 hunters will enter the lottery. But environmentalists hope relatively few hunters will enter because they must either own or lease a pack of tracking hounds which are used to tree the big cats.

Condensed from the San Jose Mercury News Contributed by Jean Townes

REQUIEM FOR THE COUGAR

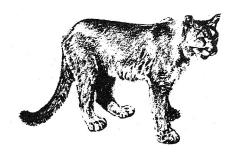
by

Jean Townes

An eerie cry once echoed here. A golden cat once stalked the deer. Reflections in the eye of time, Now, echos only in the mind.

Gone forever, this regal breed.
A tragedy of human greed.
It was "for sport" they say....
As hunters blew them all away.

Majestic creatures of the wild, No longer here to show your child. So here is California's legacy -A golden cat....that used to be!



President's Perspective

CONVENTION PRELUDE: Shaping The Future

By the time convention rolls along this August 5-9 in Atlanta, I will have traveled to every branch to meet as many of you as possible. It is unfortunate there are not more branches so that I did not get the opportunity to meet many of you living in unrepresented areas. Hopefully you have or will take the time to return the questionnaire in the January/February issue with your thoughts.

Why did I visit the Branches? Two big reasons: First, branches are only local grass roots organizations that can serve our members one on one. The branches need to be strengthened to provide services that the national organization cannot because our limited volunteer executive board is spread throughout the country. Branches know each member and their animals and local problems which require local solutions. It's easier for branches to meet more frequently decide on objectives, get things done and be the influential and motivating force in the area. In turn this will lead to more members and develop a greater incentive for us to breed our captive animals. Since the branch network of owners have many needs and I visited to help inspire solutions from within the group on a local level.

As an outsider, let me make a few suggestions to all the branches. Instead of meeting for purely social reasons plan your meetings with an advance agenda. Think about each topic and speak your mind, insist that after you have traveled a great distance that something concrete is accomplished. Be part of the solution, do not just rely on your officers to do all the work; and those of you as officers should be a little more demanding of your members to relieve some of your responsibilities and get them more involved.

At the New England Branch we discussed several new positions that may have merit i.e. a Membership Director would actively solicit, interview and qualify new perspective members before they are allowed to join. Not every interested party should be embraced immediately, as exotic animals attract a lot of equally exotic owners, so be discriminating. A Legal Affairs Director who not only knows all the local laws but the actual people who make and enforce the regulations. He should be able to help a perspective owner prepare his permit application and review the situation and members facility before an application is filed impetuously causing insurmountable problems. An Activities Director could plan functions and speakers to help inform our members or create fund raising and manage publicity programs.

Every branch should develop a network of wildlife veterinarian who will work co-operatively and attend branch meetings to insure that our members develop a sound instinct for the care of their animals. It may also be advisable to cultivate affiliations with other types of exotic animal organizations for mutual support with an occasional joint meeting because many exotic interests are common to all.

A lot of work, you say, sure it is, and its going to take a lot <u>more work</u> before you see the real benefits. Do not expect your branch to do more than your willing to do. We only have 5 branches now maybe some day there will be 50 or more and we will not have to travel so far and things will be easier. But remember things do not get easier on their own that's where you came in to play.

The second reason for my visits was entirely selfish. I wanted to hear how you were going to help me develop a stronger national organization. Some day there may be a staffed national office at model facility where a member may come and see all kinds of cats, develop "hands on" experience and be a central information source. But for now your executive board is a steering committee that meets bi-monthly by phone in which we discuss only matters that affect all the branches and individual members in common. We try to plan events and influence other and major organizations on a wider level and serve to stabilize and direct the regions. Provide legal aid and promote conservations of wilderness for our wild born affiliates.

Sound ambitious? It is, but there are only 11 of us on the Board so that is where we came back to you and the branches.

Our Newsletter is improving as you can see but its not enough. We need more contributors. Every day there are articles published on felines in zoos, in captivity here and other counties, in the wild, etc. Get off your duff and clip and send them in to the Editor with your comments. We cannot be over informed and that is the purpose of our Newsletter. With your help our next years Newsletters can easily average 28 to 32 pages. Only by making others aware of the plight our wildlife and the advantages of preserving our captive species can we attempt to influence the powers that be to develop sensible ecological and animal polices. We have a precious resource to protect and it is dwindling. We have to become the mouse that roared before its too late.

This all brings me back to the August convention and what you can do. Plan to attend and participate. If you are unable to attend, contact your branch rep or any executive board member and explain your concerns. By a coincidential quirk, Bobbie Staley and I are your hosts this year and we guarantee you a great time.

LIOC is <u>your</u> organization and I believe it has great untapped potential. Building an effective people organization to serve our animals is not easy. So submit as many of your ideas early in written form to

the board for preliminary discussion. Also for those of you that and attend the early days of Wednesday and Thursday the 5 & 6 be prepared for some workshops and brainstorming sessions. The more we have developed our plans beforehand, the more productive the general meetings will be, which sets the tenor for the coming

Convention is the only ideal time for all the branches, independents and the executive board to meet and familiarize themselves with other trends outside their area and see what others have done to solve similar problems. To all of you who have strong opinions on how to reshape LIOC, now is the time to act. If you can put your ideas into a workable format develop a complete program and work with tolerance of others, this is the convention year for you.

Here are some other suggestions I have received:

- 1) To upgrade and modernize the front cover of the Newsletter with the possibility of the use of some
- 2) A librarian the subscribes to different wildlife and conservation periodicals for use in the Newsletter.
- 3) Expand "Readers Write" to a question and answer column where members can pose a question for a response.
- 4) For fund raising; an assortment of LIOC paraphernalia; hats, jackets, T-Shirts, branch logo patches, stationary, etc.
- 5) A graduated membership, from subscriber @ \$15.00, to various levels that involve a formula of numbers of years in LIOC, on hand permits, facility, recommendations from others, etc.
- 6) A written code of ethics for members as to where LIOC stands on permits, exhibitions, sale and transfer of animals, etc.
- 7) Educational materials; printed pamphlets and video tapes on care and handling, facitilies, habitat, permits, etc.
- 8) A better form of breeders list that reflects a members actual experience with each species.
- 9) Computerization of general membership by region, branch, cat, category, etc.

There are only some of the ideas that may be decided in Atlanta. Whether they are adaptable to LIOC, only those that attend convention will be the judge. So see y'all there!

Fred Boyajian





Reader's Write-continued from page 19 has agreed to look at plans for our new home which will include provisions for our first exotic. We are hoping to get an ocelot kitten but would love to hear from anyone who has suggestions or advise on the matter. As our property is 112 acres, we obviously will have room to expand should we find ourselves ready to take on more than one cat at some point.

We will be bringing our two Rexes, our Chow-Chow (who contrary to the breed's reprutation, is the most loving and patient "surrogate mother" for our cats) with us to Oregon when we move and, the only thing I can think of to say is that I would like very much to get involved with LIOC.

So, if anyone has the time or inclincation to write us, we would be most appreciative of your knowledge,

experiences and advice.

Katie & Mal Asling Flat 1 17 Powis Square London Wll 2AZ England

A Word in Parting

Tradition is a $\underline{\text{fallacy}}$ in any argument; just because George Washington or our grandfathers did not watch TV is no reason why we should not watch TV. However, I am not arguing and TRADITION is extremely important, because by knowing about our history we can better prepare for our future. By learning from the mistakes of our past, we can avoid the same mistakes in the days to come. Making a mistake is no shame, but not learning from one is downright stupid!

LIOC is an organization that has grown out of LOVE and a desire to SHARE INFORMATION relating to the exotic feline - sharing lessons learned and various precautions taken. LIOC was founded by a super little lady and her intense love of her exotic in her willingness to share with other owners information she had acquired. It follows only naturally that in any such arrangement, a kindred bond is formed that is unlike any other friendship formed.

Apart from all of the information I have gained by being associated with LIOC, I cherish the warm friendships I have collected. I have been priveleged to hold memberships in a number of organizations from social fraternities, horticultural societies, equine organizations, and a number of honorary groups who have honored me in various ways. However, I can say without hesitation, I most dearly cherish the honors, priveleges and the warm and lasting friendships I have found in LIOC.

Together we have weathered many changes and difficulties. I predict we will continue to do so. We are different from many of the organizations associated with animals in general, but exotic felines in particular. We need the help of some of the other organizations, but be assured they also need us. NEVER, NEVER, NEVER be ashamed to be referred to as a "PET OWNER". Never be ashamed to call this organization a "Club". We are what we are, and that is what we are. We have our differences, that is only natural. But there is love amongst us: love for our cats, love for each other.

The time has come for me to step down as a Life Director of LIOC and allow someone perhaps younger and wiser to take my place of honor. God grant that he or she will keep one eye on the past; to avoid repeated mistakes, and one eye on the future, to do what is best for the cats, and what is best for the "club". Doing this, I am sure they will serve you well.

A spirit of cooperation will gain all of us a bigger and better organization. I wish all the Board of Directors the very best of everything in the future.

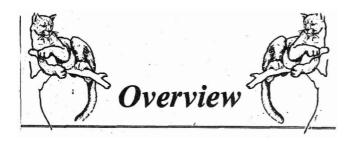
Dr. Roger Harmon



Legislation

IN MARYLAND - a hearing was held March 18th on H.1069, which would make it illegal to own any domestic or wild animal "with the propensity to be dangerous" The bill was deferred for study and wording-but it could cause problems in the future and we'll advise accordingly.

