

Apr/May/June 2017 • Volume 61 Issue 2



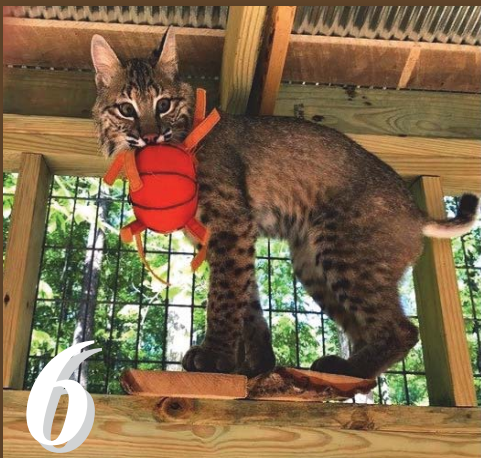
TABLE OF

APRIL - JUNE 2017 | VOLUME 61, ISSUE 2

contents

Features

- 6 **Designing Gibbs's Outdoor Enclosure**
Danny Waldo's patio pergola-inspired bobcat habitat.
- 8 **2016 FCF Big Cat Census**
Kevin Chambers updates the numbers on cats in U.S. captivity.
- 12 **In Memory: A Tribute to Sally, African Caracal**
(November 28, 1998 – December 2, 2016)
Billie Lambert shares memories of a very special caracal.
- 16 **An Eye For An Eye: Tapanga's Story**
Sheri DeFlorio didn't give up and saved Tapanga's eyesight.
- 22 **Convention Update**
July 25 through 27 – Sarasota Florida – don't miss it!
- 26 **Zandy's Litter of Seven**
Mechel Whitaker has a scientific approach to nutrition and husbandry.
- 30 **MaxAMillion was Truly One in a Million**
Debbie Hayes remembers 18 years of bobcat love.
- 33 **Starla the Geoffroy's Cat**
Tina Rochester shares her loss in hopes it will save another life.
- 35 **Acupuncture for Ataxia**
Shelleen Mathews gave this unconventional treatment a try.
- 38 **Wildlife Conservation Network Spring Expo**
Chris Tromborg and Lynette Lyon represented the FCF.



JOIN THE FCF IN ITS CONSERVATION EFFORTS - WWW.FELINECONSERVATION.ORG



The FCF supports conservation of wild felids by advocating for qualified individuals to own and to pursue husbandry of wild felines, providing expertise and material support to ensure the continued welfare and viability of these populations, contributing to research, and funding protection programs that benefit felids living in nature. Send \$35 annual dues (\$40 Canada, \$50 international) to FCF, 141 Polk Road 664, Mena, AR 71953.

Husbandry

- 7 Blast from the Past: Necropsy – Ishmael
John Perry on the loss of a Geoffroy's cat.
- 13 Feline Kidney Disease and Treatment
Karen Becker, DVM, explains this feline ailment.
- 18 Corneal Ulcer Information
Excerpt explains complicated eye infections.
- 31 What are Eye Tumors?
Pet Cancer Center explains treatments for malignancies.
- 32 Bartonella – Cat Scratch Fever
Vet Street details diagnosis and treatment of cat scratch fever.
- 34 Myocarditis
Vet Book description of this rare heart inflammation.
- 34 Incidents of Myocarditis in Cats from Bartonella
Deadly accounts of this bacterial infection.
- 36 Acupuncture in Cats
Feline Wellness article explains how this treatment works.

Conservation

- 25 Cheetah Conservation Botswana Receives \$1,000 FCF Conservation Donation
Rebecca Klein updates the FCF on how our donation is helping CCB help cheetahs.
- 37 Cat Taxonomy
IUCN Cat Specialist Group announces their latest systematic classification of the cat family.

Pictorials

- 20 Your Best Shots
Rob Moyes, Courtney Frenchak, Billie Lambert, Jim Broaddus, Lynn Culver, Patricia Trulock, Shelleen Mathews, Sheila Adams.

Contact Us

FOUNDER:
Catherine Cisin

EXECUTIVE DIRECTOR:
Lynn Culver
executivedirector@felineconservation.org

OFFICERS:
President
Kevin Chambers
7816 N CR 75 W
Shelburn, IN 47879
812-397-2302
president@felineconservation.org

Vice President
Mindy Stinner
P.O. Box 882
Mebane, NC 27302
336-421-0065
vicepresident@felineconservation.org

Secretary
Rebecca Krebs
P.O. Box 770514
Miami, FL 33177
305-962-5349
secretary@felineconservation.org

Treasurer
Lynn Culver
141 Polk Road 664
Mena, AR 71953
479-394-5235
treasurer@felineconservation.org

DIRECTORS:
Conservation
Pat Callahan
1961 Connecticut Ave
Cincinnati, OH 45224
513-304-7155
conservation@felineconservation.org

Chris Tromborg
217 Baja Avenue
Davis, CA 95616
530-753-2763
director@felineconservation.org

Robert Bean
4633 Chandler Road
Hermitage, TN 37076
615-889-4633
RBeandirector@felineconservation.org

JOURNAL STAFF:
Managing Editor:
Lynn Culver

Layout/Copy Editor:
Eden Burgess, edenburgessfcf@gmail.com

Associate Editor:
Judith Hoffman

Membership Services:
Jennifer Kasserman
816-674-7277
membershipservices@felineconservation.org

Organization

- 4 From the Executive Director
- 5 Letter from the President
- 32 Donations
- 36 First Quarter Board of Director Meeting Minutes

The FCF is a non-profit (Federal ID#59-2048618), non-commercial society devoted to the welfare and conservation of exotic felines. The FCF publishes the *Journal* quarterly.

Members are encouraged to donate older copies of the *Journal*, with permission of the resident, to vet offices, dental or medical waiting rooms, or public libraries or public officials, to increase awareness of the FCF, its members, and mission.

The author's point of view does not necessarily represent the point of view of the FCF. Reproduction of any material in the *Journal* may not be made without the written permission of the original copyright owners and/or copyright owner, FCF.

Display advertisement space is available at the following prices: \$10 business card, \$25 quarter page, \$50 half page, and \$100 full page ad.

Submit articles on husbandry, conservation, current events, editorials, and photos for publication to the managing editor, Lynn Culver, at lynnculver57@gmail.com.



Feline Conservation Federation

From the Executive Director

By Lynn Culver

This issue of the *Journal* is dedicated to the husbandry of wild felines. Many of the articles submitted by our members share experiences with medical issues and sadly, even causes of death. It is this kind of sharing between members that helps us all do a better job of caring for our cats. Sharing husbandry is the foundation of this organization, which began in the 1950s by Catherine Cisin, who wanted to share information about ocelots. Today, the Feline Conservation Federation has formalized this mission with its Basic Wild Feline Husbandry Course and its newest course, the Wildlife Conservation Educators Course. Both are taught at Convention. If you have never taken them, I encourage you to register for one of these courses being offered on July 24th, at the start of this year's Convention.

Ringling Brothers Circus put on their final show in New York, this past May. We have come to the end of an era. Children and adults alike have lost a powerful connection to nature and the opportunity to immerse themselves in the wonder of exotic animals. But FCF members are fortunate to have before them a now even more rare opportunity, to see up close how professional trainers work with the largest of feline species. The annual FCF Convention is being hosted by Big Cat Habitat in Sarasota, Florida, this coming July. Do not miss it! Clayton and Kay Rossaire, multigenerational animal trainers and performers, will be putting on a show for us that cannot be duplicated. In addition to the trip to Big Cat Habitat, we will also visit the Circus Museum, a bitter-sweet experience considering the Ringling Brothers Museum is all that is left of a 146 year tradition. There is full FCF Convention coverage starting on page 22.

Convention is a time for feline lovers to come together and

support each other, and the FCF is the only organization of its kind that promotes the captive breeding of exotic felines and conservation of feline species in nature. Putting on a convention is a labor of love. Each member owes themselves the opportunity to experience what this organization is all about. Come down to Sarasota, and enjoy the beach, the bay, the hotel, the field trips, the other members, and exotic felines on display. Treat yourself today, because tomorrow it may be too late. Like our felines, we are an endangered species, too. Our numbers are falling, our felines are disappearing, and the future is uncertain.

Captive husbandry of wildlife, and especially cats, has been relentlessly attacked by animal rights fanatics, who seek to end our close and loving connection with nature. This *Journal* issue documents the loss of our feline populations. It is a sobering and stark call to action for all of us. Laws being proposed by misinformed legislators and members of the public duped by radical extremists about the over-population of big cats in America are based on fallacies. Be sure to read the FCF Big Cat Census starting on page 8 of this *Journal*.

Director Chris Tromborg and Education Chairperson Lynette Lyon spent the day speaking to visitors at the Spring Wildlife Conservation Network Expo. This one-on-one interaction with the public changes minds and recruits supporters of private

sector captive husbandry. Read Chris's report on page 38.

The FCF works tirelessly to educate those who own and work with cats in captivity. Our shared love of these felines extends beyond those felines we know intimately, to our generous support of the conservation of their cousins in nature. One of our members, Patty Perry, founder of Wildlife and Environmental Conservation, donated \$1,000 to the FCF Conservation Fund specifically for cheetah enhancement. By contributing to the FCF Conservation Fund, the FCF organization and members share credit in the results. The FCF chose to work through the WCN and give support to Cheetah Conservation Botswana. I am happy to publish news from Rebecca Klein on page 25 of the *Journal* about how this donation is being spent to mitigate predator/farmer conflicts and conserve cheetahs in nature.

The 2017 winter special issue of *Cat News* published a revised taxonomy of *Felidae*. The main task of the IUCN SSC Cat Specialist Group is the continuous review of the conservation status of all cat species and subspecies according to the IUCN Red List of Threatened Species process. On page 38 of this *Journal*, we have reprinted this listing of 41 cat species. The Cat Specialist Group has mainland tigers listed as the same subspecies, and only tigers on Sumatra are a unique subspecies. I don't suspect the international political community, or the

super-opinionated animal rights fanatics, will accept their science; it certainly puts a damper on the denigration of white tigers based on the false belief that genes from Tony, a tiger originating from Siberian lines, has "polluted" the white Bengal tiger.

Registered Exotic Feline Handler Program

The FCF board of directors congratulates the following individuals for being accepted into the Registered Exotic Feline Handler Program since the past *Journal* issue.

Mechel Whitaker - Educator

Basic Feline Handlers have documented at least one year of experience, Intermediate level is at least five years of experience, and Advanced handlers have more than ten years experience. Update your registration when you obtain additional handling experience or new species experience.

The online registration form can be filled out directly in the members-only section of the FCF website. The \$30.00 registration fee can be made through PayPal.

Being a registered handler is the first step to becoming a Professional Member. Professional Membership application is also online on the Members-Only website.

Congratulations to all of these members for their dedication to their cats.

Rebecca Krebs, FCF Secretary



Letter from the President

The FCF recently concluded its big cat census, getting a reliable count on all of the tigers, lions, cougars, leopards, jaguars, cheetahs, snow leopards, and ligers in captivity in the U.S. We had done this in 2011, and followed this up five years later using 2016 records for the information. The results of this census are found beginning on page eight in this *Journal*. Please take the time to read this and remember some of the facts. We still see the media quoting the figure that there are 10,000 tigers in the United States. Well, the truth is that there are a total of 2,327 total tigers in the U.S. This is down from 3,013 tigers in 2011. This is a loss of nearly a quarter of all tigers in just the last five years!!! When you take into account that over half of all tigers are found in sanctuaries, a quarter are in zoos, and the remaining quarter in all other facilities, the effective potential breeding population is a far cry from 10,000 tigers.

The number of tigers dropped across the board for all three sectors, with the “other” category falling the hardest at 32%, zoos at 27%, and sanctuaries at 15%. The major reason for this is the aging population. The boom breeding years of the 1990s led to a spike in the population. The offspring of that boom have now lived out their normal lifespan and breeding has reduced significantly enough that the tiger population is falling at an alarming rate. Not only is the animal population dropping, but the number of facilities keeping tigers is dropping by a similar percentage. This means that the captive habitat for tigers is also disappearing. Altogether, the outlook is very bleak if the trend does not change.

It is important to look at history in order to help foresee the future. The boom of the 1990s was caused by three main factors. First, the U.S. Fish & Wildlife Service relaxed regulations of the Endangered Species Act to allow the interstate sales of generic tigers. At the time, white tigers were still quite rare and in great demand. They could fetch up to \$50,000 each. One of the drawbacks was that producing white tigers, and introducing new blood into them, led to the production of many normal-colored heterozygous tigers. Before, this meant that three normal-colored tigers were often produced for every white one born. The

breeder had to be willing to keep these or find a market for them. Luckily, the second huge factor had come into its own during the late 1980s. This was the advent of exotic animal auctions and publications such as *Animal Finder’s Guide*. These two things allowed greater access to other people who loved animals and wanted to keep them. Before that, if you wanted a tiger, you had to pick up the telephone and just start calling people to see if anyone knew of someone who had any. Now, you could just look in AFG or go to an auction to get what you wanted. It was interesting at the time that almost every normal-colored tiger was offered as a heterozygous, one with which you had a chance to get white babies; you couldn’t tell by looking at them if they actually carried the gene, so many unscrupulous people unloaded regular tigers in this manner.

The final major factor of the tiger boom of the 1990s was the creation of the sanctuary industry. Before that, if animals were confiscated or just otherwise unwanted, you just had to call person after person until you found someone willing to take it. That was a major financial burden if the animal wasn’t something that was in demand at the time. Some people figured out that they could get donations from the public to help pay for their upkeep if some tragic story was given. It seemed that every new sanctuary had at least one tiger that had been kept in a drug dealer’s basement. As this concept evolved and more and more people figured out that they could actually earn a living by taking in free animals, the sanctuary industry burgeoned. They were more than happy to take any tiger you had to get rid of, particularly babies. This was the answer to the question of what to do with those unwanted hetero tigers gotten in the production of whites. The all-out breeding light was now green. Some enterprising individuals also figured out that they could breed babies, use them to take pictures, and then easily give them to a sanctuary. The sanctuary was in turn happy to take the cub, which was tame, and use it for its own fundraising efforts. It was a win-win situation that just got carried away.