- 5 -



Only 51 completed questionaires have been received as of this writing; this represents roughly 15% of the membership. Those responding were equally distributed

between non-owners, owners and breeders.

In the chart below you will see illustrated the first, second and third choices of what members would

like to see most in the Newsletter

 #1	#2	#3
7	3	9
16	11	4
0	2	1
4	2	10
5	6	10
- 6	10	8
1	5	6
	0 4 5	0 2 4 2 5 6 6 10

It appears that most of you want to see more articles about members and their cats.....but lately we have received fewer and fewer of this type article. Perhaps each Branch should submit an article on one of their members every so often as a Branch project, complete with photos of course!

The vast majority of you offered to volunteer for special projects and most said they would purchase other LIOC publications if they were made available. The small number who indicated no interest in purchasing these seemed to be the larger-scale breeders, some of who said they would recommend such publications to prospective owners however.

Although many indicated in their comments that we should become more conservation oriented, by a small margin (57% to 43%) you were against giving financial support to other organizations. Perhaps the question was badly phrased? We'd like to hear if you would approve of LIOC donating funds to conservation programs for cats in the wild?

The majority (56%) were not in favor of a dues increase.

Among the comments, many indicated a wish for more help in obtaining permits and of course kittens. To help remedy the difficulty and confusion of permit application, Fred is now at work on an article which may evolve more into a booklet on this subject. Although this was an important topic to the newer members, very few of those responding indicated they had permits.

Several of you wanted a question/answer column. This has been hampered in the past by the membership failing to respond to previously posed questions. It is difficult to answer some questions asked or to find some-one who professes to be "qualified" to these.

Most felt that it was OK to mention new products if "recommended" by a member, but many suggested that this be followed up with contacting the manufacturer

for advertising.
Almost all indicated a thirst for "more information"....certainly a tall order. It is now up to the Board to come up with ways to fulfill it.

Some comments noted on these questionnaires are As a vet student, my primary interest in LIOC is obtainging knowledge rather than reading entertaining articles, but know that this isn't the "Cisin" way of doing things. Even though I'm a new member, I've read Especially Ocelots and feel the main reason for the ability of LIOC to endure is due to the continuation of her outlook toward captive felines. Please follow your feelings as indicated in your recent Editorial and maintain C.Cisin's ideals.

- I like the format of "Bird Talk" magazine minus

the advertising-unfortunately, they have a paid staff.

- I'd like to see a higher profile of our club and possible fund raisers for contributions in the club's

name to worthy conservation programs.

- A LIOC library-someone who has copies of all the back issues who could supply a list of articles by topic, a beginner could request (and pay for) this and the Newsletter could focus on news or shared experiences.

I would lov e to see some suggested reading material; books, articles, especially about the person-alities of the different species.

- Think carefully before changing your format..there are many out there who need your help-just as you are: There is no other qualified organization (in my oppinion) to help novice exotic owners-private pet owners are more likely to have the smaller exotics and may be the only to small cat preservation.

- More pictures-larger print When LIOC loses its "down home" appeal it will lose its membership.
- Perhaps we could produce feline Christmas cards as a fund-raiser? The main idea is to grow and raise money so we can be stronger and more lucrative.
- I'd like to see a larger, more professional looking Newsletter, paid for through advertising as I feel this is the major link to communicating with our members. - Have we outlawed the word "pet"?

- LIOC needs to achieve more visability as a conservation sensitive organization.
- A list of books and TV documentaries that are available.
- To prevent these endangered species from becoming extinct they must be integrated into the private sector where they can multiply and become more commonplace. It should be our primary goal to ease legislation that would allow individuals to obatina, possess and breed these animals without tremendous difficulty.

As you can see, there are many good ideas out there. Now, what we need from each of you, are suggestions on how to accomplish some of these lofty ideas. Put on your thinking caps and come to convention prepared to be part of the solution!

PLEASE NOTE:

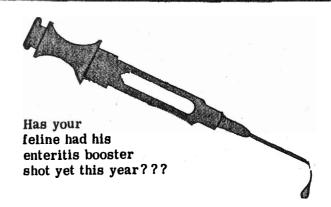
The next topics for the feature item will be:

July/August - Bobcat

September/October - Cougar If you would like to contribute information or photos, please send to:

Elaine Burke P.O.Box 2126 Norwich, Conn 06030

DEADLINE FOR CONTRIBUTIONS IS THE 1st OF EVEN NUMBERED MONTHS



LATIS OF THE WORLI

THE CLOUDED LEOPARD

Edited by Elaine M. Burke Photos by Hexagon Farms

Future Promise

It is all too easy to think of the tropical forests as vast impregnable and immutable features of our globe. The facts are clear and very different. They, the forests, are only too vulnerable to modern technology and world demand for timber and agricultural land. The natural and renewable resources of the world have always been exploited, as many man-made deserts bear testimony, but this is the first time in the world's history that all the remaining forests are in serious danger of over-exploitation at the same time. This is sufficient worrying for future generations which will be denied these natural resources, but it is altogether catastrophic for the -literally-millions of species of animals and plants which are wholly dependent on the forests for their existence.

Tropical rainforests blanket about 6% of the planet and support nearly 50% of the world's known species, 75% of all felines are indigenous to rainforests. A hectare (2.5 acres) of this lush arboreal growth may include more than 100 species of tree, each with its own interdependent colonies of plants and animals. Each minute of every day over 100 acres are destroyed (27,000,000 acres per year) and accelerating). Almost 50% of the world's rainforest has been destroyed in the last 30 years. These ecosystems are so fragile that a falling tree that inadvertently knocks a branch off a companion tree may cause the death of the injured tree. Once the trees are gone, torrential rains erode the soil, and soon the land becomes like a lunar landscape unable to support life or allow the passage of a plow through its rock hard surface.

Plantless ground can neither absorb the inches of rainfall (and help prevent soil erosion), nor can the dry, hard surface give back to the atmosphere the moisture and oxygen needed to provide the earth with air to breath and water to live. It is possible that the small climatic changes that have been occurring over the last few years are only the beginning of world wide changes that could convert present day farm belts into deserts.

Vast tracts of Central American forests-more than 8,000 square miles a year-are being cleared for cattle grazing to prophet from U.S. demand for low cost ground beef (Fast Food, etc.) and pet food. Yet new ranches and settlements soon ruin soil fertility with "slash and burn" methods of cultivation-virtually all the ranches established prior to 1978 have already been abandoned. Elsewhere in the third world, the simple need for firewood, along with logging by International companies, is denuding forests. Nigeria has lost more

Scientific Name: Neofelis nebulosa 1821

Size: Length: 4.3-6.5 ft.

30-70 lbs. Males are generally larger and have been reported Weight:

up to 701bs.

Adults: Large squarish Coat Pattern:

blotches outlined in black. shading from dark at one margin to light at the other against a gray, earthy brown or yellowish brown background.

Special Features:

Long narrow, very primitively shaped skull; long upper and lower canines; great agility in climbing; arboreal; long tail, nearly half the cat's total length.

Nepal east through Southeast Distribution:

Asia. Some Pleistocene fossils

found within current

distribution as well as Java. Nepal to southeastern China

than 90% of its forest cover. Forests along Brazil's Atlantic coast have been cut to less than 2 percent of their former cover. Man is cutting back on the number of choices available to improve the quality of life in the future (P. Ravan).

To destroy a rainforest is to lose 80% of the world's vegetation and up to 4 million varieties of life forms. Currently, at least, one species of bird or animal becomes extinct per day. By 1990, that will rise to one becomes extinct per day. By 1990, that will rise to one an hour. Within 15 years, we may have destroyed one quarter of all the world's wildlife (Friends of the Earth). A rainforest is a vast storehouse of organisms that can be used for human benefit. For instance, rainforest plants and animals are the source of at least one fourth of ingredients for prescription drugs on the market today. Researchers estimate that some 1,400 plants in tropical forests have potential anti-cancer properties. It was only in 1970 that botanists "discovered" the winged bean-used by natives of Papua New Guinea for centuries. Now, this plant, super rich in protein, is cultivated in 50 countries throughout the tropics. Today, American scientists are working to adapt for cultivation a strain of corn, recently discovered in the rainforests of Mexico's Guadalajara mountains, that is resistant to seven viruses. The corn was growing on a plot of land in the path of development. A tropical rainforest is nothing less than the planet's biological warehouse.

The diversity is staggering. Though the popular image is of a jungle scene from Tarzan movies, in fact the forest floors are surprisingly clear. Just a few yards through the outer brush, the forests open like cathedrals of vegetation supported by columns of trees 200 feet high. Most of the plant life is near the treetops, where foliage is so dense that, at noon, only dusklike light filters through. Draped from branches are liana vines as thick as a football player's thigh. are liana vines as thick as a football player's thigh. And violets grow to treelike dimensions. Jaguars, margays, ocelots, leopard cats, clouded leopards, tigers, the names go on and on, live, hunt, bear young and die in the emerald forests of the world. These images will only go on as long as we will let them. All of us can do something. Whether it is the exchange of information or becoming informed and active in expressing our desire to retain our planets resources. All you have to do --is--

something.