By 2004, things were at their height. I have seen reliable estimates that the tiger population was around 4,600 in the U.S.,

double what there is today. The interest in other big cats and exotics in general was at its height. The demand for white tigers had decreased. Sanctuaries were effectively full. They, for the most part, had found that stories vilifying breeders brought in the most money and had become antagonists to the people who were their supply of cats. Laws were changing and becoming more restrictive. Change was bound to come.

So, here we are today. It is a new world. Breeders have gone out of business. The AZA has remained resolute to stay isolated in their own little world. Sanctuaries are losing their cats to old age and do not easily find animals to replace them and, thus, keep the donations coming in. One has resorted to importing over 60 lions and tigers from other countries to keep its name in the news. The main supply of cats to sanctuaries is now other sanctuaries. In the last year, two of the larger sanctuaries have been bought out or taken over, then had their names trashed as their assets were gobbled up. It is not a good time to be a cat.

The sad fact is that tigers aren’t even the worst story to be told by the census. All big cats together have decreased by about a quarter in the last five years. Cougars have dropped by 43%, the biggest drop being in the non-sanctuary and zoo sector. We must wake up today before it’s too late or there will be no future!

Kevin Chambers



Designing Gibs's Outdoor Enclosure

By Danny Waldo

The plan was to build Gibs an enclosure close to the house. So close that aesthetics would be a concern. There's nothing pretty about a 1,200 square foot enclosure in a person's backyard, with no greenery to hide or distract from it. A ten foot tall fence would take on a security fence look. Add a wire ceiling to that and you have a big cage. Instead of a ceiling, add three feet of an inward angle at the top of the fence? It now has a prison appearance.

Thus, we devised a plan that would hopefully give it a decent appearance... a patio pergola was the inspiration.

Instead of poles with wire in between, we added some eye distraction top and bottom. The idea was to try to make the sections in between the poles have the appearance of windows; large wire windows of course, but windows nonetheless.

The rafters used to staple the ceiling wire were extended out past the walls, as in a pergola design, with a 45 degree craftsman cut on the ends.



Danny combined a desire to have Gibs's living close with the desire to create an aesthetically pleasing structure.

Four inch by four inch welded wire panels would have worked great, looked better, and cost less. But, if ever there was another kitten, these four inch square openings would be too large. So four inch by two inch horse panel was used.

The footprint (ground used) for the enclosure was about 1,200 square feet. A 40 foot by 32 foot rectangle with the front corners knocked off and angled. The front is closest to our home and is the first thing you see. The front corners were 45 degrees to give it a softer appearance.

The center of the front wall is an eight foot roofed extension. This is where our firewood is normally stacked. This roofed section would hide and further soften the look of the front of the enclosure. One side would cover the firewood and keep it dry (bonus!). The other side would be a covered double door entry area. This entry area is directly under the big Coca-Cola bottle cap.

Inside the enclosure, another roofed area was constructed along the back wall. It's a 20 foot by 12 foot roof with something like an attic area underneath. The floor of the attic area has holes all over the place that allow Gibs

access up into and down out of it. There is also a three foot by three foot insulated cat house built into this attic area. The face and ends of this roof were finished in board and batten rough lumber (like an old barn), with two large wire windows. Also, several "limby" cedar tree sections are mounted horizontally and vertically above the attic floor to provide more bobcat enrichment.

There are perches, shelves, ramps, and other bobcat furniture items all over the place that allow Gibs easy access up into the attic area. Actually, he's able to traverse all the way around this enclosure and never touch the ground.

There are six poles inside the enclosure holding things up. Mostly cedar poles with as many short limbs left on them as possible. One is wrapped with sisal rope. Ramps, runways, and perches on them and connecting most of them together.

It's still a work in progress, and it almost turned out looking more like a building than an enclosure. It's not as see-through as I thought it would be. But, all in all, I consider it a success. He's close to the house and the firewood's dry.

And, most importantly? I know one bobcat that LOVES IT! Yea!!!



A creative attic area has holes all over to allow Gibs access into and out of the covered area.



Gibs sits high above his humans on one of his many perches.

Blast from the Past: Necropsy - Ishmael

Long Island Ocelot Club Newsletter
May/June 1983
Volume 31 Issue 3

By John Perry

I am writing to share the loss of my six year old, melanistic (black) Geoffroy's cat, Ishmael. He appeared healthy on Monday. Tuesday evening, he had a slight cough, which I attributed to a lack of water as he or his cage mate had overturned the water sometime during the day. When I got home from work on Wednesday, he was lying on the floor in a very weak state. There was some evidence of bloody discharge on the floor.

I took him to the University of Minnesota Veterinary Hospital, where they examined him. Their diagnosis was Feline Urological Syndrome (FUS). They did x-rays as well as a series of blood chemistry tests. They immediately started giving him fluids and bicarbonate to raise the blood pH, which was down to 7.1 (normal range is 7.3 to 7.4). Ishmael had a bloated bladder and his temperature was subnormal - only 98 degrees. He died that

evening at the hospital.

Necropsy showed generally irritated urinary tract and ulcers on the gums of the mouth, both indicators of FUS. The veterinarians indicated that, though the problem had taken a while to develop, the only indicators might have been difficulty in urinating or being off feed. The latter was definitely not the case.

I would like to share this problem with other members to alert them to the possibility. The common assumption has been that FUS is associated with older neutered male cats. Apparently, newer research is showing this is not necessarily the case. Also, this is the first case the university faculty are aware of in an exotic cat which was not neutered. There is some evidence linking the problem to high ash diets, but it seems to be a highly individual and non-contagious problem. It occurs to me that the gum ulcer problem would be worth keeping an eye on. This could be difficult in animals like Ishmael which cannot be handled or easily approached. There is also no indicator as to whether the susceptibility to the syndrome can be inherited.



We don't have a photo of Ishmael for this 1983 reprint, so little Olivia will have to be a stand-in. Melanistic Geoffroy's can be easily distinguished from domestic felines by their small and rounded ears, rather than triangular shaped ears of *Felis catus*. Photo by Christine Berry.



MEAT COMPLETE
WITH TAURINE

RAW MEAT SUPPLEMENT FOR ALL CARNIVORES

Based on whole prey composition, this supplement balances the nutrients lacking in skeletal muscle meat-based diets for carnivores: vitamins A & D (normally supplied by the liver), B vitamins (from gut contents of whole prey), and of course calcium (found in bones). This supplement also contains added taurine – an essential amino acid for felids – and the antioxidant vitamin E.

CENTRAL NEBRASKA PACKING, INC.

PO BOX 550 ~ NORTH PLATTE, NEBRASKA 69103-0550

1-877-900-3003 ~ 1-800-445-2881 ~ FAX:1-308-532-2744

2016 FCF Big Cat Census

By Kevin Chambers

The FCF did its first big cat census in 2011. We have just completed a five-year follow-up to establish population trends in the big cat species: tiger, lion, cougar, leopard, cheetah, jaguar, snow leopard, and liger, as well as the number of facilities holding each.

We further broke down the facilities into three classifications: sanctuaries,



The population of U.S. captive tigers has seen a dramatic decline in the past five years. This white Bengal tiger on exhibit at the Catoctin Zoo is included in the population of 545 tigers held by zoos, and the zoo population is outnumbered by more than two to one by tigers residing in sanctuaries. Photo by Kelly Hahn.

zoos, and “all others.” The information was gathered through Freedom of Information Act data along with personal communication. The numbers reflect the number of cats and facilities found in 2016. It is known that two major sanctuaries (Serenity Springs Wildlife Center and Spirit of the Hills Sanctuary) have closed since the time this census was taken. The census information will be put up on the FCF website. The information has been broken down by species as well as by state. This should prove to be

invaluable in countering the ludicrous estimates made by animal rights groups when trying to influence legislation.

Overall, the total number of big cats in the United States fell from 6,563 in 2011, to 5,144, a decrease of 22%. The total number of facilities holding big cats fell 24%, from 718 to 548. These statistics show that the aging population is disappearing at a disproportionate rate to the number of births, as well as many facilities discontinuing the keeping of big cats. Considering that the average litter size of big cats is three, the number of births is dramatically down, to account for a 22% decrease. The number of big cats kept in sanctuaries went from 2,519 to 2,004 over this period, a loss of 20%, while the number of sanctuaries was down 8%, to 87. The zoo population stayed relatively stable, with only a 4% decrease to 1,966 big cats. By far and away, the greatest change occurred in the “other” sector. Forty-six percent (46%) of the cats either died in the last five years or were transferred to the sanctuary sector, leaving 1,068 big cats in 228 facilities. Forty-one percent (41%) of this sector closed their doors on the keeping of big cats.

We will now analyze the census numbers by species. Tigers remain far and away the most populous of all big cat species. The United States population was 2,330 in 2016, down 23% from the 2011 population of 3,013. They reside in 379 facilities, having lost 22% of their homes. Sanctuaries held 1,231 tigers in 2016, which is 53% of all American tigers. The number of tigers in sanctuaries is down 15% from the previous number in an unchanged number of sanctuaries. The zoo population decreased 27% to 545 tigers, largely due to the phasing out of generic tigers. The number of zoos holding tigers only fell 12% over this five-year period. Once again, the “all other” sector was hardest hit, losing 32% of its tigers and 36% of facilities. The 2016 numbers stood at 554 and 119 respectively. It should be noted that there were 13 generic tigers imported into the United States over this time period. These tigers all went to sanctuaries in non-breeding situations. The generic tiger exemption ruling for the Endangered Species Act was removed in 2016, making permits necessary for the interstate sale of all tigers. This will complicate sales and most likely will have a

negative effect on the population growth.

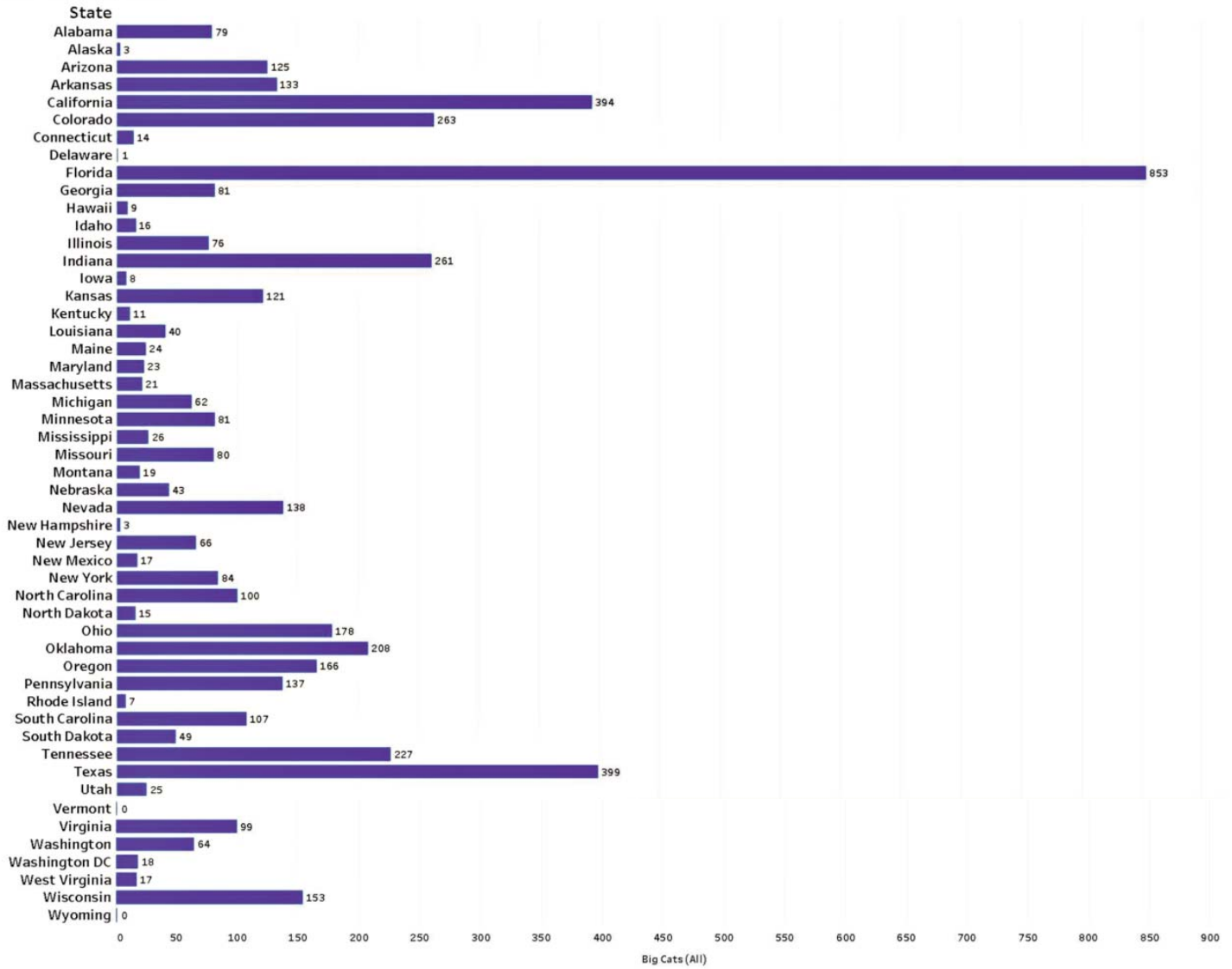
Lions came next in popularity. In 2016, 1,046 lions were found in 275 facilities, a 17% drop in animals and a 17% drop in facilities keeping them. Thirty-five percent (35%) of lions were held in sanctuaries. The sanctuaries held 362 lions in 61 facilities. The drop in these was 16% and 5%. The zoo population was stable at 489 lions in 142 zoos, which were only two less lions kept in 8% fewer zoos. The “all other” sector once again had a significant drop of 43% less lions, down to 195. The drop in other facilities was 37%, down to 72 places with lions. There were 56 lions imported into the U.S. by one sanctuary and another lion by another sanctuary. Lions were also placed on the Endangered Species Act in 2016. This will undoubtedly decrease the number of lions bred if the history of other species holds true.