Elaine M. Burke/Future Promise P.O. Box 2126, Norwich, CT. 06360

> and Malay Peninsula, and on Taiwan, Hainan, Sumatra, and Borneo and India. **This specie may have disappeared from Hainan and in taiwan is restricted to the wildest and most inaccessible parts of the central mountain range.

Habitat: Areas of dense vegetation: thick evergreen forests in Himalayas; rainforests;

especially near riverbanks in

Indochina.

Prey: Deer, wild pigs, rabbits,

young buffalo, birds, monkeys, cattle, goats, and porcupines.

Offspring: Gestation period 86-92 days. One to five cubs per litter,

usually 2 or 3.

Longevity: Little is known in the wild,

In captivity 10 to 17 years.

Coat Color and Pattern:
The markings of the clouded leopard give this animal a beauty outstanding in a family already distinguished by beauty. The ground color is gray, earthy brown, or yellowish brown on its back, shading to white or pale tawny on its underside. The face has stripes on the cheeks and there are spots on the head. The flanks carry the clouded pattern of large, rather squarish blotches separated by the paler ground color. Each blotch is more or less outlined in black and shades from very dark at one edge to lighter at the opposite margin. The legs are spotted and the long tail marked with broken rings. R. Swinhoe once pointed out that the Chinese name for the clouded leopard out that the Chinese name for the clouded leopard was Mint Leopard, a reference to the similarity of the shape of its markings to mint leaves. In contrast was the Golden Cash Leopard (Panthera pardus), which was marked with round spots with holes in the center, like the Chinese coins of that time. Melanistic specimens have been reported (Walker 1984) (Walker, 1984).

Size: The size of the clouded leopard varies greatly between male and female, with the male being up to twice the size of the female.

Total length (Male) 5 to 6.5 ft.

(fm) 4 to 5 ft.

with the tail accounting for almost half the total body length.

Weight

(male) 40 to 70 lbs. (fm) 30 to 45 lbs.

The tail is long, the legs are stout, the paws are broad, and the pads are hard. The skull is long low, and narrow (Guggisberg, 1975). The upper canine teeth are relatively longer than those of any other living cat, having a length about three times greater than the basal width at the socket. The first upper premolar is greatly reduced or absent, leaving a wide gap between the canine and the cheek teeth. Unlike that of *Panthers*, the hyoid of *Neofelis* is ossified (Guggisberg, 1975) The clouded leopard is reported NOT to purr (P. Andrews pers. comm. 1987).

Generic Assignment: The clouded leopard is given separate generic status because of its numerous specializations and the lack of known evidence for relationships to any other group of cats. Although a large animal, N. nebulosa does not have the specialized hyoid structure of a roaring cat and therefore does not belong within the genus Panthera, contrary to Simpson's widely used classification of mammals. The clouded leopard also lacks the expanded braincase and relatively short and wide skull of the members of the genera Felis and Acinonyx; the clouded leopard has a remarkably long skull for a cat, with well developed crests for the attachment of the jaw muscles. This last feature may be functionally related to the most striking characteristic of this cat-very long canines compared to those of other living cats. The clouded leopard's canines are not blade-like, in contrast to the sabor toothed canines to which classification of mammals. The clouded leopard contrast to the sabor toothed canines to which they have been compared; also, unlike sabortoothed cats, the lower canines in the clouded leopard are not reduced but instead are quite large.

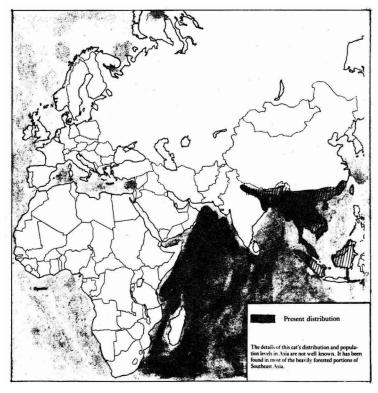
Predation: The clouded leopard's elongated canines appear to be used for killing larger prey, such as deer, and wild pigs. In Borneo prey such as monkey may constitute its main food. Mammals as large as orangutans and pig-tailed macaques are taken in the trees. Swinhoe says that it lies in ambush for deer; Walker states that the clouded leopard springs on prey from overhanging branches. Earlier sources have asserted that these cats feed primarily on birds, no doubt because the clouded leopard was thought to be exclusively arboreal. The latter is now considered inaccurate, although clouded leopards do occasionally take birds, among a variety of prey, as do most cats. The clouded leopard is known to prey upon native cattle and poultry, probably due to loss of habitat and the encroachment of human settlement.

Habitat: N. nebulosa is considered a rare animal
over all its range. This may be due in part to its nocturnal habits and its preference for areas of dense vegetation. In the Himalayas, it lives in thick evergreen forests, and in Indochina, in rainforests, particularly near riverbanks. Guggisberg cites some studies suggesting that the clouded leopard is perhaps more terrestrial than has been assumed.

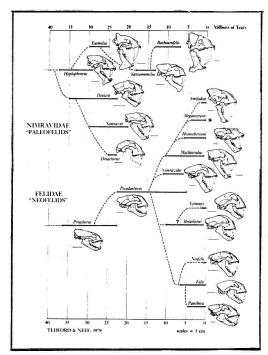
The clouded leopard's specialization for arboreal living is evidenced by Hemmer's observations of this cat's ability to climb and jump. The clouded leopard can climb slowly down a vertical truck headfirst, rather than climbing down like a domestic cat (hindquarters first and then turning domestic cat (hindquarters first and then turning to jump to the ground). In addition to walking gracefully along the tops of branches, using its long tail to help keep its balance, the clouded leopard can also traverse horizontal branches while hanging beneath them like a sloth. N. nebulosa is even able to hang onto a branch with its hind feet alone, letting the forequarters hang free. The clouded leopard is apparently much more adept in the trees than even the margay, the small spotted cat that inhabits the forests of Central and South America and exhibits several specializations for arboreal living.

Hemmer's observations of clouded leopard's leaping ability also strengthen the suggestion that this cat may ambush prey, springing on pigs or other animals from overhanging branches. Sometimes the clouded leopards leap from a branch from which they were already hanging by just the hind paws. In this case they landed almost directly below the branch they left. At other times they landed themselves from a branch so that they moved some distance horizontally with legs outstretched. Often cubs would leap on their mothers in play that the cat later uses as an adult catching prey.

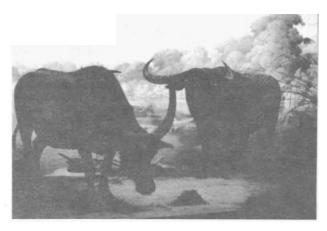
According to Lord Medway, vocalizations of this specie include a "low moaning roar," a chuckle indicating excitement or pleasure, a growl of annoyance, and a variety of cat-like mews. The clouded has also been observed to make soft chuffing sounds and has been found not to purr (P. Andrews, pers. comm, 1987).



DISTRIBUTION OF THE CLOUDED LEOPARD



The phylogeny of the true cat (neofelids), or felidae, is contrasted with the phylogeny of the saber-toothed cats" (paleofelids), or Nimravidae, against a timescale measured in millions of years. The scale for each skull is indicated by the bar near it and represents 5 cm. (these phylogenies are expanded and modified from those first represented by R.H. Tedford). *Megantereon is not figured.





Asian Water Buffalo: upper photo Banteng/Asian Cattle: lower photo

The young, injured, sick, or old make for possible prey for one or more clouded leopard.

Subspecies: The relative length of the tail is variable, as are the markings on the coat. Swinhoe describes a new species (later reduced to a subspecies) from Formosa, Neofelis nebulosa brachyurus, on the basis of the shorter tail in the Formosan specimens. Pocock, however, argues that this is not a consistent distinction and therefore a separate subspecies should not be recognized: other specimens from Formosa approach the mainland clouded leopards in having a tail nearly as long as the head and body.

Three subspecies are generally recognized at present, with the status of brachyurus in doubt: N. nebulosa nebulosa,

N. nebulosa macrosceloides.

N. nebulosa diardi.

The first, the nominate subspecies, is found in southern china and Indochina and is characterized by the rich coloration of its coat-it is lighter, brighter, and more yellow than the other two varieties, and with more transversely elongated blotches. The second macrosceloides, occurs in the Himalayas, from Nepal to Burma, and can be distinguished from the other two subspecies by its darker, grayer hue and larger blotches. The third diardi, inhabits the Malay Peninsula and the islands Sumatra and Borneo. Its coloration is also darker and less yellow, but it is marked by smaller blotches, sometimes almost round or rosette-like.

Offspring: The clouded leopards offspring is said to be born in the hollow of a tree, but very little is known about its breeding habits in the wild. Most information is from captive specimens where it has been bred successfully in zoos and with private breeders.

The gestation period has been established at 86 to 92 days and the litter size is from 1 to 5 averaging usually 2 or 3. Births in Texas and Europe have occurred from March to August. The young weigh about 140 to 170 grams each at birth. Open their eyes after 12 days, take some solid food at 10½ weeks, and nurse for 5 months. In the wild, clouded leopard pairs may stay together for an extended period of time; Guggisberg mentions fairly frequent accounts of pairs being seen. In one such account, it was described how, when some natives on Sarawak shot the female of such a pair from a boat and them landed to pick her up, they were immediately attacked by the male.

A problem commonly associated with captive breeding is aggression by the male during mating concluding with the killing of the female, either from a canine through the skull or a crushed thorax. The high degree of aggression may be over come by the introduction of immature cats to each other (before sexual maturity) with uninterrupted cohabitation. Sexual maturity is reached at two years for the male and somewhat younger for the female (P. Andrews, 1987). They have been known to breed throughout the year and are capable of producing three litters per year, if the cubs are pulled at a few weeks.

Clouded leopard kittens are born showing a distinct pattern outline, but the spots are completely dark, changing at several months of age

(P. Andrews, 1987).



CLOUDED LEOPARDS

by: Penny Andrews
Hexagon Farms.

Elusive in their natural habitat and normally shy in captivity, much is still to be learned about the clouded leopard (Neofelis nebulosa). Being primarily nocturnal and arboreal, what few field studies that have been done have proven relatively inconclusive concerning behavior. In the wild these cats inhabit principally rainforest habitat, but have been known to inhabit a variety of other ranges and are endangered (primarily) because of habitat destruction, poaching, and, in captivity at least, breeding problems.

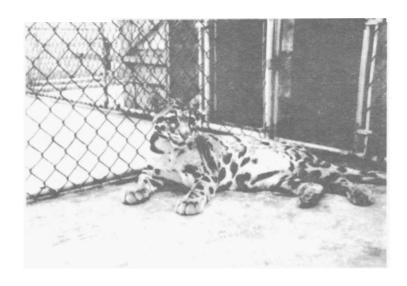
In captivity, research and observation have shown that if successful breeding is to occur, pairs of animals must be introduced as <u>cubs</u> and allowed to bond <u>prior</u> to sexual maturity. Introducing solitary adults has proven disastrous in the majority of cases, with both sexes showing high degrees of aggression. Often the female will be killed by a canine through the skull or fatal crushing of the thorax. This occurs even in adult pairs that have been housed side by side (but not actually together) for years. Such are the security needs of the clouded leopard that even having been raised together and achieved compatibility, it has been found best to allow constant visual and olfactory contact during enforced separations (i.e. parturition, cub rearing, illness). Through blood chemistry tests it has been shown that the clouded leopard has by far the highest stress level of any captive exotic felid. This combined with their secret nature often makes successful cub rearing difficult, as stress often leads to such problems as cannibalization of cubs, no milk let down, etc.

The 1986 Clouded Leopard Studbook update show 47.38.1 leopards alive and accounted for with 90 clouded leopards being born between 1980-1986 and 40 of these surviving beyond 60 days, reflecting a survival rate of 44%. Data shows that the North American population of neofelis nebulosa appears to have 15 male founders and 18 female founders, with 12 of each still living. Average lifespan in captivity appears to be between 10 and 12 years, although there have been individuals (males) that have nearly doubled that longevity.

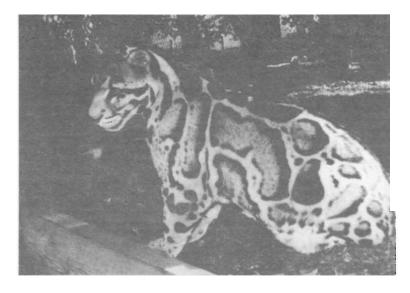
The most notable characteristics of the clouded leopard are its spectacular markings, long well furred tail, short limbs and canines, which, in relative size to the skull, are the longest of the felids. Because of the length of these teeth the jaw opens wider to accommodate them and these leopards have often been compared to the saber tooth tiger because of this.

Weights vary from 30 - 70 pounds, with the male often being twice the size of the female. Our female is 40 pounds and the male nearly 60. Sexual maturity is reached at two years for the male and somewhat younger for the female. They breed throughout the year and are capable of producing three litters yearly, if cubs are pulled at a few weeks. Gestation is 86-92 days with average litter size two to three (our female has had three kittens in each of three litters). At birth the kittens show a distinct pattern outline, but the spots are completely dark, beginning at several months of age.

Hand-raised kittens will be gregarious with a variety of people but will tend to strongly imprint on one as they reach sexual maturity. In zoo situations it has proven necessary to have <u>one</u> specific keeper (particularly during parturition). In a captive situation many of these cats have shown a tendency to pull fur. Experts differ as to the causes, though it is most often attributed to boredom in captivity, lack of fur and feathers in the diet and stress. I personally feel that it is a behavioral problem, that once begun, becomes habitual.







Upper photo courtesy of David Baskin. Center and lower photo courtesy of Bill and Penny Andrews of Hexagon Farms. Both photos are of their male clouded leopard, "Taj." At time of photo he was 2 1/2 years old.



This beautiful male clouded leopard is owned by Penny & Bill Andrews of Hexagon Farms. "Taj" is 2½ years old. Male clouded leopards are usually twice the size of females. And can range in size from 45-70 pounds. Females average between 30-45 pounds and have a gestation period of 86-92 day with an average litter size of 2-3 cubs. In the wild, cubs are thought to be born in the hollow of a tree.Clouded leopards spend a great deal of their lives in the tree, where they hunt monkeys for food. On the ground deer, pigs and young buffalo and cattle fall prey to these cats. In agility these cats are unsurpassed. They have been known to hang un-side down from tree limbs and to walk head first down the trunk of a tree.

In agility the clouded leopard surpasses his felid relatives (only the margay approaches its climbing ability).

[Editor's Note - the leopard cat is also noted for its extremely acrobatic abilities in the trees-where it flings itself with great abandon and will hang from one or two paws, on occasion upside down!

We have watched ours hang upside down and walk across the top of their cage, then hang by one forepaw or hindpaw and casually drop to the ground. From the time they're young kittens their agility and coordination are astounding. Whereas a cougar of the same age will repeatedly eyeball something in the near-distance leap for it and fall short of his mark, the clouded always lands right on target. When jumping they normally leap in an arc, rather than a straight horizontal jump. Ours are extremely active between, 2-6 a.m., with secondary activity periods in late afternoon and early evening. They enjoy sunshine, but dislike extreme weather conditions and will usually

The preceding information was based on the following:

The Big Cats; the paintings of Guy Coheleach, 1982.

Walker's Mammals of the World vol.II, 4th Edition Ronald M. Nowak, John L. Paradiso ,1984

Extinction; the causes and consequences of the disappearance of species, Paul and Anne Ehrlich 1985

The Primary Source; Tropical Forests and our future, Norman Myers 1985

The Clouded Leopard, Penny Andrews 1987

retreat to their den box during high winds. By nature they are usually very unpredictable in behavior and one never knows just what might startle them, as it's often the least rather than most, likely thing. Our pair is extremely compatible and dependent upon on another. They are usually curled up together, grooming each other, vocalizing or playing together. They seem to know their relative positions and exhibit almost no overt aggression, even during feeding time.

In reference material the clouded leopard has always been referred to as the bridge between the large and small cats, possessing characteristics of both. However, much misinformation is also given, which becomes readily apparent in close observation of the species. The first and the most often used statement is that when resting the clouded leopard extends its tail like the large cat (whereas small cats wrap it around the body). Not so. They almost always wrap their tails around their bodies, often covering their nose. The second most common inaccuracy states that because they have an ossified hyoid bone, the clouded leopard purrs. They do NOT purr, but make a wonderful soft cuffing sound, as well as numerous other vocalizations.

Much work is being done on captive behavior and reproduction, in which all of us working with this uniquely beautiful animal are involved. It's only by working together and sharing data that we can, hopefully, come to understand and better preserve and protect this endangered specie.

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CLOUDED LEOPARDS IN SUMATRA

By Dr. Charles Santiapillai From IUCN Cat Special Group Newsletter CAT NEWS 2/87

The clouded leopard (Neofelis nebulosa diardi) is a magnificent but little studied big cat in Sumatra. Very little is known about the animal on account of its largely nocturnal and arboreal habits. Pieters (1983) emphasized that it is much more arboreal than many other felids. Studying the animal by conventional methods is difficult, and much of the information currently available still comes from the incidental observations of early naturalists, professional hunters and game guards. The problem of studying such an elusive carnivore is increased by the fact that it becomes extremely cautious and exclusively nocturnal in areas close to human habitations.

In recent decades, the primary forest in Sumatra has been shrinking rapidly in extent. The conversion of forests to agriculture is a particularly serious cause of conservation problems. Between 65 and 80% of the forests in the lowlands has already disappeared, according to Whitten et al. (1984), and in the mountains the scanty data available suggests that perhaps about 15% has disappeared. Unless conservation measures are adapted soon, the clouded leopard will become even more at risk from the consequences of unplanned, indiscriminate land-use policies. The animal is listed an endangered in the IUCN Red Data Book and it has been legally protected against being killed in Indonesia since 1973. This measure alone will not serve the clouded leopard if its habitat is lost. The tiger in Java similarly was exterminated following loss of habitat, although likewise given legal protection.

DISTRIBUTION AND HABITAT

The clouded leopard until recent times was widely distributed in Southeast Asia from Nepal and Sikkim east to southern China and Formosa, and south through burma, Thailand and Indochina, Malaya, Borneo, and Sumatra.