Cougars felt the largest negative impact in the last five years of any of the eight species examined. The 43% decrease of cougar numbers to 674 cougars nationwide was dramatic. Thirty-one percent (31%) of the facilities stopped keeping cougars, leaving only 287 with them. The 244 cats in 31 sanctuaries represent 35% of the total population. The sanctuary sec-



Of the seven species of big cats, cougars felt the largest decline. This cub on exhibit at the Panther Ridge Conservation Center is a true rarity. Photo by Jamie Thody.

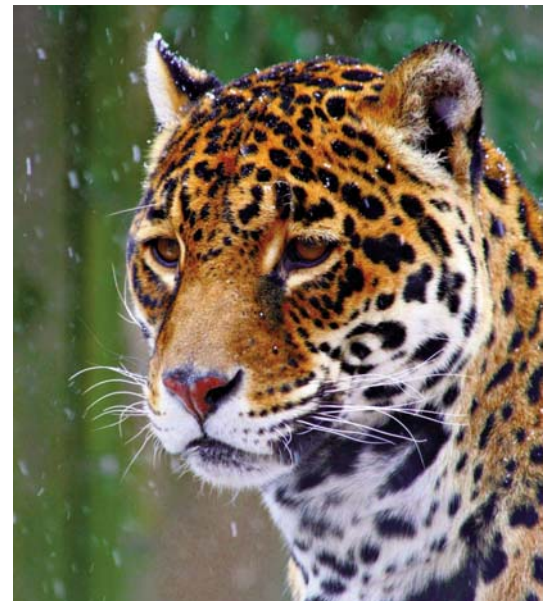
Bar - All Cats/State



Sum of Big Cats (All) for each State.



(Right) The 2016 FCF Feline Census documented a slight increase in the jaguar population. This growth is restricted to the zoo sector. Pictured here is one from the Catoctin Zoo in Maryland. Photo by Kelly Hahn.



(Above) Amur, African, and Asian subspecies of leopards make up the captive population. Amur leopards are intensively managed by the AZA zoo system. This leopard resides at Frenchak Farms Zoological Conservatory. Photo by Courtney Frenchak.

tor felt a 38% drop in cougars and a 56% drop in facilities keeping them. Zoos remained relatively stable again with 196 cougars in 100 institutions. The change was only 8% and 5% fewer. The all other sector reeled with a 78% drop in cats with 49% fewer facilities keeping them. There were only 121 places holding 127 cats in 2016. Another notable statistic is that there are 96 facilities holding only one cat in the zoo and all other sectors. These animals are effectively removed from the potential breeding population unless transferred to a facility with a mate. Both the zoo and sanctuary sectors currently have non-breeding policies for cougars. The captive population holds a very bleak outlook if these trends continue. The only positive light is that cougars are now the only big cat species not on the Endangered Species list.

Leopards fared only a little better. The overall number of leopards fell 36% to 367 leopards in 175 American facilities. The number of facilities dropped only 17% overall. Fifty-three (53) sanctuaries, 9% less, had 136 leopards, which was 38% less than in 2011. The zoos had 27% fewer leopards while there were 11% fewer zoos, 63, holding leopards. It should be noted that the data with which we were provided did not specify the subspecies of leopard. AZA is working only with the Amur leopard and has mandated that all other subspecies of leopards in their member zoos be “managed to extinction.” The “all other” sector fell 42% to only 117 leopards remaining in 60 facilities. The number of facilities holding



Snow leopard populations are also on the rise in zoos and only one sanctuary listed a snow leopard in their inventory. This one above resides at Catoctin Zoo. Photo by Kelly Hahn.

leopards had a drop of 27%. As with cougars, a significant number of leopards are the sole member of the species kept at a facility, 56 in the zoo and “all other” segments. Another factor facing leopards is that these figures represent leopards in general and do not break out the subspecies known to exist within the United States, African, Asian, North Chinese, Persian, Amur, and subspecies hybrids. When these already low numbers are further reduced into the proper subspecies, it becomes a critical number left for each subspecies.

Cheetahs found a unique place within the census. While all other big cats, except snow leopards and jaguars, had negative population trends in the last five years, cheetahs had a significant increase. Cheetahs are kept almost exclusively by zoos. In the 1990s, they were breeding very well. Enough so that the AZA’s cheetah SSP imposed a moratorium on breeding. When the moratorium was lifted, the cheetah population was either too old to breed or simply would not breed. This resulted in AZA importing dozens of cheetahs from Africa for a new start. These imports are now well established and are breeding freely. ZAA zoos have also done importations that are breeding well. Since AZA will not allow any of their stock to be dispersed to non-AZA members, it can be expected that breeding restrictions will soon be imposed so that they do not exceed their available space. Nationwide, there are already many facilities that house over 20 cheetahs each. The past five years saw an increase of 58% in the cheetah population, up to 386 speci-

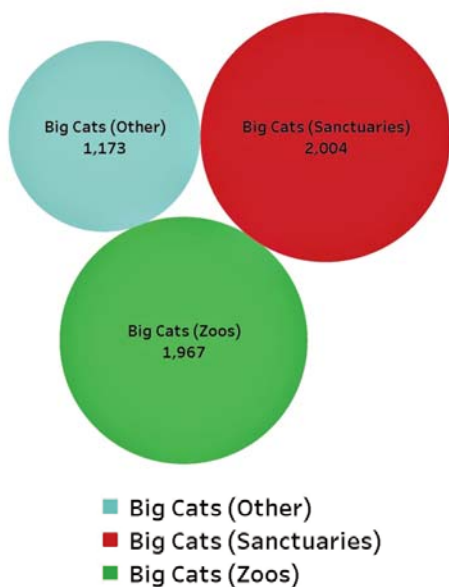
mens housed in 70 facilities. Zoos keeping cheetahs increased by 53%. Only five cheetahs in 2016 were housed in three sanctuaries and 17 in six non-zoo settings.

Jaguars also saw a slight increase in numbers on the whole. They were up 15% to 140 animals in facilities, which was up 10%. This growth was restricted to the zoo sector, which increased by 24% and 18%, to 110 jaguars housed in 53 zoos. The sanctuary population remained unchanged with six animals at five places. All other facilities saw a

decrease of 11% to 24 jaguars in nine facilities. Outside of the zoos, the jaguar population is in dire straits. It is very likely that they will disappear from the private sector soon.

Snow leopards are another species kept almost exclusively within the zoo realm, yet the number is increasing outside of zoos. Snow leopards are up 26% overall, with 164 in 70 locations, up by 15%. There remained only one snow leopard in one sanctuary and the “all other” segment was up 29% to 18 animals in nine locations. The overall population is foreseen to remain constant or with slight increases in the coming years.

Ligers, while not a naturally occurring species of wild feline, do exist in captivity. There have never been many, nor is it likely there ever will be, since they are hybrids and do not breed. The fact that the Endangered Species Act considers a hybrid to be classified the same as the lowest level of the two parent species means that ligers are now considered endangered with the elevation of lions to the endangered level in 2016. Previously, ligers were not considered endangered since one of the parent species, the lion, was not endangered. This will make it more difficult to sell ligers. It is doubtful that there will be any significant changes in the liger population in the future. In 2016, there were 37 ligers in 18 homes. This was down 14%, while the number of holding facilities increased 50%, up from 12. It should be noted that 51% of all ligers reside in sanctuaries with a population of 19.





In Memory: A Tribute to Sally, African Caracal (November 28, 1998 - December 2, 2016)

By Billie Lambert

The first time I met Sally was November 1, 2007. She was withdrawn, overweight, and rarely left her small den box. When she did come out, she made a point of letting everyone know she was unhappy through her many caracal vocalizations. After being initially startled by her anger, my thought was, "Every cat has their own personality; let her have her space." But I was drawn to Sally. There was something different about her. I decided to try and work with her and see where it would go. I began sitting on the ground inside her enclosure every day for a couple of weeks. I never approached her and she kept a suspicious eye on me from a distance.

At this time, the only knowledge I had of Sally was that she spent her first seven plus years living in a condominium in Homestead, Florida. When Hurricane Katrina made landfall in August 2005, she was discovered and relocated by Florida Fish and Wildlife.

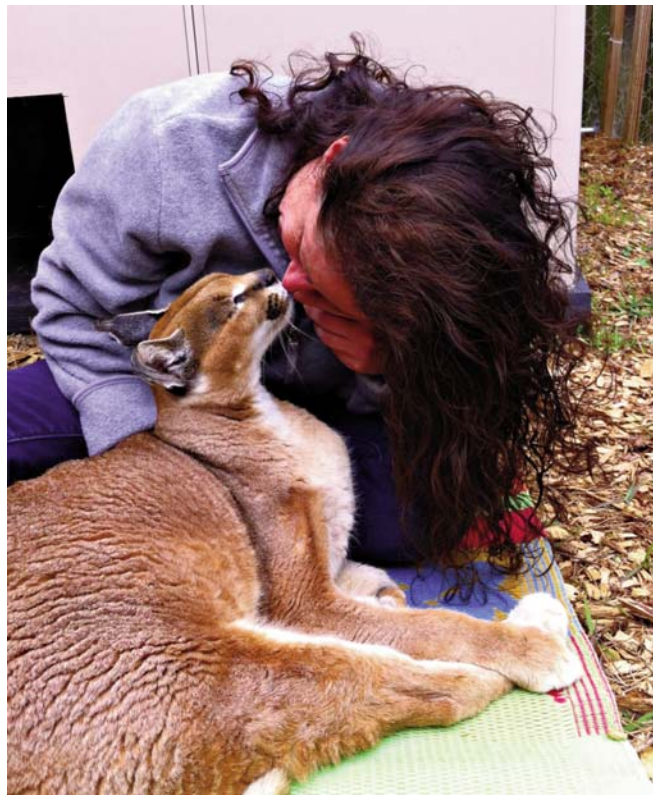
With that limited knowledge of her past and no current progress, I wondered if maybe Sally was missing the condo life

(as ridiculous as it sounds). I decided to put a blanket on the ground and sit on it. Instant reaction! Sally immediately investigated the blanket. She still ignored me, but lay on a corner of the blanket near my feet.

Every day after that, I brought the blanket and she would try to get on it as I was placing it on the ground. Before long, she was rolling playfully and reaching for my feet with her paws. Slowly, over several days, she got closer to me until she was lying with the full length of her body pressed against my legs. I decided to test the waters and put my hand lightly on her back. She looked at me, grunted, and rolled around playfully. We were bonded buddies from then on!

Over a year later, I completed the rigorous requirements and officially received my Class II Felid License from Florida Fish and Wildlife. I was finally able to bring Sally home with me. Her new enclosure included a ten-foot-square garden shed that I had converted into a custom caracal house. She had climate control and a real bed with real blankets. She was in heaven! She settled in immediately.

Soon, I began to bring family and friends into the enclosure to meet Sally. I thought Sally would not like new people, because she and I were very much bonded. I was wrong (such an ego we humans tend to have!). Sally loved everybody! For the next nine years, Sally became friends with hundreds of people, both in person and online. In person, she greeted everyone with happy grunts, lots of body rubs, and she



Billie Lambert shares a kiss with Sally, her beloved caracal that passed away from kidney disease last year.



Caracals are also sometimes referred to as caracal lynx because of their long ear tufts. Sally's tufts hung down. Photo by Lon Addison.

gave fantastic back rubs with her front paws (the highest honor she bestowed on her human friends).

On Nov 26, 2016, we had a scheduled home veterinarian visit to administer rabies shots and satisfy our USDA requirements to have an annual veterinary inspection. Sally had been treated for arthritis for a few months now. I mentioned to our vet that Sally had slowed down considerably and appeared to want to drink a lot of water. Sally still had a very healthy appetite, no weight loss, and still enjoyed interacting with me as normal. We agreed to schedule an in-office vet visit to do routine blood work the following week.

On November 28, 2016, Sally turned 18 years old. We celebrated her birthday by having her favorite meal, venison. The past nine years had been healthy and happy years. She was never sick a single day and she was only currently being treated for arthritis. I was thrilled with her health and expected many more happy



Sally relaxes on her hammock on a warm Florida day. Photo by Billie Lambert.

days in her senior years.

Three days later, I heard our dogs outside barking frantically. It was the kind of bark that said, "Something is very wrong!" I ran out and found Sally having a grand mal seizure. A hasty trip to the vet revealed advanced kidney failure. I am always amazed at an animal's ability to hide pain and discomfort. Advanced kidney failure? I knew she had slowed down considerably, but I was not expecting this.

I barely had enough time to thank Sally for trusting me and giving me all those years of her love. Barely enough time to kiss her sweet face, caress her beautiful ears and those amazing tassels, and barely enough time to thank her for loving my family and friends so they could also know and feel the beauty of her soul. I held Sally in my arms as she passed away on December 2, 2016.

Feline Kidney Disease and Treatment

By Dr. Karen Becker
Edited from an article appearing on <http://healthypets.mercola.com/sites/healthypets/archive/2012/08/06/kidney-disease-in-cats.aspx>

Chronic kidney disease is also called chronic renal disease and chronic renal failure. It means the kidneys have been gradually and irreversibly deteriorating over a period of months or years. Elderly felines usually develop some degree of kidney disease, and hyperthyroidism and chronic kidney disease tend to go hand in hand in many aging kitties.