Three subspecies are known, of which Neofelis nebulosa diardi is found in Sumatra. Before the turn of the century, when much of Sumatra was principally covered with primary rainforest, the clouded leopard must have maintained substantial, continuous populations throughout the island. The loss of habitat first became serious at the turn of the century when large tracts of forest first started to be cleared to make way for agriculture and human settlements. Today the clouded leopard, although still found in all eight provinces of Sumatra, occurs only in a few discontinuous areas.

While the animal inhabits principally primary rainforest habitat it is not, contrary to popular belief, confined to them exclusively. In Sumatra, tracts of the clouded leopard has been frequently found in the Barisan Selatan National Pak (FAO 1981). This park is about 3,500 Km and has suffered seriously in the past from illegal logging, uncontrolled fuel wood collection and shifting cultivation largely caused by transmigrants from Java and Bali. Elsewhere, in the province of Jambi, Blouch (1984) reported finding the tracts of clouded leopard on well drained soil in a lowland forest that had been logged just a year previously. The author stated that in this forest, the intensity of logging had not been severe and that at least 50% of the forest stand was left undisturbed. These observations indicated that the animal is perhaps not as strictly arboreal at it was previously claimed (Rabinowitz, 1986). The clouded leopard is also know from the Tigapulu hills straddling the Riau/Jambi provincial border, and is also known to be present in the Torgamba production forest (R.Blouch, personal comm.) along the Riau/North Sumatra provincial Border.





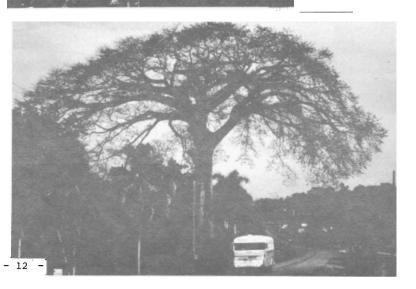
Rainforest scenes from Central and South America.

TOP: Epiphytes & Vines are other plants which characterize tropical rainforests.

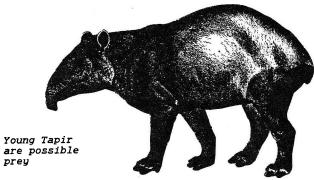
Center:
"Strangler"
Almost trees
these plants
make "hosts"
of trees.
Competing
with or
killing the
host tree.

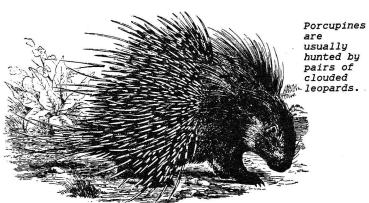
BOTTOM: Canopy tree











In the much larger Gunung Leuser National Park (10,000 Km) in the northern part of Sumatra, clouded leopard in known to inhabit a variety of habitats that range from primary forests, forests limited to the valley slopes, and even secondary forest habitats such as pine forests (Kurts, 1970). In south Sumatra, it is known only in the extreme west province, in the Gumai Pasemah Game Reserve (Blouch, 1984). In the Way Kambas Game Reserve (1,300 Km) situated in the province of Lampung, where, as a result of indiscriminate logging during the past three decades over 70% of the lowland dipterocarp forest has been concerted by exposure to sun and frequent brushfires into alang-alang (Imperata cylindrica) grasslands, clouded leopard was reported as recently as May 1985 (R. Widodo, pers. comm.), and this points to the animal's adaptability. Previously it has been reported from the mangrove swamps in the same greserve by game guards.

Clouded leopard occurs in Sumatra's largest National Park, the Kerinci-Seblat (14,800 Km.) which owing to its remoteness and enormous size, provides one of the key areas in Sumatra where the animal can be expected to survive for a long time. [Editor's Note Although at this time this particular park is large in size, there is a question of whether there is a large enough genetic pool for the species to survive from one closed area.]

ECOLOGY

The clouded leopard is generally more strictly—confined to the deeper forests than are other felids in Southeast Asia (Harrison, 1874). The few sightings recorded in the older literature suggested that the animal is solitary in habitat, but Lekagul & McNeely (1977) have reported that "they may hunt together, especially when after animals such as porcupines, which can be quite hazardous game unless the attack is well coordinated."

In forest habitat there are abundant food resources at all levels for a carnivore able to take advantage of them (Myers, 1976). Its principal prey is likely to be monkeys. The canine teeth in the clouded leopard are exceptionally long (Lekagul & McNeely, 1977) and this might be an adaptation to kill such relatively large prey as the proboscis monkey (Nasalis larvatus) and the pigtailed macaque (Macaca nemestrina) in Borneo (Davis, 1962). In Borneo it is also known to feed on orangutans (Pongo pygmaeus), deer and pigs (Payne et al., 1985). Pieters (1938) reported that occasionally the animal was observed trying to catch fish in the swamps.

Given the high density of primates in areas where the clouded leopard is known to be present, one would assume that a relatively small home range perhaps on the order of five Km would be sufficient to provide it with food, but it is presumably territorial like other solitary felids and its maximum density may be much less if territory sizes are in fact large. It is very agile and able to catch its prey entirely in the crowns of the forest tree. Pieters (1938) reported that the animal can easily jump distances of five meters or more between trees. In Sumatra, the clouded leopard shares its habitat with six other felids, namely leopard cat (F. bengalensis), marbled cat (F. marmorata), fishing cat (F. vierrina), flat-headed cat (F. planiceps), golden cat (F. temmincki), and the tiger (Panthera tigris).

Intra-specific competition will be reduced by the adaptation of an arboreal hunting habit. The only sympatric felid which also hunts arboreally is the golden cat. This may be expected to concentrate on smaller prey, so that the clouded leopard may not suffer serious competition from other felids.

THREATS TO CLOUDED LEOPARD

The most serious threat for clouded leopard as well as all other large mammals in Sumatra is clear felling of forests for conversion to agriculture or human settlements. It is particularly serious in the case of clouded leopard, because it hunts arboreally. Another very corious threat to carrivores in general is reject serious threat to carnivores in general is poison (Myers, 1976) which is readily available in Sumatra. Organochlorines such as DDT are often used as poison in agricultural settlements in the vicinity of game reserves to kill predators that attack cattle and poultry. This was perhaps the main cause for the extinction of the tiger in Java following the fragmentation of its habitat (Hoogerwerf, 1970). Poison could also be used for (moogetwerl, 1970). Polson could also be used for deliberately killing the clouded leopard for its beautiful skin. Given the animal's rarity, the skin can be sold on the black market for as much as \$2,000 U.S. Since the clouded leopard is listed in Appendix I by CITES (Convention on International Trade in Endangered Species of Wild Flora and Fauna), trade is banned Nevertheless Flora and Fauna), trade is banned. Nevertheless skins are still exported illegally. Singapore has acted as an entrepôt through which much illegal traffic in furs is known to have taken place. Such traffic is inherently extremely difficult to suppress or even control. It may be suggested that the primary protection of the species must be good cover for the living animal in extensive forest remote from the nearest road.

<u>CONSERVATION REQUIREMENTS</u>
WE are still far from knowing the ecological and behavioral characteristics of the clouded leopards sufficiently to suggest specific measures for its management and conservation, other than to emphasize at this point the overriding need of forest protection. The species offers the following problems, making it perhaps the most demanding type of felid to conserve in Sumatra:

- --its requirements for high forest as habitat,

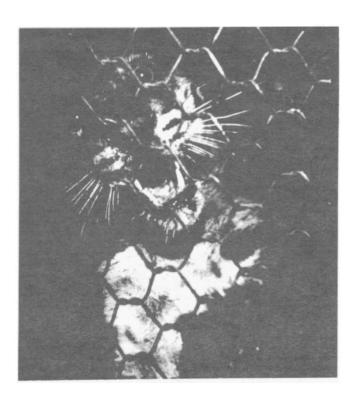
--its large body size and consequent need for relatively large home range,
--the high commercial value of its pelt, making poaching potentially very profitable and difficult to control.

Conservation efforts must be aimed at maintaining as many viable populations throughout Sumatra. As in the case of the tiger, it is essential to maintain individual wild populations, even when they are believed to be small (Schaller, 1986). More intensive surveys are needed to identify viable populations so that their habitats can be given better protection. Logging per se need not conflict with the conservation of the clouded leopard, provided that it is strictly controlled and limited to the trees above 50cm diameter at breast height. However, clear felling should be stopped in areas where clouded leopard is known to be present. A more careful and selective utilization of forests is needed to replace the indiscriminate approach.

As in the case of the elephant and tiger, planning for clouded leopard conservation requires as a for clouded leopard conservation requires as a basic premise that clouded leopard and human settlements be kept apart (Ashby & Santiapillai, 1986). Strict control of the use of poison, particularly in and around the game preserves, is needed. Finally, for long-term success of the conservation efforts, it is essential that conservation education should be aimed at grassroots level so that people shed their traditional antipathy to predators and learn to regard them as important components of ecosystems.

• References on page 17





This clouded leopard is dead.

He did not die from over logging or agricultural de-forestation. Nor from the use of poisons such as DDT used by native people to kill predators which attack cattle or poultry.

No, this cat died because someone wanted to eat

First a pit was dug in an area where clouded leopards had been seen. After a cat is captured, (not limited to clouded leopards but also snow leopards and tigers), the cat is brought to a willage where it is penned in a make-shift cage. The word is spread and the people look forward to a feast if they can afford the price. The cat is first roped spread eagle, belly side up and then either drowned or strangled to prevent damaging the valuable pelt. The throat is then opened over a catch basin to collect the blood, which will be sold by the bottle to be used whole or made into a "blood wine." The pelt is then removed and the organs collected and sold for predetermined prices. The claws are ripped out of the paws for varied uses such as decorations. And the meat is then cooked for the people waiting anxiously for the coming feast. A large cat may feed anywhere from 10 to 17 people. You might understand that these special dinners don't occur as often as in the past (due to the low number of cats in the wild), but they are by NO means uncommon. Nor are they confined to the large cats. Leopard cats are commonly eaten and so are domestic cats (which are boiled alive) and domestic dogs (which are usually strangled). Governments must be made accountable and the people educated in the value of predators in general and the dangers of species annihilation

in general and the dangers of species annihilation and habitat destruction. Also Agencies such as USDI and humane society organizations must be made to understand that there is no WILD safe country anymore. The future of the exotic feline will depend on captive management and on strict protection of those cats remaining in their natural habitat and the environment itself. Whether cats are bred in zoos or by private owners is unimportant, only the or by private owners is unimportant, only the welfare of the cat is important. Both zoos and private owners must be encouraged to do the best possible work for the future of the cats of the world.

Elaine Burke Based on an article in Asia Week



MEETING REPORT

It was a gorgeous spring day in New England when we held our first meeting for 1987. Albert and Ann Porges were our hosts, at their beautiful modern home in Massachusetts.

We had a fair turnout, around 30 members and friends.

Also bobcats, Geoffroy's cat and safaris.

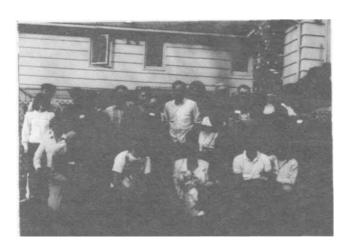
The high point of this meeting was our newly elected national president, Fred Boyajian attended. A little tired from running around New England to see as many people and animals as he coule in a few short days, he still found two hours to talk to the members. Fred touched on just about every conceivable point on what a club should be. One important point he made is that we as a Branch must get our Branch working together, so we can help other branches, build new ones. We as a group could make a substantial improvement. If everyone would pitch in a little time. Send in your pictures and articles into the newsletter.

Branch meetings are your way of communicating with the National LIOC. So attend your branch meetings, attens

the yearly convention.

After we closed the meeting we sat down talked and ate some really good food. Thanks to everyone who brought us something to taste. Hope to see more of you at our next meeting.

Submitted by Millie Payton Secretary/Treasurer



problems and experiences.

We were happy to see many new faces and hope they will continue to be a regular part of our Branch in the future.

Submitted by: Shirley Wagner



MEETING REPORT

The Spring meeting of the SouthWest Branch met under perfect conditions at the home of Jerry and Jan

Neal in Flint, Texas on April 27th.

After some visiting, oohing and ahhing over the kittens and cats present and a tour of the Neal's facilities we proceeded to demolish the sumptious lunch Jan had prepared. Although everything was delicious, Jan is notorious for her non-fattening fudge pie...it lived up to its reputation and few could resist desert!

SouthWest President Jean Hamil called the meeting to order, thanking our hosts for their hospitality and greeting the new members present, we proceeded with business. Jean turned the floor over to Dr. Roger Harmon, a founding member of SouthWest who announced that he had resigned his position as a National Life Director. Roger cited the impending advertising of cats in the Newsletter and his fear of litigation as his reason. He has served on LIOC's board of Director continuously since its conception and feels that now is the time for him to step down and make way for a younger board. We all voiced our sadness at his leaving the National's governing body.

The new direction which LIOC seems to be moving in was discussed and Southwest members were encouraged to fill out and return the questionnaire recently sent out in the Newsletter to make their feelings known.

Harriet Leake gave a treasurer's report which

indicates that SouthWest is financially healthy. A dollar drawing was held with the proceeds being

split between the winner (Monica) and hostess Jan to help defray the cost of the groceries.

Several items which had been donated were then

raffled off-everyone was more than pleased with them and they were much too numerous to mention here.

Attending were: John & Elfriede Vickery, John Stokes, Jim Steinmeyer and Dexter Osha; Walter and Lois Marshall with black leopard cub; Mark and Monica Jordan; Christine Chandler; Marlaand Kelly Samford with 4 wk old cougar cubs; Beckie Davis with black leopard; Janet Parr, Kim Jones and Cougar; Ron Barker; Faye and RogerHarmon; Gabriella Gasbill; Harriett Leake, Beverly & John Oglesby, hosts Jan and Jerry Neal; Jean and Carl Hamil as well as yours truly,

Future meeting dates were then discussed and it was decided the next meeting would be held at the home of Elfriede and John Vickery in Longview, Texas on June 20th with the fall meeting to be held in West Columbia, Tex., at Walter & Lois Marshall's on October 17th. If you do not receive SouthWests meeting announcements but would like to, please contact the officer shown on page 2. Meeting announcements and directions will be sent out as usual in advance of these meetings with all pertinent information.

The meeting was formally adjourned but most of us lingered, reluctant to part, and continued visiting and sharing pictures as well as discussing mutual





TIGER - PORTRAIT OF A PREDATOR

By Valmik Thapar Photographs by Gunter Ziesler and Fateh Singh Rathore (Collins) 1986

Reviewed by Peter Jackson

Ranthambhore is a name to conjure with among tiger enthusiasts. This beautiful reserve on the eastern edge of the Rajasthan desert in India has become famous for its highly visible tigers going about their lives in daylight in full view of human watchers. Star performer was Ghengis, a large male who took over the lake area in 1984 and launched spectacular attacks on deer feedingin the waters, behavior by a tiger that had never been recorded before. Last year he mysteriously disappeared, but his female consort, Noon, showed that she had learned the technique, although her first attempts were hesitating and clumsy. His male successor in the lake area, Kublai, has also shown signs that he may follow the same course, presumably as a result of watching Noon.

An interesting development resulting from Ghengis's aquatic attacks was open competition between Ghengis and march crocodiles, which obviously resented the intrusions in their sphere of activity. Sometimes Ghengis's prey was snatched by crocodiles and he sat on the bank growling his anger, while the crocodiles strove to eat the carcas - it proved difficult because their teeth are not suitable for breaking open the body. In the end Ghengis would wade in, snarling, to grab his prey.

pr ey.

Nor was Ghengis shy of letting humans observe his intimite life, for he mated openly with Noon within a few yards of jeeps, and Kublai too has been equally open

Old tiger hands would never have believed what is going on these days in Ranthambhore, accustomed as they were to hunting a secretive, largely nocturnal predator. The change is clearly the result of the protection given to tigers by Project Tiger in the years ince it was launched in 1973. In that time the number of tigers in the reserve has risen from 14 to 40, a figure which is fairly accurate because Ranthambhore's generally open habitat and the confidence of its tigers makes census, both by observing pugmarks and by visual counts, relatively easy.

The story of Ranthambhore's emergence as the grand tiger theater is weill told by Valmik Thapar, a social anthropologist who took off to the jungle in 1976. He begins his book with his long search for the elusive tiger, and the thrill of his first sighting, which led to his passionate pursuit of more knowledge about the great cat. His expert guide was Fateh Singh Rathore, Field Director of the Ranthambhore Tiger Reserve, a colorful, moustachioed Rajput forester, who has lived closer to tigers than almost any other man in recent years, and who has contributed many of the dramatic pictures in this book.

Some tiger specialists have been particularly interested in the contrast between the social organization of the generally solitary tiger, and the extended family of the lion's pride. This is attributed to the difference in habitats. Lions in savannah and rather open country are able to cooperate in hunting using visual contact, a

technique which is impossible for tigers in the forest, where they have little chance of seeing one another. There has been speculation whether tigers might develop "pride behavior" given the right habitat. The generally open, dry deciduous forests of Ranthambhore and the grasslands around the central lakes are more like lion habitat than anywhere else tigers are found. Valmik Thapar and Fateh Singh Rathore found that, as the tigers became more diurnal, they began to be seen in larger groups in the lake area as many as nine were seen on occasion. There were signs that there could have been some cooperation in stalking prey. But further evolution of this behavior was frustrated by the arrival of Ghengis sho broke up the groupings and drove other tigers away when he boldly took over the area.

Valmik Thapar's detailed account is illustrated by brilliant photographs by German wildlife photographer Gunter Ziesler and Fateh Singh Rathore, notably of Ghengis's charges into the lakes to seize deer. An amusing series shows Ghengis in pursuit of a deer, when he suddenly realizes that the jeep is standing just by his track he thrusts his forelegs out and comes to an abrupt halt like a cartoon cat.

While Ghengis and other tigers usually appeared relaxed in the presence of the watchers in jeeps, there were occasions when they showed irritation, and Ghengis made terrifying charges, which, fortunately, were not pressed home.