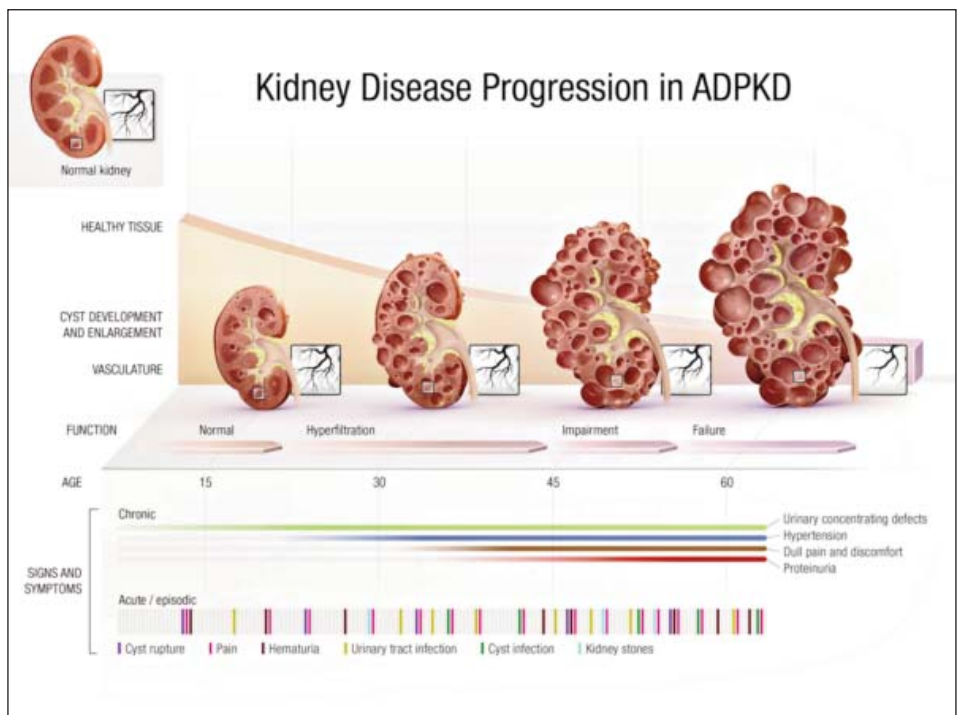
The kidneys are made up of thousands of microscopic, funnel-shaped tubes called nephrons. The job of nephrons is to filter and reabsorb fluids. In young, healthy animals, there are so many nephrons available that some are held in reserve. As the feline ages or in cases of kidney damage, some nephrons stop functioning and the reserve nephrons take over and start functioning for them. At some point in a feline's life, all of the nephrons that can function are functioning.

With no nephrons left in reserve, as damage to the kidneys progresses, signs of chronic kidney disease will start to appear. Because of the system of reserve nephrons, there are no signs of kidney insufficiency until the damage is really significant. When two thirds of the nephrons are lost, the kidneys will no

longer be able to conserve water, and the cat will pass larger amounts of dilute urine. By the time that the creatinine levels are elevated on the feline's bloodwork, 75 percent of nephrons in both kidneys are gone.

Causes of chronic kidney disease

include malformation of the kidneys at birth, congenital polycystic kidney disease, chronic bacterial infections of the kidneys, high blood pressure, immune system disorders such as systemic lupus, exposure to toxins, an acute kidney episode that can damage the organs and



Autosomal dominant polycystic kidney disease. Illustration courtesy of www.pdkcure.org.

lead to a chronic kidney problem, chronic urinary tract obstruction, and certain drugs, especially the NSAIDs (non-steroidal anti-inflammatories), as well as some nephrotoxic antibiotics. Some infectious diseases like FIV and feline leukemia can damage kidneys. Other causes are heavy metal exposure, abdominal trauma, and possibly diabetes. Often the exact cause cannot be identified.

As blood travels through the kidneys, they perform an intricate filtering job that removes waste materials from the blood and keeps the good substances like serum proteins in the bloodstream. The kidneys also regulate the amount of water in the blood. Kidneys help to maintain healthy blood pressure by regulating sodium. They also regulate calcium and vitamin D. The kidneys secrete a hormone called erythropoietin that stimulates the bone marrow to produce red blood cells.

When the kidneys are not able to function normally there are many organ and body systems that can be affected. Because the kidneys have so many jobs to do, there are many symptoms of kidney disease, and they can actually be quite variable from one cat to another. They can be subtle and progress slowly, or they can be severe and appear quite suddenly.

Symptoms of failing kidneys can include increased thirst and urination, leaking urine (especially at night), vomiting and diarrhea, lack of appetite, weight loss, depression, anemia, and overall body weakness.

Other less common signs of kidney disease can be fractures resulting from weakened bones, high blood pressure that can lead to sudden blindness, itchy skin, bleeding into the stomach, or bruising of the skin.

Routine blood work can detect a chronic kidney problem at an early stage. Blood chemistry profiles will show if there are elevated levels of circulating waste products, which is a sign of declining kidney function. Routine bloodwork will also pick up anemia, which is common with this disease.

A urinalysis is really impor-

tant in providing critical information about kidney function. It can pick up a urinary tract infection. More importantly, it can quantify the concentration of your cat's urine and detect if microprotein is being passed. These are two of the most common, earliest recognizable signs that kidney dysfunction is occurring.

Reduced kidney function affects the kidneys' ability to concentrate urine, so very dilute urine is a very common problem. Cats with failing kidneys really tend to drink more, then pee a lot, and then drink even more and pee even more.

Chronic kidney disease is staged depending on the severity. The severity is estimated based on the level of waste products in the blood and abnormalities in the urine. Stage 1 is characterized by creatinine levels in the blood that are less than 1.6 milligrams per deciliter. Stage 2 is when creatinine levels are between 1.6 and 2.8 milligrams per deciliter. Stage 3 creatinine levels in the blood reach 2.9 to 5 milligrams per deciliter. There is moderate accumulation of waste products in the blood, indicated by elevated BUN (blood urea nitrogen). Stage 4 is characterized by creatinine over 5 milligrams per

deciliter, severely elevated BUN, and multiple additional symptoms as well.

The amount of protein passed in urine and the presence of elevated blood pressure are also factored into the staging process.

Treatment goals for cats with kidney disease are to control uremia (which is the buildup of nitrogenous waste products in the blood), delay the progression of disease, and maintain the feline's quality of life for as long as possible.

Fluid therapy is usually recommended initially to deal with dehydration, anorexia, and vomiting, and to flush the circulating waste products out of the system. Depending on the patient's condition, fluid therapy may be administered intravenously, and once the feline is stable and rehydrated, additional sub-Q (subcutaneous) fluid therapy will need to be provided regularly. Subcutaneous fluids are injected under the skin, usually in the scruff of the neck between the shoulder blades. The frequency of injections depends on the severity of disease.


A diet high in excellent quality protein and lower than normal amounts of sodium and phosphorous is recommended. Controlling phosphorous intake has proven to be very important in controlling the progression of kidney disease. Most importantly, felines with kidney disease must continue to eat. Unlimited access to fresh water should always be provided.

There are a variety of other therapies that can be helpful depending on symptoms. High blood pressure may need to be controlled. Anemia may need to be addressed. And sometimes certain medications must be given to alleviate GI symptoms.

Vitamins and minerals can sometimes be beneficial, such as a variety of B-vitamins added to the sub-Q fluids. B-vitamins can help with anemia, improve a cat's overall feeling of well-being, and also help with nausea.

Making your cat's environment as stress-free as possible is also really important.


Own Your Pet's Food:
Take Control by Feeding Fresh!



"FRESH + OASIS is the 'Missing Link' to a Healthy Complete Diet & Optimal Performance"

Add Oasis premix to fresh meat & the result is a scientifically balanced and complete real food diet – no guess work. Oasis is professionally formulated by Dr. Gary Pusillo, and for over 20 years, has been the #1 selling vitamin & mineral premix for exotic cats, trusted by the world's top breeders, private zoos and sanctuaries. Now Oasis is available under the Complete Natural Nutrition brand along with other exceptional nutritional tools like Primal Cal, Rapid Rehab & Crisis Care.

www.CompleteNaturalNutrition.com / 866-807-7335



CompleteNaturalNutrition



ENJOY \$10 OFF

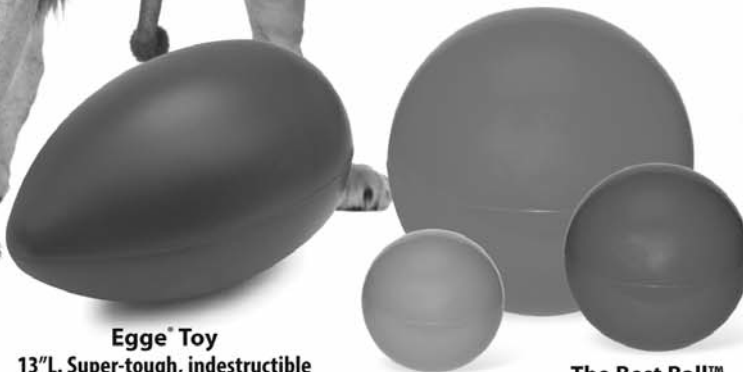
Your next order
of \$50 or more.

When ordering online
or by telephone,
Enter code ZZ-F3.

Limit 1 per customer.
Excludes Zupreme Products.



Ear Mite Killer
With Aloe. Contains
0.15% Pyrethrins & 1%
Piperonyl Butoxide.
6 oz liquid.



Egge Toy
13"L. Super-tough, indestructible
design. Assorted colors.

The Best Ball™
Non-toxic, gorilla tough, polyethylene plastic balls.
Assorted colors. Sizes: 4½"D, 6"D or 10"D.



Chase 'n Pull Toy
32"L handle with
36"L extra-strong solid braid
rope. Squeaky. Assorted colors.



Heavy-Weight
20-Gauge Stainless Steel Bowls
Sizes: 8 oz, 16 oz, 30 oz, 48 oz, 72 oz or 128 oz.



Safe-Guard® Paste with Fenbendazole

JEFFERSPET.com

Call for a FREE Catalog.

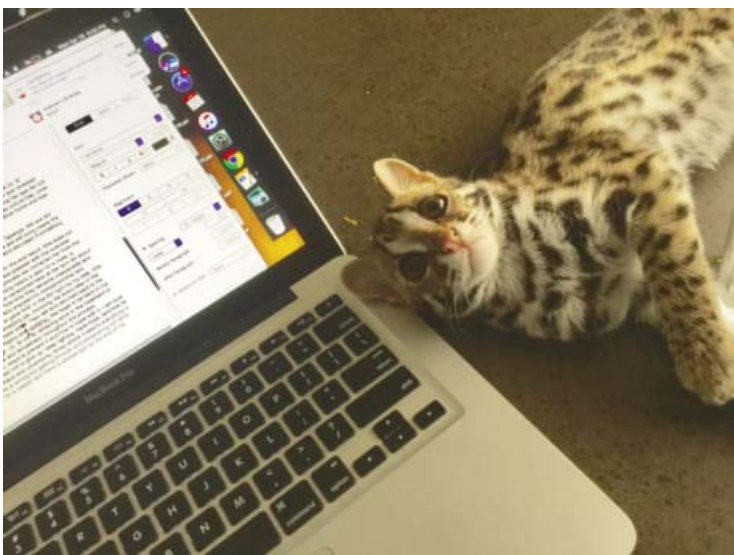
1-800-JEFFERS

(1-800-533-3377)

An Eye For An Eye: Tapanga's Story

By Sheri DeFlorio
Twin Pine Farm & Exotics

Stress can wreak havoc on our bodies, causing unwanted problems with our health and overall well-being. We all deal with stress in our own way and most of us battle it on a daily basis; some years are better than others.



Tapanga hangs out by the computer as her "mom" Sheri composes her story for the *FCF Journal*.

Stress on animals can cause life or death situations, especially in the wild. Environmental changes, mating seasons, even food or diet can cause our wild species to slowly become nonexistent. We have an important responsibility with the animals in our care. It is our duty to know, watch, observe, participate, and educate ourselves for our animals and their future. The more we get to "know" our felines, the better off both of us will be in the long run. Seeking knowledge and having an understanding of their preferences, quirks, and even habits can prevent unnecessary stress.

In 2016, a fire in our home created chaos in our lives, causing a hopeless uncertainty each day for over a year. Not only were we displaced from our home, but our animals were, too.

Our main focus at Twin Pine Farm & Exotics is conservation through breeding. We focus on two feline species: the Geoffroy's cat and the leopard cat. We are

licensed through the USDA and are home to a vast array of farm animals as well as the cats. We have close relationships with all of our felines; most have been raised indoors, in our home, for nearly two years before they are introduced to the outdoors. Each and every one of our cats is very much a part of the family. Although the adults may primarily live outside, we

make sure to keep that relationship strong by rotating them back inside our home every few weeks.

During the fire, we were raising our first leopard cat and she was living with us in our home. She was two years old and had never been outdoors, with an exception of our deck at times. In the blink of an eye, we found ourselves homeless, but unable to leave the farm because of our animals. Our

only option was to camp out, so within a month, we parked a 29-foot RV travel trailer behind our uninhabitable home, while the insurance company processed our claim. Hoping for the best, my husband and I moved into our new "tiny house," with Tapanga, our leopard cat. Months flew by before construction started on the house. Meanwhile, Geoffroy's kittens were born and our space became too tiny for comfort. Bottle-feeding the Geoffroy's put strain on our close-knit living quarters and Tapanga became unhappy. I wish I could have explained to her what was happening and that this living situation was just going to be temporary and to give her some kind of hope.

It went from spring to summer quickly. The weather became very hot here in South Carolina. We set up a make-shift enclosure (45x15) under our pool house and slowly introduced Tapanga to it. Each day, I would bring her outside to this enclosure, which contained different items from the house for her ease and comfort. Tapanga spent a little longer each day in her new "playhouse," which in reality was more spacious than the RV we all suffered in.

As day turned into night and night turned into day, Tapanga became more stressed in her environment. Although I did my best, spending time with her outside and bringing her inside the RV at times, it just was not enough to give her hope that things would go back to normal once repairs were completed on our home. The hot, 100-degree summer days, daily rainstorms, and loud construction workers all took a toll on Tapanga's health.

A month later, in the early morning I noticed she was squinting one eye, but not thinking much of it, I was hopeful the irritation would be better that evening when I returned home. I could have never been so wrong; the chaos and stress in her life and ours became challenged yet again with what ended up being a three-month battle trying to save Tapanga's eye.

Stress can alter one's immune system and, in this case, the eye irritation turned

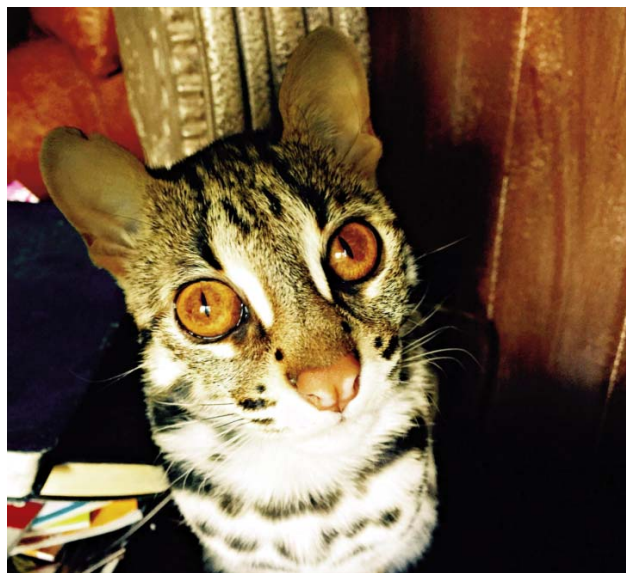


Photo of beautiful Tapanga's eyes before a severe bacterial infection caused a corneal ulcer that threatened to destroy her vision.