Valmik Thapar brie-ly mentions some other denizens of Ranthambhore the tiger trackers, usually seen by visitors as shadowy figures by the roadside enveloped in the dust raised by jeeps. These men move about on foot and on bicycles, finding and identifying tiger footprints and locating the big cats. They understand their tigers, and know how to behave in their presence. The fact that they are not attached shows that tigers do not normally consider

However, Ranthambhore is not just about tigers, it is also about people and the problems of maintaining reserves for wildlife in areas where grazing is needed for livestock, especially in periods of drought. During a visit to the reserve in October I encountered a crisis over grazing. The nonsoon was poor around Ranthambhore in 1986, and grazing became problem. The senior local official therefore gave permission to some villagers to take their cattle into the tiger reserve, where the grass was flourishing. He was not empowered to give this permission, and the Rajasthan State government ordered that the permits be rescinded. But by that time between 10,000 and 15,000 cattle had invaded the reserve, and the staff were incapable of ejecting them. The graziers denied knowledge that the permission to graze their livestock had been rescinded, and cut trees to block roads giveing access to where they were. Eventually the State Gov ernment sent armed police, who drove out the graziers and their herds and set up guardposts to prevent futher incursions.

Today the situation at Ranthambhore is an armed truce while officials look into ways to provide villagers' livestock with adequate grazing. It epitomizes the problems facing many wildlife areas all over the world. Fatch Singh Rathore was seriously injured in a clash with invading graziers a few years ago, but continues to fight for the integrity of the reserve. In August, 1985, one forester was killed when illegal graziers stoned a patrol.

Writes Valmik Thapar: "Is it possible for a country of 730 million people to protect and save its rich and varied natural heritage against the combined onslaught of industrialization, modernization and the tradition of keeping livestock? Nearly 1,000 million livestock exist today in India. They are found in every kind of natural habitat and consume vasts amounts of vegetation of all kinds. With major increases in population and livestock, what would be the fate of the already depleted 8% of the country's forest cover? Are we going to denude ourselv es of nature's mantle and rot in the depths of uncontrolled pollution?"

depths of uncontrolled pollution?"

Noting that there are 12,000 to 15,000 people and 40,000 head of livestock in the immediate vicinity of Ranthambhore, Thapar writes: "There is incredible pressure on the fringes and buffer zones of the park, almost every blade of grass has been stripped away. To prevent the devastation of grasscutting, wood-felling, grazing and poaching, a series of socio-economic

developmental measures must be implemented as a matter of t he utmost urgency. People must be removed from the areas of conflict but in a way sensitive to their immediate and longterm needs and aspirations. Organizations like WWF must begin a serious effort to disseminate their activities and educational programs into rural areas....let us concentrate all our efforts for the moment on the villagers whithout whose support no forest can ever survive. Their economic development is a criti-cal step towards the serious conservation of our flora and fauna. Let us all, nationally and internationally, put our heads together and initiate a series of action plans all over India to stabilize the rapidly deteriorating situation and secure the future of our wildes and of that superpredator, the tiger.



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Dr. Charles Santiapillai, WWF Indonesia Project, P.O.Box 133, Bogor Indonesia.





REALITIES:

I read with much interest the comments of those returning their questionnaires. This led to som e confusion on a few points. The vast majority wanted an "improved" newsletter, better quality printing, etc. Of course this costs money but the majority was against a dues increase.

Many of you felt we should be more "conservation oriented" yet were opposed to LIOC's contributing to other causes. How can we further conservation without supporting another group? Rather than many of us individually contributing to the causes of other organizations such as "Save the Tiger" etc. Would you donate to a segregated fund of LIOC's and let us make a donation to that cause in LIOC's name? It eludes me how LIOC can be more conservation oriented.....or do we

just tout a cause-without actually taking action?

Perhaps we have failed to educate our membership or involve them sufficiently in the everyday workings and problems of LIOC. Or, perhaps our members just don't pay attention? Last year's budget was in the Newsletter. How many of you paid the least bit of attention to it?

It showed a working budget of around \$4,000. All of it was actual expenses with no salaries being paid. Our membership of 350 (t a few) times dues paid of \$15. barely covers the cost of the newsletter. That means we need a hefty dues increase to increase the quality of the printing and increased length we have achieved, as we currently sacrifice printing quality for the sake of economy.

Many tout advertising revenue as the cure for our income woes. However with a circulation of only 350 we have an extremely limited appeal as an advertising medium, not to mention the extremely narrow interest area of exotic cats.

So, now we have to increase circulation - how? Will \underline{YOU} beat the bushes and persuade two people to join? That would triple our circulation to 1,000! So now we must find away to appeal to folks with no particular interest in the practical aspects of exotic care. Should we waterdown the technical, medical and housing aspects of the newsletter? What will persuade these type folks to renew? What do we replace those deleted articles with? But, wouldn't that dilute LIOC to just a publication rather than what is now a help-group?

It might be well to remember that LIOC was formed and, as it now stands, to help the exotic in captivity-are we in our zeal for change, putting that primary goal to a lower level? Secondly we exist to help the exotic caretaker cope. By maintaining a healthy, captive population, especially among the smaller species, are we not conserving a population dangerously endangered worldwide? Perhaps those who mentioned a need for greater conservation, want us to maintain a higher image rather than a more conservation-oriented image? Certainly those who breed are doing their fair share to insure survival of these creatures?

The demands an exotic makes on its keeper are not easily satisfied. No amount of education beforehand can adequately prepare a person for the realities of living with an exotic. I found this out the hard way-placing kittens. Any breeder will confirm this. But a few do work and you have another devoted to the chore of preserving and propagating these magnificent animals.

I would propose then atht LIOC is doing an invaluable service. By no means do I imply we do enough. Only through education of the individual caretaker can we improve the feline's existance in a domestic environment. Let us take on those projects which would make the basic tenants of exotic care more easily obtained.

Then, let us find ways to expand our educational programs to the masses in hopes this will create a sympathy for our cause. We are attempting a start with a video presentation. Each of you could then assist by taking this presentation to schools in your area as well as to civic groups, etc. Accompanied by some well-done literature, this could easily help a fundraising effort. If properly packaged and presented such a video could also be giv en to independent local television stations for broadcast, further broadening our areas of influence (and funding appeal?)

Once we establish a solid base and reputation as a truly "educational" organization, we may be able to expand our goals even further to include actually funding and supporting the acquisition and breeding of some of the rarer small cats, owned by LIOC and placed with proven breeders. Maybe, some day, we might establish a compound! But, while we dream big, let us be realistic. Let us plan and tackle projects we have the ability to accomplish and then progressively go to the next and hopefully larger object; we

hopefully larger objective.

Let us do this steadfastly adhering to our founding principle of "will it benefit the cat?" and secondly, "will it help the cat's owner?" Let us keep the feline welfare foremost, even sublimating the human desire for recognition and glory for its own sake. Let us not turn LIOC into an organization for people, but keep it for the cat. With human populations in no particular danger, it should be easy to see the priority - after all

EXTINCTION IS FOREVER

Many of you stated you wanted a Question/Answer columnbut few respond to proposed questions with pract cle workable solutions. Let us hear from you, participate and be part of the solution.

Your Board of Directors will be addressing those items you stated a desire for-hopefully those that will benefit the cats first. When called upon be realistic, it is better not to take on a task than to accept the job and not do it, or do it halfheartedly. This has too often been the case in past LIOC projects. Know that many of you will be called upon in the near future. To produce a reputable, "professional" image we must do a reputable, professional job, that means time and sometimes money-be willing to help-do what you can. Only you can judge your abilities, but be realistic.

少 <p

With Convention '87 rapidly approaching, (August 5-9) it is time to ask that anyone having an item they wish to be discussed at the General Membership meeting submit it now. These must be received no later than June 30th, 1987 and should be sent to:

Suzi Wood Sec/Treas LIOC 6 E. Lake Circle Dr. Medford, N.J. 08055

At the General Membership meeting items may be placed before the Board for consideration either from the floor at the meeting or by mail beforehand. This is your chance to participate in the future direction of the club.



Readers Write

Having joined LIOC in November, '86, I am at a disadvantage as far as knowing any other members, what kind of exotics anyone has, what sort of experiences, etc. As long as we continue living as we do, it's going to be hard to rectify this! (we live in England; my husband is English but I am born and bred in Los Angeles) However, I would like to take this opportunity to meet other members by way of the Newsletter and invite anyone to write back to me.

Although I have never owned any cats but domestic (actually, a disputable point!), I have been mesmerized by exotics all my live and yearned/planned/connived for the day when I could have my first. My husband and I got married 4½ years ago and it has taken that long to convince Mal that we really belonged in the country, surrounded by animals and not much else. To this end, last summer we bought some property in Oregon; wilderness really....we're definately starting from scratch

really....we're definately starting from scratch.
After that, I learned of an organization called CAT SURVIVAL TRUST; a set-up that tries to breed endangered species of exotic cat with long range plans of releasing them in their native habitat (slightly optimistic, I have come to believe). I got in touch with them and was thrilled when their director and organizer, Mr. Terry Moore, invited me to come along and see their establishment and observe the cats I had heard so much about. By this time I was determined that our property in Oregon would serve a purpose SOMEWHERE along those lines. To be honest, I was quite disappointed by the Trust as the species were limited to a few Leopard Cats, a few Geoffroy's cats, two bobcats, one ocelot, one margay and a pair of Scottish wildcats. Apart from the Scottish wildcats, all were confined in cell-like pens made from stone blocks with wire and bars at the front for visibility. There was no ventilation (not necessarily a bad thing for this climate) and no sunlight and the floors were covered with very smelly straw. There was no provision for any of them to get outdoors and the only cat touchable was a bobcat named Izzy Bizzy. Apart from all my negative reactions, Izzy provided me with so much enjoyment, inspiration and love. He crawled over my shoulders and rubbed my face, arms, back and front with his beautiful head, purring and slobbering the whole time. I had never touched an exotic of any type before and I was ecstatic! Instead of letting the Trust disillusion me, I decided to learn as much as I could from it and to remember my reactions and to use them in my own plans for cat housing in the future.

In all fairness, the Trust does it's best and is very valuable as it's breeding rate in captivity is higher than almost any other in Britain. They operate exclusively by volunteers and donations and ARE aware of the need for better housing; they just need money to make it a reality. I would like to do volunteer work there for a couple of months before we leave this country hopefully late summer '87.

At any rate, that was my first tangible experience with exotics and it has left an indelibile mark on me. Of course, I have had to approach the whole thing logically as far as Mal is concerned. He had never had a cat for a pet as a child and it took about 5 months to get him to want to own a kitten. Our first was a blue Devon Red (Roxy) and it then took 4 years for him to want another, our Sealpoint/Devon Rex (Si-Rex) Hollywood. Of course he is happy as a clam with them now, MOSt of the time as they do tend to gang up on us in their attempts at house demolition! But, as any normal human being, Mal is fascinated by the photos of exotics and

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Cont - Page 5

A Sheik Shoot in Kenya?

African wildlife groups are outraged at reports of poaching by Arab VIP's near the Masai Mara Game reserve in southwest Kenya. Despite a ban on big-game hunting in Kenya, sources in Nairobi say senior gov-ernment officials secretly OK'd the shoot-and may even have instructed police to issue rifle permits to the hunting party. According to local reports, the group included seven Saudi Arabian sheiks and two Saudi princes. The Saudi Embassy in Nairobi denies that any Saudi nationals were involved. Nearly 200 animals were killed during the weeklong hunt, including buffaloes, eland, zebras and gazelles. A rare, black-maned lion and cheetah, listed as endangered species may also have been shot. Kenya's director of wildife conservation has launched an investigation.

Reprinted from Newsweek



K. Ullas Karanth, Seionr Research Officer, Centre for Wildlife Studies, Mysore, and Dr. Mel Sunquist, Florida State Museum, have gegun a study of ecological relationships and resource use in the carnivore/herbivore community in Nagarhole National Park, Karnataka, India, with special reference to the managment of large carnivores and their prey.

Tiger, leopard, dhole wild dog are the large barni-

vores of Nagarhole, and there are also jackal, jungle

cat, and several small felids and viverrids.

The initial phase of the multi-year study will focus on collection of baseline data on densities, habitat, use patterns and ecological relationships of large herbivores and their predators. The second phase will involve radio telemetry in an intestive study of the

A Canadian team has reported snow leopard, Pallas's cat and lynx in the Arjin Mountains Nature Reserve in

Zinjiang, western China.

The three-man team of J. Butler, P. Chuff and J. Johnson from the Universitgy of Alberta and Parks, Canada declared in a report to IUCN/WWF that the reserve was "an extremely valuable, incomparable area which should be recognized as of major importance among protected areas worldwide."

The team said snow leopard, were reported to occur throught the reserve, wherever there were argali, blue, or dom estic sheep, but no estimate of numbers could be made. Pallas's or steppe cat (Felis manul) appeard to bemost common on the mountain slopes where they denned and fed on pikas. Distribution and numbers were unclear because of few observations, but there were probably fewer Pallas's than foxes. Lynx (Felis lynx) were most common in the far south and west of the reserve, but no estimates could be made.

Viv Wilson, Director of Chipangali Wildlife Trust

in Zimbabwe, reports cat sightings on the Ivory Coast.
Golden cat (Felis aurata) appeared to common in the
Azagny and Tai National Parks. Tracks were often seen and cats were heard calling at night. Leopards were abundant in Tai.

Viv Wilson is carrying out a 10-year duiker survey througout Africa and as a member of the Cat Group, is reporting on cat observations.

The fishing cat (F.viverrina) appears to have disappeared from the western coast of India.

Only four or five Chinese Desert Cats exist in one zoo in China.

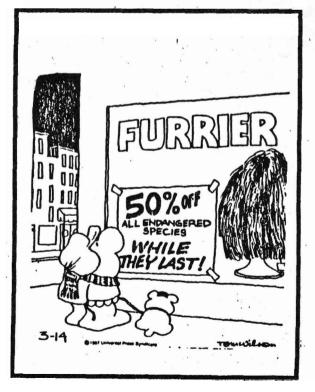
Both the leopard cat (F. bengalensis) and the Flat-headed cat (F.planiceps) appear to have benefitted from spread in penisular Malaysia of oil palm plantations which attracts rats.

According to Ullas Karanth, a rusty spotted cat (F. rubiginosus) was sighted in 1985 in southern India; the species may not be as rare as thought.

Following a recent visit to Borneo, Alan Rabinowitz of the Animal Research and Conservation Center, New York Zoological Society, Bronx Zoo, expressed the view that the clouded leopard (Neofelis nebulosa) was not as arboreal as previously claimed.

Prof. Helmut Hemmer reported that he was going to Tucson, Arizona to see photographs and part of the skeleton of a reputed Mexican onza or North American cheetah. He subsequently reported to IUCN that it appeared that the specimen was not the North American cheetah, as previously thought, but a completely new type of cat of the genus Puma....a formal note will be published.

Ziggy □ Tom Wilson





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REAGENT

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Ammonium Hydroxide (28%)	E	G*	NR*
Benzene	E	Ē	E
Chloroform	E	Ğ*	NR*
Calcium Chloride (30%)	E	Ē	E
Clorox (Full Strength)	E	Ğ*	NR*
Coca Cola	E	E	G*
Cottage Cheese	E	Ē	Ě
Chromic Acid (10%)	E	G	NR
Citric Acid (30%)	E	G*	NR*
Ethy! Alcohol (95%)	Ē	Ğ.	NR
Ethylene Glycol	E	Ğ	NR
Ethylene Dichloride (10%)	E	Ğ	G
Ferric Chloride (10%)	Ē	Ē	Ğ•
Gasoline	E	Ē	Ē
Glycerine	Ē	Ē	Ē
Hydrogen Peroxide (6%)	E	Ğ	NR
Hydrochloric Acid (20%)	E	Ē	G
Hydrofiuoric Acid (10%)	Ē	- NR	NR
Hydraulic Fluid	Ē	E	E
Isopropyl Alcohol	Ē	Ē	Ē
Lactic Acid (20%)	E	Ē	Ğ•
Methyl Isobutyl Ketone	Ē	Ē	Ě
Methylene Chloride	Ē	NR NR	NR
Mineral Spirits	E	E	E
Motor Oil	E	Ē	Ē
Mustard	Ē	G*	Ğ
Nitric Acid (10%)	E	Ğ•	NR*
Phosphoric Acid (85%)	Ē.	Ē	E
Salt Water	E	Ē	Ē
Spic and Span (30%)	- · · · · ·	Ē	Ē
Syrup	Ē	Ē	Ē
Sulfuric Acid (30%)	E	Ē	Ē
Sodium Hydroxide (30%)	Ε	Ğ*	Ğ
Silver Nitrate (10%)	E	Ğ•	Ğ
Tide Detergent	Ē	Ĕ	Ē
Trichloroethylene	Ē	Ğ	NR
Tri-sodium-phosphate	Ē	Ē	E
Toluene	Ē	Ē	Ē
Urine (Synthetic-6.6% ures)	Ē	Ē	Ğ

CAT PROOF !!

Great for walls too!

DUR-A-GUARD EPOXY COATING is available in 15 colors: White, Black, Medium Gray, Dark Green, Light Green, Dark Blue, Light Blue, Dark Brown, Cocoa Brown, Tile Red, Canyon red, Yellow Ochra, Bright Yellow and Light Yellow.

Order sufficient amount of a color to finish the entire job. Slight batch-to batch color variations may occur.

AVAILABLE TO LIOC MEMBERS AT DEALER COST THAT'S A 40% DISCOUNT!

UNITESIZE	SHIPPING WEIGHT	PRICE
1½ gallon	18 lbs	79.06
3 gallon	34 lbs	149.33
15 gallon	164 lbs	701.81

Normal coverage - floors- 250 square feet per gallon per coat. Walls-350 square feet per gallon per coat.

Thicker coatings may be appropriate for heavy traffic areas.

DUR-A-GUARD is USDA and OSHA approved.

ORDER FROM: GREAT EASTERN DISTRIBUTORS, INC.

483 Armour Circle NE Atlanta, Georgia 30324 (404) 873-6000 (800) 251-5800 (outside GA)

E — Excellent, no chemical deterioration.
G — Good, sample discolored but no chemical deterioration.
NR— Not Recommended, sample deteriorated, Contact Dur-A-Flex to ascertain if a more che formulation is available to attack by this chemical can be improved by using Dur-A-Glaze #1 or #2 as a topcost(s)