Vet tech Valerie Claey's prepares Tapanga for surgery, holding the mask over her face as she is sedated using isoflurane gas.

into a full-blown bacterial/viral infection with a corneal ulcer that was about to rupture, which took an inventive veterinarian and his compassionate team to successfully treat.

The first vet I went to prescribed a few different eye drops and ointments which had no effect on the healing or the pain she was experiencing. A few more trips to that vet and a few more prescriptions of different medications did not seem to make a difference. We had tried

weeks passed and Tapanga's eye continued downhill. It got to the point where she no longer allowed me to intervene. Some of the eye drops were painful, some soothing, but as week three approached, she let me know that enough was enough. In desperation, I called another veterinarian that I have trusted my exotics with for years, but was located over an hour away.

Tapanga was the first leopard cat our vet, Dr. M., had the pleasure of working



A pair of Geoffroy's kittens help Tapanga forget her misery.

Remend® Corneal Repair Gel, Gentamicin Sulfate ophthalmic solution, Tobramycin ophthalmic solution, and Neo Poly Dex Ophthalmic, but

with. During the examination, while she slept soundly, he investigated the condition of this leopard cat's eye. Dr. M. invited me into the exam room to see what we were tasked with. He used his medical tools to open the eye wide so we had a clear view; Tapanga's eye was a horrific green color that was oozing white and looked excruciatingly painful. I was told that if this infection spread, she could lose her vision and possibly her eye,

which she was very close to at that point. Knowing that this feline is rare and not specializing in ophthalmology, the vet recommended me to a specialist. Both Tapanga and I did not have time for an ophthalmologist located two hours away; she had been through enough and so had I. We talked about her options while I explained our living situation, the stress and how she no longer would let me near her eye. Her chances for a full recovery and successful treatment, if seen by an ophthalmologist, were uncertain.

As I pondered with decisions, Dr. M. called me from the hospital's waiting room with an idea to suture Tapanga's third eyelid closed. Because of the time sensitivity for treatment and knowing I was incapable of administering any more eye medication, this procedure would give her the eye protection needed to allow healing. Surgery was quick and we left more hopeful. Tapanga stayed with us in the tiny house. We made it all work by shuffling and rotating the Geoffroy's kittens outside and also bringing them with us to work. Tapanga was constantly pawing at her eye, trying to itch and groom herself, which resulted in the sutures breaking free during the second week. Her eye looked worse than it had ever looked before. Another call to Dr. M. and she was back on his table for round two. He was not pleased with the results; the ulcer had gotten worse rather than better, and her ulcer was even closer to a rupture at any given moment.

While Tapanga slept, we gave the third eyelid procedure another go; he adminis-



After surgery, Tapanga had to wear an Elizabethan collar to prevent her from rubbing out the stitches that held her eyelid closed.

tered a onetime dose of platelet-rich plasma to her eye, using her own blood plasma to promote healing. We left the hospital with more sutures than last time and a cone decorating her neck. The two Geoffroy's youngsters saw Tapanga come home looking like an alien, but must have had pity on her. They would curl up close to her and quietly sleep while she was in misery. Dr. M. prescribed Famciclovir, an antiviral drug, orally. Famciclovir is used to treat infections caused by certain types of viruses, such as herpes simplex and herpes zoster. Famciclovir decreases the severity and length of these outbreaks. It helps the sores heal faster, keeps new sores from forming, and decreases

pain/itching. This medicine was made especially for Tapanga by the local pharmacist, using cod liver oil. The Famciclovir was to be administered orally twice a day. Tapanga hated the smell of cod liver oil, so I had to become inventive, taking a dropper and squeezing the dose on the inside of her cone. The medicine slowly made its way down to her and she had no other choice but to lick it off or be doomed with it dripping onto her neck. This cruel method worked and we made it through two long weeks. Tapanga was sound asleep and back on Dr. M.'s table for the outcome we all hoped and prayed for.

Finally, good news and relief fell upon

us that day, in that room and in that hospital. As Dr. M. removed the sutures, we all stood there in suspense as her eyelid subsided; her eye revealed healing. Although we were uncertain of her sight and vision, we were certain that her eye did not rupture, and the procedure had saved it. Tapanga left the hospital with me that day suture-free, cone-free, and with eyes bright, open, and pain free. I glanced at her during that long drive home and saw her contentment and happiness -- something I had not seen in months.

It has been nearly a year since that drive home from the hospital with Tapanga. We are still waiting for construction crews to finish the work on our home and we are

Corneal Ulcer Information

Edited from
<http://www.prptreatments.org/veterinary/corneal-ulcers-dogs-cats/>

A complicated corneal ulcer (CCU) is any ulcer involving deeper layers of the eye, such as the stroma, Descemet's membrane, and endothelium. An ulcer also should be considered as complicated if scarring has not occurred after ten days of treatment for simple corneal ulcer (SCU).

Samples should always be taken for culture studies before applying any dye or medication. Within the CCUs, there are indolent ulcers, "melting" ulcers (collagen dissolving that gives a jelly-like appearance), deep ulcers, descemetocoele (a bulging forward of Descemet's mem-

brane caused by the destruction of the substance of the cornea by infection) and corneal perforations. The chronology occurs as the stroma is destroyed, generating a rupture of the Descemet's membrane, then corneal perforation involving the endothelium, and, finally, prolapse of the iris.

If the full chronology happens along with severe bacterial infection, the patient will most likely lose vision and/or the eye. Neovascularization, uveitis, edema, and other systems will be manifested in a more severe way than with SCU.

Conventional treatments for CCU include specific topical antibiotics based on culture results, topical and/or systemic NSAIDs, topical atropine, and, in many cases, temporary surgery is indicated.

Different surgical techniques may be used, but pedunculated conjunctival flaps and keratoplasty are the most common ones, since they keep lubrication and blood supply to the ulcer.

The Platelet-Rich Plasma Alternative for corneal ulcers contains serum, leucocytes, and platelets. The growth factors contained inside the alpha granules of the platelets [such as platelet-derived growth factor (PDGF), transforming growth factor (TGF), platelet factor interleukin (IL),

platelet-derived angiogenesis factor (PDAF), vascular endothelial growth factor (VEGF), epidermal growth factor (EGF), insulin-like growth factor (IGF), and fibronectin] are released when the platelets become active, enabling all of their physiological functions, which regenerates lost tissue by stimulating cell differentiation and tissue morphogenesis.

This is incredibly important and different from the scarring process, since regeneration means that the function of the tissue is reinstalled, while scarred tissue covers the damaged area, but does not possess physiological activity.

PRP is especially useful in cases of corneal ulcers, since the main concern is the timing. If the installed treatment does not work fast, the consequences are irreversible. PRP therapy, along with the basic pain management and antibiotic medication, accelerates the healing process.

In cases of SCU, the clinical results are impressive, since pain is significantly reduced, and the epithelium cell mitosis happens much faster. For CCU cases, clinicians have reported less scarred tissue and adhesions, faster recovery, and lower rates of blindness secondary to perforation.

On top of this, inflammatory and/or allergic reactions are not an issue (as it may happen with other medication, or commercial serum from different species), since the PRP is an autologous preparation, which lowers the risk of secondary effects.



Unlike most tissues in the body, the cornea contains no blood vessels to nourish or protect it against infection. Here, the third eyelid is lifted up to reveal a corneal ulcer of the stroma.



Theo, a young leopard cat stud vacationed at Twin Pines for about six months, was a perfect boyfriend for Tapanga.

still living inside the RV. We share this story hoping to help others be aware, prepared, and educated if something similar were to happen in their lives.

Tapanga's eye healed slowly; it took an additional four to five months for the end result. She does not have full vision in her eye, but it is nearly close to perfect. We are pleased with the outcome, which exceeded all of our expectations. During her healing process, we distracted her from the nightmare she lived through by finding her a boyfriend. After searching nearly a year for a mate, a leopard cat named Theo arrived from North Carolina. He vacationed here at the farm for about six months. When they encountered each other for the first time, they became inseparable and the best of friends. Theo kept Tapanga occupied and she enjoyed his companionship. Her first baby was born in January of this year, and she gave birth in the RV right by my side. She mothered Amaia since day one and has done an amazing job, allowing me to be involved every step of the way. Her daughter has been a friend and playmate since Theo returned back to his home. We are so proud and thrilled to see Tapanga happy and content. We hope to be back in our home by fall, which cannot come soon

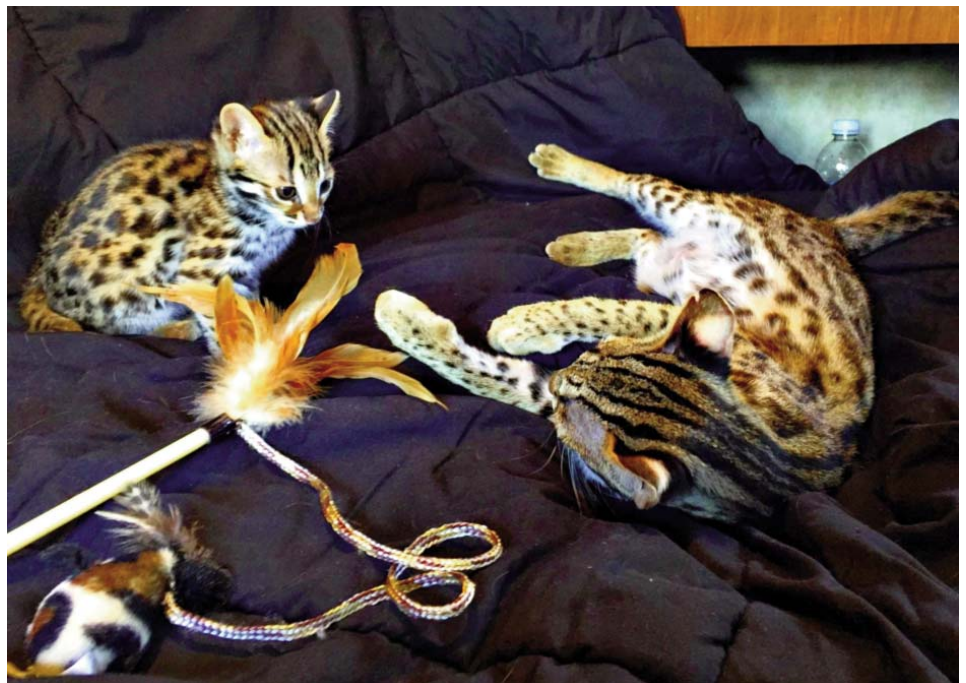


A happily recovered Tapanga has her eyesight and a new daughter, little Amaia.

enough. Dr. M. did fantastic work with Tapanga, and the staff was compassionate and empathetic throughout the process.

I have learned about stress, what it can do, ways to prevent it, and how to cope

with it. I am sure I speak for Tapanga as well. I have learned not to give up, keep fighting, have hope, and live for tomorrow. Everything happens for a reason and there is always light at the end of the tunnel.



Amaia and her mother Tapanga are living proof that persistence pays off.



Snow leopard enjoys the Canadian winter.
Photo by Rob Moyes.



Stonehenge structure provides welcome shade
for the caracal. Photo by Courtney French



Momma serval nurses her litter of four!
Photo by Billie Lambert.

Your Best Shot



Dani Florida panther looking pretty after all
these years. Photo by Jim Broaddus.

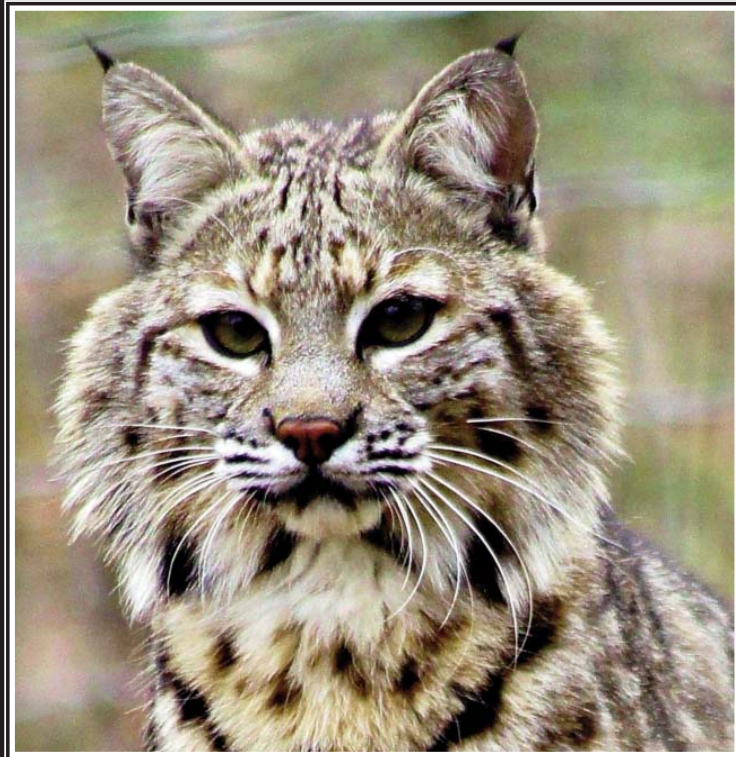


made
ak.

s!



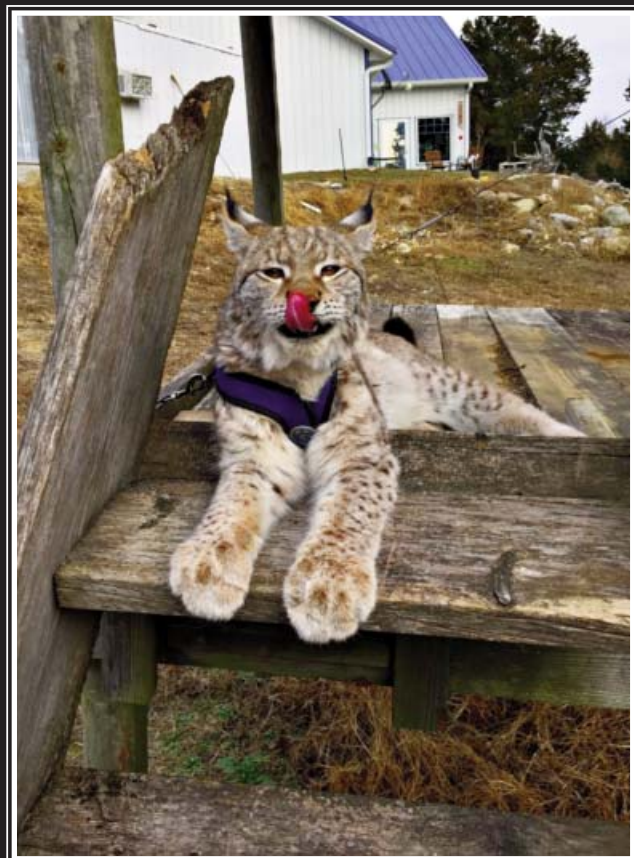
Kisa Eurasian lynx relaxes in the spearmint patch in front of the zinnias. Photo by Lynn Culver.



Chubbs bobcat face study with mutton chops flared. Photo by Patricia Trulock.



Salem snow leopard gets used to his new home at the Wild Feline Advocacy Center. Photo by Shelleen Mathews.



I can lick my nose; can you? Biff is showing off. Photo by Sheila Adams.

Convention 2017 is Ready for You – Are you Ready to Attend?

Make those travel plans now – whether you plan to drive or fly, time is running out. The closest airport is Sarasota, but also within an hour's drive are both the Tampa International and the Boca Raton Airport, where you can rent a car and have it for your Florida vacation.

The FCF Convention will be hosted at the luxurious Hyatt Regency Sarasota hotel, which offers shuttle service from Sarasota Airport, as well as to downtown Sarasota and world famous Lido Beach. So definitely plan your vacation around Convention and reserve extra time for the ocean. The beach sand is white, powdered sugar-covered with gorgeous shells everywhere. The water is crystal clear! What more could you ask for?

The fun begins at 2 pm, Tuesday, July 25th, when registration opens, the kittens are on display, and silent auction tables are ready for your bids. Enjoy libations and a delicious supper before the general membership meeting. Get a great night's rest in the luxury of the Hyatt rooms so you'll have plenty of energy for back-to-back field trips on Wednesday.

Visit Big Cat Habitat, an FCF member facility run by Kay and Clayton Rosaire. Here, we will view plenty of big cats, includ-



presentations. Cincinnati Zoo Head Nursery Keeper, Dawn Strasser, has raised everything from aardvarks to zebra to duikers in the zoo's nursery, and the FCF will welcome her as our very special guest speaker at this year's Convention!

In March of last year, Dawn Strasser began raising a bunch of cheetah cubs born from a C-section. Sadly, their five year old mother passed a few days after surgery, but, with the help of Australian shepherd "Blakely," resident nursery companion and provider of snuggling, comfort, and a warm body to climb, the cubs are now healthy, normal yearlings.

This past February, three female Malayan tiger cubs were born at the zoo and ignored by their mother, so it was Dawn to the rescue. She is busy rearing them, once again with the help of Blakely.

Dawn has also been posting updates on the star of the Cincinnati Zoo's Facebook page, Fiona, the preemie Nile hippo being reared in her nursery. Get ready for some very interesting stories and experiences during her talk on Thursday morning.

President Kevin Chambers will elaborate on the latest findings from the FCF Wild Feline Census results and the genetic health of our captive feline populations.

The FCF's Education Chairperson, Lynette Lyon, of Lyon



ing lions, tigers, ligers, leopards and cougars, as well as bears, primates, birds, and small cats, too. Clayton will present a big cat show and spend time with us answering questions and sharing his vast animal training knowledge. We'll also watch the trained bird show.

Then we'll visit the Ringling Brothers, Barnum & Baily Circus Museum. We will have two and a half hours to explore the rich history of the circus, see the amazing Howard Bros. Circus model, and experience hands-on interactives. You are also welcome to tour the Museum of Art filled with treasures, including Old Masters, contemporary art, and special exhibitions. And what animal collection is complete without botanicals? Get plenty of ideas at the Bayfront Gardens, 66 acres of magnificent grounds and gardens, featuring Mable Ringling's Rose Garden.

Friday night, you are free to hit the town and dine at one of Sarasota's many fine restaurants.

Saturday morning, listen to the all-star lineup of speaker



Ranch Therapy Animals, will share her unique perspective as a next-generation licensed wildlife educator. Lynette grew up amid her parents' animal passion and, after spending some time in Wisconsin managing a zoo, and some time in South America "trying to save the rainforest," she's now committed to animal work at Lyon Ranch.

Spend Saturday afternoon at the beach, by the pool, or sightseeing. Then join others for an hour of cocktails and final bidding on silent auction items before dining at the banquet dinner. This is your last chance to visit with old friends and new. Experience the fun and fellowship at the fundraiser auction, where the FCF raises money needed to meet the many goals and projects of the organization.

Start your FCF Convention Experience by taking one of the FCF's Educational Courses

Monday, July 24th, at the Hyatt Regency Sarasota Hotel, the FCF will present both the Basic Wild Feline Husbandry Course and the Wildlife Conservation Educators Course. Both courses begin at 8 am, run throughout the day, and conclude at 5 pm. These educational opportunities precede the convention and provide another great opportunity for learning and networking with other feline enthusiasts.

Sign up for the Monday courses on the registration form. If you have never taken the husbandry course and already have cats, you will benefit, gaining a wider range of knowledge pertaining to the husbandry of wild felines. If you have already received a certificate from attending a husbandry course previously and you work at a zoo, sanctuary, or nature center, improve your ability to communicate educational messaging about wild felines to visitors by taking the Wildlife Conservation Educators Course.

Enclosed is a registration form. You can also register online at www.felineconservation.org. Click on the "Upcoming Events" heading to reserve your hotel room at the Hyatt Regency Sarasota, and register to attend the FCF Convention!



Big Cat Habitat is Sarasota's #1 Animal Attraction.



Dawn Strasser, Cincinnati Zoo Head Nursery Keeper, will have plenty to share as our special guest speaker at Convention.

Take the Wildlife Conservation Educators Course taught Monday, July 24th. Topics covered:

- Permits for wildlife exhibiting & laws that regulate
- What it means to be a professional wildlife educator & how you'll impact your community & the animal industry
- How to form a wildlife education business, establish a professional image, & maintain credibility
- How to choose wildlife ambassadors
- Animal husbandry, training, enrichment, & safety techniques
- How to develop educational shows that flow smoothly, capture audience attention, & raise conservation awareness
- How to market your business & shows
- Valuable tips to improve your show & set yourself apart from competitors
- How to speak professionally to the media & your audiences
- How to maintain & grow a healthy business

The FCF Wild/Exotic Feline Husbandry Course will be taught Monday, July 24th. Topics covered include:

- Natural History of Wild Felines
- Regulatory Agencies & Permits
- Facility Design
- Handling Equipment
- Diet / Nutrition
- Health Care Basics
- Disposition & Handling
- Behavior Conditioning
- Contingency Planning



Chadwick the Lion —
Santa Barbara Zoo, Santa Barbara, California

**For zoos big
and small**



Speedy the Turtle — Allison's Bedroom, Lexington, Kentucky

Whether a zoo of 3,000 animals or a household of one, Mazuri® knows nutrition. Learn how we are advancing the science of animal nutrition.

Mazuri®
EXOTIC ANIMAL NUTRITION
WWW.MAZURI.COM | 

Cheetah Conservation Botswana Receives \$1,000 FCF Conservation Donation

By Rebecca Klein

I wanted to thank the FCF so much for your wonderful donation through Wildlife Conservation Network; we are so excited to be partnered to conserve cheetahs in Botswana! With the global cheetah population continuing to decline (only around 7000 now), the importance of Botswana's cheetahs becomes ever more apparent. With approximately 2000 individuals, it is the only country where their population remains stable and through the Cheetah Conservation Botswana work we are excited to be able to contribute to this with your support.

All is going well at CCB. In February we held a training workshop for 23 farmers to provide livestock management training to communities experiencing conflict, this was also attended by Botswana Television, so we enjoyed the added bonus of having this initiative promoted nationwide. In March we had a community engagement meeting attended by 300 people, including chiefs and elders, to provide feedback to our focal communities on programs and activities in their



CCB provides livestock guard puppies to goat farmers. This program has stopped losses from predators and improved relations between stock farmers and native cheetahs that share the grazing habitat.

areas. While April saw the CCB team bringing together our farmers networks for meetings, along with environmental bush camps at our education center to get children excited about living with cheetahs and how they can use appropriate techniques to coexist with cheetahs and other carnivores.

We have a number of farmers who have received dogs from CCB who have provided some great feedback.

Ms. Naomi Torumba: "I am a small stock farmer and started my farming endeavor with 25 goats. Due to conflict with jackals and cheetahs, however, my herd was not growing. I received a livestock guarding dog from CCB in 2015 and since then my losses to carnivores have disappeared. I currently have 53 goats and through the money generated from my small stock herd, I have managed to build my family a house in my village. I later sold some goats to electrify the house and buy the livestock vaccines. My livestock productivity increased tremendously after placing a dog and has enabled my life to improve. My commitment in livestock management has inspired other people in my area so much that they have now started placing dogs on their own while others call CCB for assistance in this regard. I am starting to believe that with such techniques, coexistence with cheetahs really is possible."

Mr. Andrew Molatole: "I am a farmer in the Ghanzi region. I have been staying in this farm for almost 20 years. Cheetahs used to be my problem because they were preying on my goats. One day by word-of-mouth, I heard about the cheetah people and their job to support farmers. Without hesitation, I contacted their office in Ghanzi and told them about my problem. In fact, I wanted them to come and take away their cheetahs from my farm. It was then that I was enlightened about a livestock guarding dog program. They gave me two dogs that I use to protect my herd from predators. I am happy to tell you that I have never had a case of depredation to my goats in this farm since these dogs were introduced. My goats are multiplying and that means more profit in my pocket. Cheetahs are not a threat to my herd anymore. I am happy to live alongside them."

Mr. Batshidi Tsae: "I am a small stock farmer specializing in rearing of goats. During my first days here, there were many jackals troubling my goats in this land. I was losing more of my goats to jackals. I would lose approximately four goats in a month and that was hard on me. I wanted to give up farming, until the day



One of the cheetahs that CCB has collared and studied.

I met the CCB people who told me about their programs (farming with predators), and I was privileged to be given a well-trained dog 'Radipodi' free of charge. With pleasure I tell you this dog is doing well. It has chased away all jackals and other predators in my area. The dog is always with the herd, he goes out with goats from morning to evening every day. I no longer worry of losing my livestock to wild predators. I thank CCB for this livestock guard dog program; they are doing an excellent job. It is a positive support to farmers and I recommend it to anyone with predator problems."

We just finished the latest livestock guarding dog veterinary clinic in early October last year. Mark Bing, DVM had the following to say: "I seldom gush, but I am feeling happy and contented at the way the dogs that I have recently neutered have been treated and how happy they all were. CCB is doing a magnificent job and need commending."

So far in 2017, we have already placed another ten livestock guarding dog puppies with farmers experiencing conflict with cheetahs in the Kalahari. These dogs were all from the same litter that was due to be euthanized at the local animal shelter. We intervened to give them a brighter future. They are all doing well! We have another six puppies in training. Our research has already shown that the use of these dogs reduces livestock losses and improves tolerance. We estimate that each dog will protect its herd from approximately 30 cheetahs during its lifetime.

Thank you for helping us to make our work possible!

Zandy's Litter of Seven

By Mechel Whitaker

Zandy is a very loving, three year old serval girl and the proud mom of a litter of seven healthy kittens born on April 4, 2017. It was a stormy day and very close to Zandy's due date, and we all know servals love to have their litters on the stormiest days. I think it has something to do with the low barometric pressure. On the day Zandy had her litter, I started my day by going out to the serval nursery to check on Zandy and feed her a few guinea pigs for breakfast. She gobbled them down pretty quickly and she seemed unstressed and relaxed, so I went about my morning chores cleaning enclosures and feeding the rest of the farm animals. Two hours later, when I got back from taking Puma to Dr. Green for her wellness check, I went in to check on Zandy again. I was excited to see she was quietly resting and lovingly licking and nursing her four brand-new babies. Wow, that was fast! This is an average size litter for her, so I thought she was finished. I left her alone with her new babies and continued on with my chores and, after a few hours, I went back to the nursery to clean her room, change her bedding and feed her lunch. To my great surprise, she had three more babies; seven strong healthy babies in all. She had already separated out three smaller kittens, either because she was planning on feeding in two separate groups or she had decided to concentrate

only on the bigger, stronger babies, since she probably had the instinct that she would not be able to produce enough milk to feed them all. It always amazes me how Mother Nature knows best.

After much consideration, I decided to help Zandy out and bottle-feed the three small ones. All of the kittens survived for two weeks and, on the second week, two of the smallest died, most likely due to aspiration. It is very hard not to aspirate the little ones, because they are so eager to feed. You have to be careful and feed small amounts every couple of hours.

Beside running and operating a serval refuge and breeding facility, I also work as a laboratory scientist. My job is to diagnose illnesses in animals and humans. I see firsthand the damage that over-supplementing and commercial diets can do to our pets. I have learned through experience that the nutritional health of a serval queen has a great impact on the size of the litter and affects how many ova are produced and how many fetal abortions occur. Cats will absorb their kittens if they have poor nutrition or experience too much trauma or stress. This large litter size was not lucky or by chance. It was the result of a lot of research, trial, error, good husbandry, and genetics.

A serval litter size is on average one to three kittens, but there are several factors



One of seven kittens born to Zandy the serval at the serval conservation and educational refuge run by Mechel Whitaker.

that affect litter size:

1. The genetics of the breed - The specific breed determines the average number of kittens possible.

2. The age of the queen - The older the cat, the smaller the litter.

3. Bacterial, viral, or parasitic infections - If present, they could cause small litters, low birth weight, stillborn and sickly kittens.

4. Inbreeding - If you are inbreeding, the litters will be smaller.

5. Sperm count - The male sperm count determines how many ova are fertilized.

6. Number of breedings per estrus - The number of times a queen is bred by her mate and whether or not she is bred by more than one male during the same estrus matters. The queen can have kittens from different males in one litter.

7. Frequency of breeding - You will have bigger litters if you breed regularly. This keeps the womb roomier. Two litters a year seems to be the best, but they can have up to three litters a year, although I would not recommend it.

8. The queen's size - The bigger the queen, the bigger the womb size and the greater the possibility for bigger litters.

9. Nutritional health - The nutritional health of the queen and king is the most



Mechel stands next to Beth Rhines and Maxine Price in front of a typical serval enclosure is spacious with grass, feline furniture, sheltered areas, and connections to the Whitaker home.

important factor.

10. Stress level - Servals in private facilities have more offspring and bigger litters than servals in public facilities. This is due to the constant intrusions by staff and visitors.

A serval in its natural environment is an obligate carnivore, meaning that its nutritional needs are met by eating a diet that consists mainly of animal-based proteins. The evolutionary history of the serval indicates that it has eaten a purely carnivorous diet throughout its entire history.

Why stop now? You would not raise your kids on fast food diets and vitamins when all the experts recommend a well-balanced diet of whole foods.

A lot of people start out feeding their servals Zupreem and chicken legs sprinkled with Wild Trax, because this is an easy, cheap diet recommended by some breeders. I did the same thing. My medical background helped me to combine my knowledge of animals and nutrition to come up with a better nutritional diet that makes a world of difference. Every couple of years, I have a wellness check done on all my servals. I take them in to check their viral panels, stools, titers, chemistry panels, and complete blood counts. I have gathered quite a lot of data and supporting information. The lab results disturbed me and were not as normal as I wished for. The liver and kidneys enzymes fluctuated from bad to worse. I quickly realized that it was due to the diet and supplements I fed them. It is time for a fast change and quick!

I started to think and research about what servals eat in the wild and decided to try to match their diet as closely as I could and repeat the wellness checks in a year. I started ordering from Rodent Pro, Blue Ridge Beef, and other companies that raised whole prey. There are a lot out there. I put together a plan to start raising my own chicks and rabbits in order to offset some of the cost. It is not cheap to eat healthy, not even for us.

One year later, the results were in. The results were amazing and unquestionably better. Their liver and kidney enzyme results were back to normal. Their fertility was better and, within two years, my



All seven of Zandy's servals are identified with colored ribbon collars.

litters increased from one to three kittens, from three to five kittens, and now the latest is seven. I also noticed a big change in their personalities and energy levels. Their fur became soft and supple; it was not rough, dry, or brittle anymore. They were healthy and happy on their new diet.

Keep in mind that servals do not have a natural thirst drive because they are acclimated to the arid environment of their ancestors. Servals absorb most of their moisture from their prey. Dry kibble is not hydrated and should never be a main food source. Most commercial diets are filled with terrible ingredients that are allergens and indigestible, such as gluten, corn, grains, vegetables, soy, and other unnecessary fillers. Soy is used as a meat replacer in most commercial cat foods and causes infertility, hyperthyroidism, seizures, and many more issues.

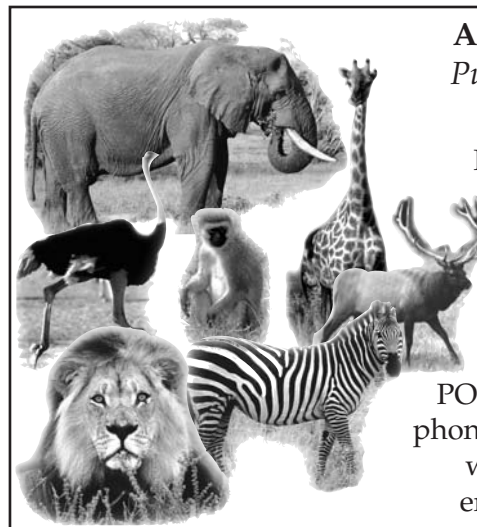
In 1985, 29 cheetahs died in American zoos from liver disease and related illness-

es. On top of this, only ten percent of all the female cheetahs living in American zoos produced offspring. In other countries, up to 70 % of the females in captivity gave birth and very few died of liver issues. An Ohio research team was hired to help find out what the American facilities were doing wrong. They showed the only difference between the American zoos and the other countries was that the cheetahs outside America were being fed a whole-prey diet. The American zoos were feeding a diet of horse-

meat, commercial cat food, and supplements. The researchers also found that the soy, found in the cheetahs' commercial diet, contained plant estrogens. These estrogens were being stored in the cheetahs and playing havoc on the cheetahs' hormones. The end result was infertility!

The American zoos took this research into consideration and decided to switch their cheetahs to a whole-prey diet. Great improvements were seen almost immediately. The cheetahs' liver production improved immensely and, once they were able to rid their bodies of the excess estrogen, they were able to produce more offspring. It took a long time to rid their bodies of the excess estrogen and to produce normal hormone levels. The zoos also became better at preventing inbreeding, which helped with fertility, too.

Servals have a shorter intestinal length than omnivores and herbivores and, because of this, servals do not consume



ANIMAL FINDERS' GUIDE

Published the first of each month

12 issues – only \$24

Informative articles on exotic animal husbandry and what is happening in the industry.

Exotic animals, related products & services, auctions & shows advertised.

PO Box 99, Prairie Creek, IN 47869
phone: 812-898-2678, fax: 812-989-2013

www.animalfindersguide.com
email: animalfinder@thnet.com

large meals and do not digest complex starches or fibers such as fruits and vegetables. A serval's stomach is small due to the fact that they do not eat large meals, but instead eat small, opportunistic meals throughout the day and night. A wild serval's diet mainly consists of small terrestrial animals. So, a whole-prey diet including innards, fur, and bones is obviously the best diet you could feed your serval. You do not need to add supplements to this diet, because everything they need is in the whole prey. In the wild, servals eat about 80% rodents (mice, rats, and rabbits); the other 20% can be any combination of birds, frogs and lizards, and insects. Servals will also eat assorted grasses, whole raw chicken, whole raw turkey parts, raw beef, raw venison, raw rabbit, raw squirrel, raw quail, and raw fresh fish.

I do not recommend supplements unless a deficiency of some kind has been identified. Servals have a small liver and it takes longer to filter out the man-made supplements and rid their bloodstream of toxins. If you over-supplement, the man-made supplements can build up in the

liver and kidneys and cause issues and even death.

The last dietary issue I would like to cover is one that might surprise you. Its importance cannot be overlooked. It is critical that the serval has access to unfiltered sunlight and grass. Grass can be a very important part of any animal's diet. It can be a valuable aid to the digestive process. Sunlight is an important vitamin source for your cat, just as it is for you.

Vitamin D from sunlight helps your animal convert calcium and phosphorus to bone and teeth and helps keep them strong and healthy. This is a major reason the outdoor enclosure is a must.

Remember, this information represents my experience and my journey to become the best serval caregiver I can be. With






Zandy plays with Easter eggs.

this latest litter size, I feel I am on the right track. I can only compare the facts. This information is not meant to be the end all be all. It is important that we all keep learning from each other. Research, study, and commitment are what will keep our animals strong, healthy, and thriving.



Fox Valley
ANIMAL NUTRITION, INC.

Day One formulas are species-specific formulations having the required protein and fat for neonatal growth. Recommended for those neonates who are orphaned, cannot suckle, or are being bottle-raised.

-  All-milk protein from premium food grade milk ingredients
-  Complete complement of vitamins and minerals
-  Balanced fatty acids including medium chain fatty acids for easy digestion

We specialize in serving the wildlife, domestic, and exotic animal communities. For information on our "Sponsorship of Goods" program (a donation of products to your local center, group, or wildlife organization on your behalf), please contact us at:



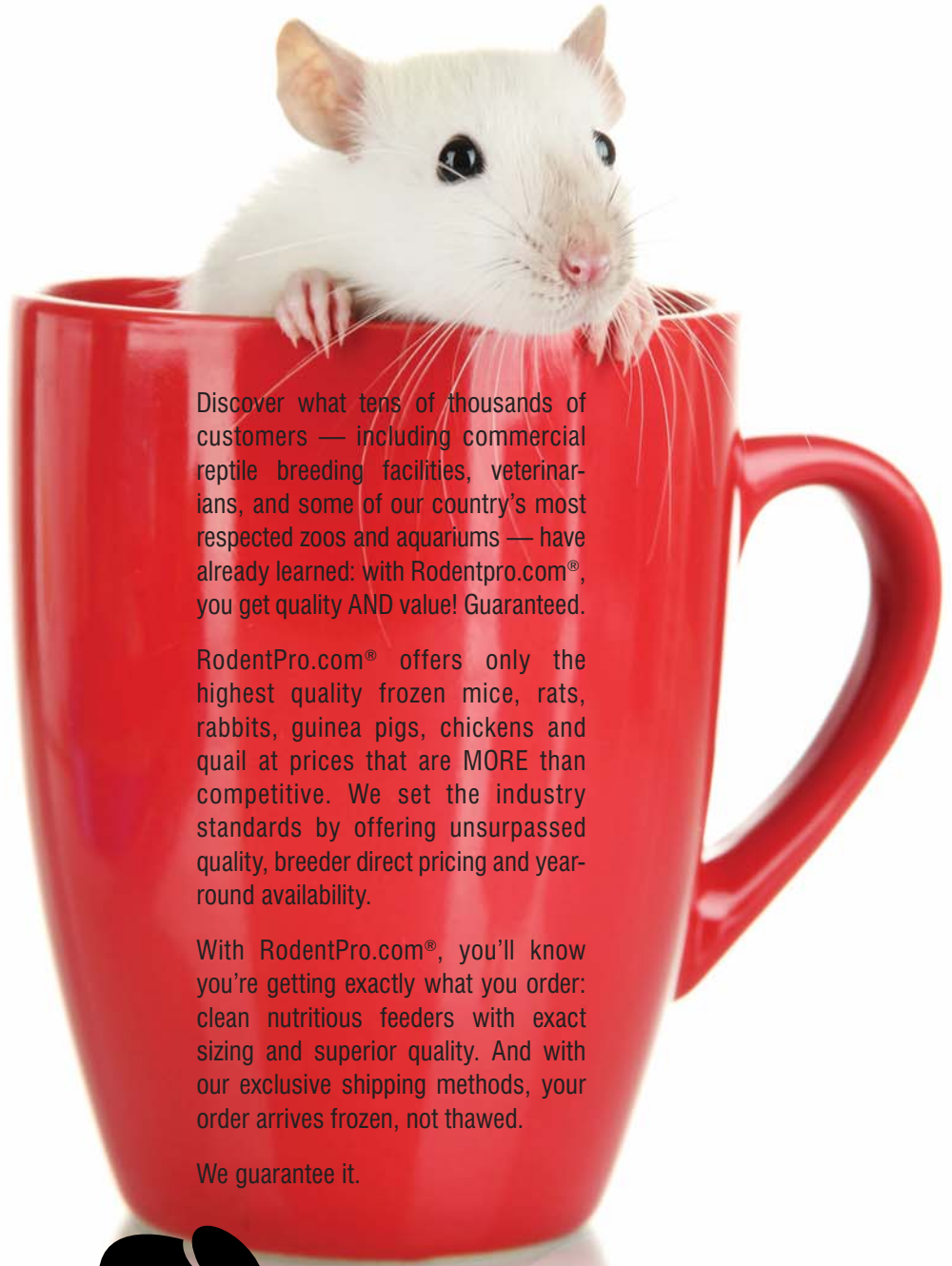
FOX VALLEY ANIMAL NUTRITION INC.
(800) 679-4666 or email: nklc@aol.com

www.foxvalleynutrition.com



Wake Up

To Quality, Value and Convenience!



Discover what tens of thousands of customers — including commercial reptile breeding facilities, veterinarians, and some of our country's most respected zoos and aquariums — have already learned: with Rodentpro.com®, you get quality AND value! Guaranteed.

RodentPro.com® offers only the highest quality frozen mice, rats, rabbits, guinea pigs, chickens and quail at prices that are MORE than competitive. We set the industry standards by offering unsurpassed quality, breeder direct pricing and year-round availability.

With RodentPro.com®, you'll know you're getting exactly what you order: clean nutritious feeders with exact sizing and superior quality. And with our exclusive shipping methods, your order arrives frozen, not thawed.

We guarantee it.

Order online!

www.RodentPro.com

It's quick, convenient
and guaranteed!

P.O. Box 118
Inglefield, IN 47618-9998

Tel: 812.867.7598

Fax: 812.867.6058

E-mail: info@rodentpro.com



 **RODENT PRO**.COM®
MICE • RATS • RABBITS • CHICKS • QUAIL

MaxAMillion was Truly One in a Million

By Debbie Hayes

Well, it all started back in 1998. My husband and I sold our horse farm and went on the road. We had placed all of our animals, except one cat; my Sequoia, a red tabby Maine coon, who had health issues. I did not want him to go where he was not loved. We spent a lot of time traveling coast-to-coast and visiting with friends in Idaho and Montana. Sequoia ended up very sick in Bozeman, Montana, so we had to put him down. He had problems from birth and we never found out all of them. He was two years old.

We visited friends in Montana (Glen and his wife, Ruby, who was a retired park ranger), and Glen had taken on four bear cubs; cute guys. The mothers had been killed and these babies had been shot but survived and could not be released back into the wild. Funny thing is that he would take the cubs to the dog pound and let them pick their own playmates. Yes, they lived with each bear. He said that the dogs kept the cubs exercised and lived their lives with the bears.

Well, after we lost Sequoia, both my husband, Donny, and I were always sad going through Montana, so I picked up a *Little Nickel* (free county paper) and was looking for an animal to go with us in our truck. I was just kidding with my husband when I came across seven bobcat and lynx breeders in Montana. He said he liked the idea. We spent about eight weeks checking out the different breeders and seeing their animals, finally settling on Jay and April Hersey of Hersey Fur Farm in Rockford, Montana. When we saw their three year old daughter going into the cages with mothers and babies, we knew we had found the right personalities. We were put on a waiting list. We wanted a male, but they said they have more females than males and it could be awhile. Okay, I thought, that gives us time to prepare. We spent as much time learning what we could about these cute critters. We kept in contact and visited when we were coming through Montana. At the end of April



MaxAMillion spent 18 happy years living with his people, Debbie and Donny Hayes, even traveling the country as a kitten in 1999.

1999, we got a call. April told us that we may have to wait another year or they could refund our money. They were having big problems. They had distemper running through the farm, even though the animals were vaccinated. They said that they did have one litter and it was away from the others and asked if I was interested. I had told them when we first met that my mother raised collies and showed dogs and I knew what it took to take care of them. I had tubes and had bottle-fed neonate puppies. I received MaxAMillion at ten days of age. They

wanted us to take two more kittens for free, but how was I going to raise three bobcat kittens in a semi-truck? I could not, but wish I had. Max spent the first three months of his life crossing the country three times. When we were coming from Florida, at a truck stop in Georgia, the truck in front of us rolled back and hit our front end. It took out the air compressor for our air conditioner. That gave us a great reason to go home and spend time there, so off we went back to Washington State.

While home, we never had any problems with Max. He was great. He lived in the house with us. We took him everywhere. He would go in the motorhome and on our boat. He did not like the rain, but would jump off the boat into the water. We had a life vest with a handle to fish him out. Everyone came by to see him and play with him. We always had fun out in the garden with him. He loved vegetables. I asked the vet if it was okay, and he said that if he wanted it, let him have it. Max loved fruits (all melons) and vegetables, both raw and cooked. He ate just about everything we did, except tomatoes. I always wondered if it was because when we were bottle-feeding and mixing in baby food while on the road, we could not find just beef, chicken, or veal. They were all with vegetables. Funny.

I never laughed as hard as I did one day around Thanksgiving. I had made two pumpkin pies. Now, you have to know

Max has never jumped on my counters, but I had two pies cooling that day. I had washed the laundry and was hanging out a couple of blankets on the porch. When I walked in the kitchen, Max was face first in a pumpkin pie, up to his eyes. I fell on the floor, rolling in laughter.

I loved my boy. I never had a problem, until December of 2016. Max was 17 years old. He was upside down on the bed when I noticed this growth under his eyelid and I didn't know what it was, but from the looks of it, I was afraid that it was cancer. I called the vet and he was out the next day. I love my vet. He is a mobile surgical unit. He also thought that it looked like cancer. He told us that Max's eye might swell and not to worry. He dug around to try to get it all and sent the tissue in for a biopsy.

Max's eye never swelled. Max did great under anesthesia and recovered without a problem. Unfortunately, the lab results showed squamous cell carcinoma. The comment was: Squamous cell carcinoma of the conjunctiva and nictitans can be multifocal, exophytic papillary lesion, or aggressive infiltrative carcinomas with destruction of ocular tissue or penetration of the globe in some cases. Often this occurs in dogs and cats secondary to chronic inflammation of the conjunctiva.

Our vet wanted to recheck it in two weeks. I sent him pictures. It was coming



Max developed a squamous cell carcinoma on the upper eyelid that tragically led to his death in May of this year.

back. He said that we could try cryosurgery (also called cryotherapy), a technique that uses extremely cold temperature produced by substances such as liquid nitrogen to kill abnormal or cancerous cells. He said he has had good luck with this procedure, so we tried. We were going to let it go and do a recheck in about a month. He had two surgeries in less than five weeks. He did okay with



both these surgeries, surprising for a 17 year old bobcat.

But again, the cancerous mass was coming back and the vet didn't think that we could do much more. The lymph nodes were affected and if we tried to remove the eye, it would be a painful recovery, if he even made it

out of a third surgery. I just could not do it to him. I needed to spend what time I had left with him. The next two photos are three weeks apart. He was doing great in the first one and left it alone. The next one was of the day we put my boy down. You could see that he was not feeling well. It was the first time in his life that he ate and threw it up. I knew we were making the right decision.

The day Debbie had her veterinarian perform euthanasia. His tumor had returned and Max was clearly feeling ill. Debbie knew that the ultimate gift she could give Max was for a gentle and well-timed passage to the afterlife.

What Are Eye Tumors?

Edited from www.petcancercenter.org/Cancer_Types_eye_cats.html

Eyes are organs of vision which can develop abnormal growth in many of their anatomical components. The outer layer of the eyeball consists of the cornea and sclera (giving the eye most of its white color). The middle layer includes the iris, ciliary body, and choroid. The choroid gives the inner eye a dark color. The inner sensory layer includes the retina.

Abnormal growths, whether benign or malignant, can have a devastating consequence on the animal's vision and can become life-threatening if they begin to invade the central nervous system. The earlier the eye tumors are detected, the better chance the pet has for saving its vision.

An eyelid is a thin fold of skin and muscle protecting the eye which can develop both noncancerous (benign) and cancerous (malignant) growths. The most common cat eyelid tumor is called squamous cell carcinoma (SCC), which usually first appears as a small plaque on a poorly pigmented eyelid, which subsequently becomes thicker, larger, irregular, and can eventually ulcerate.

A typical symptom of cat eyelid SCC tumors is the appearance of a mass, which can be accompanied by inflammation and discharge. To confirm a suspected SCC diagnosis, the mass should be biopsied and sent to a pathologist (a board-certified veterinarian who specializes in diagnosing diseases) for analysis prior to treatment. SCCs are malignant tumors, but generally slow growing. They do, however, have the potential for

invading surrounding tissues and can cause death if the tumor cells travel along the optic nerve into the brain. Occasionally, eye ultrasound, skull X-rays, CT (computed tomography), MRI (magnetic resonance imaging), chest X-rays, and lymph node cytology are required to evaluate the localization and extent of the disease, especially in the case of malignant tumors such as SCCs or adenocarcinomas.

All eyelid tumors, whether benign or malignant, have the potential to affect the cat's vision. Cryosurgery and/or surgical removal are the recommended treatment options. Cryosurgery provides several advantages: it is a quick procedure, less technically demanding, and can be performed in older or sick animals, since only a topical anesthesia or sedation is required. Swelling and temporary loss of pigmentation is usually expected after the procedure. The specific treatment of choice will depend on the tumor type, size, location, how advanced it has become, the animal's life expectancy, whether the procedure will re-establish the eyelid's functionality, and the financial limitations of the owners.

Tumors that involve more than one third of the eyelid typically require more advanced reconstructive surgery and the use of skin graft. Invasion of the eyelid tumor into surrounding tissues will be typically treated by a procedure called exenteration, which refers to removal of the eye along with additional tissues surrounding the eye. This procedure is done even if the eye has retained its visual functionality in order to prevent the tumor's spread to the central nervous system, where it can become life threatening. Multiple tests are done prior to this procedure to evaluate the extent of the disease and include skull X-rays, eye ultrasound, CT scan, or MRI.



Malignant eye tumors can sometimes be destroyed with cryosurgery, a procedure which freezes the cancerous tissue. If performed before the cancer cells have metastasized to other organs, the prognosis is excellent for cats, though sometimes the procedure has to be repeated.

Most eyelid tumors in cats are malignant; therefore, the prognosis for cats is not as good as for dogs. Fortunately, the metastatic potential of these tumors (tendency to spread to other organs) is generally very low, although the tumors are locally invasive. The prognosis is excellent for cats that undergo surgical removal for tumors that are relatively small in size. Cats should be monitored every three months to check for any tumors coming back. SCCs often come back and are typically treated with multiple cryosurgeries. White cats are at increased risk of developing SCCs and additional sites, including the nose tip and the ears.

White cats are at increased risk of developing SCCs and additional sites, including the nose tip and the ears.

Bartonella - Cat Scratch Fever

Edited from www.vetstreet.com/care/bartonellosis-cat-scratch-disease

Both fleas and ticks are known to spread the *Bartonella henselae* bacterium which causes what is known as cat scratch fever. Cats contract the disease through the feces of fleas. When scratching the fleas or when grooming, the bacteria from the feces catches in the cat's nails. The cat then passes on the bacteria when playing with humans or when protecting itself by scratching or biting a human.

To diagnosis cat scratch fever, the veterinarian will ask for a complete health history of the feline and whether it has had any recent exposure to ticks or flea infestations. Infected felines may display a variety of clinical signs, including chronic inflammatory conditions such as uveitis (inflammation of a part of the eye), stomatitis (inflammation of the mouth), gingivitis (inflammation of the gums), chronic upper respiratory disease (sneezing, nasal, and eye discharge), inflammatory bowel disease (chronic vomiting and/or diarrhea), and fever.

There are several tests available to diagnose cat scratch fever in cats. Because the *Bartonella* bacteria are not always present in the bloodstream, the veterinarian may need to run more than one test to get a definitive diagnosis. These possible tests include Western blot, which tests for antibodies against the *Bartonella* bacteria. The blood used for the Western blot test must be sent to an outside lab for proper diagnosis and takes some time to get the results back. Immunofluorescence is used to illuminate antibodies in the blood or tissue using fluorescent dye. The veterinarian will take a sample of the cat's blood and expose it to a specific antibody for *Bartonella*. The antibody will attach to any bacteria in the sample and glow bright green on the slide under a microscope. ELISA testing works similarly to the Western blot, but takes a shorter period of time to get results. ELISA stands for "enzyme-linked immunosorbent assay"

and is used to detect cat bartonelosis by seeing if the cat's body has made antibodies against the *Bartonella* bacteria. Polymerase chain reaction (PCR) is an advanced method that tests the cat's blood or a lesion on the affected human for the bacterial DNA of *Bartonella*.

The *Bartonella* bacteria are gram-negative, which makes it a more difficult type of bacteria to treat due to its complex outer membrane that is difficult to penetrate. In an experiment, *Bartonella henselae* infection was established in eight cats of various ages by inoculation. All cats remained persistently bacteremic until they were treated four to seven weeks after primary inoculation. Antibody titers increased and peaked between four and 12 weeks for all cats. Treatment with doxycycline for one week was effective in suppressing bacteremia in all cats, but was effective in clearing infection from only four cats. Amoxicillin, given subsequently, was effective in clearing the infection

from three of the remaining cats. One kitten that remained bacteremic was treated unsuccessfully with enrofloxacin, and its bacteremia was finally cleared when it was treated with a clavulanate-amoxicillin combination. After the bacteremia was cleared, with a corresponding reduction in serum antibody titers, all eight cats were rechallenged with *B. henselae*. None of the cats became bacteremic after secondary challenge, and all had higher and more rapid increases in serum antibody titers than after primary inoculation. The cats became resistant to reinfection following recovery from infection, indicating that immunoprophylaxis in cats might be beneficial in helping to reduce their public health risk.

Many felines are able to develop the antibodies to protect themselves from the bacteria. If the cat has only mild symptoms, the veterinarian may opt for no treatment in order to allow the cat's immune system to fight it on its own.

Most cases of bartonelosis resolve within a few weeks. Care should be taken to prevent the cat from coming into contact with the bacteria again by placing the cat on a flea preventative and keeping them out of areas that contain ticks, such as the woods.

Join the Zoological Association of America



ZOOLOGICAL ASSOCIATION
OF AMERICA

promoting the
responsible ownership,
management, and propagation
of animals in both
private and public domains

Several levels of membership
include commercial, educational,
facility, and individual.
Facility Accreditation is also
available.

P.O. Box 511275
Punta Gorda, FL 33951
941-621-2021
info@zaaorg
www.zaa.org

Donations

The FCF Board of Directors thanks the following individuals and corporations who have made donations to FCF projects since the last published *Journal*, providing additional funding for educational materials for members and legislators, supporting conservation, and improving captive feline welfare.

We appreciate each donation, no matter the amount, recognizing that it is the many small gifts that, when combined, add up and make a difference in the effectiveness of the FCF. We encourage everyone to follow this example and donate funds for projects that interest you.

General Fund:

Chris Tromborg

Conservation Grants:

Patty Perry

The FCF appreciates your generosity &
continued support.

Starla the Geoffroy's Cat

By Tina Rochester

My story is about my friend and companion. Starla was a female, two year old Geoffroy's cat. She was born July 7, 2015. She passed away at 3 am on Thursday, April, 27, 2017. I hope by telling her story I can save someone else the heartache that I have gone through.

I will start with her home life first. I acquired her when she was six weeks old. She was strictly an indoor pet. She was raised with domestic cats. She was loose in the house with supervision and was



Starla the Geoffroy's lived in Tina's home and was a beloved member of the family.

kept in a spare room when no one was home. Starla was active as any Geoffroy's cat, or so I thought. She played with toys and would steal objects and hide things if given a chance and was loved a great deal by our family. She really loved the stuffed animals and she had a stuffed horse that looked like a unicorn which was her favorite toy. She even slept with it.

Her diet was a combination of raw chicken thighs mixed with Wildtrax Feline Supplement, calcium, and she ate the Zupreem Exotic Feline diet in the can. I always worried that she was not getting what she needed with the thighs, so that was why I also gave her Zupreem.

Starla received regular veterinary care. I took better care of this cat than myself. She received the required vaccines that she was supposed to have, appropriate for her age, regular deworming, and flea medication. She was sick a few times in her life with an upper respiratory infection. Antibiotics seemed to help as she would always clear up. We assumed that maybe she picked up the cold from the domestic cats or out of the blue. No one knows for

sure. They received regular vet care, too. All felines saw the same vet. Thinking back over her life, she had a couple of bad weak spells, where she would tire easily. There never was a cause found for it.

One time, she had bad neurological symptoms with one of the attacks. Blood work was done but nothing was diagnosed. She had an X-ray done on her heart at nine months old during one of these weak spells. It showed something of an enlarged heart. The vet drew fluid from somewhere around the chest cavity. It was sent off to check for cardiac disease. Everything was negative. The vet associated the enlargement due to still growing. No more mention was ever made of it. Starla received her last FVRCP vaccine and her rabies shot in September 2016. She saw the vet one more time around November 2016, for another slight cold. Again, she cleared up. Everything was going good for six months. Then boom - she was gone.

Now I am going to back up to a month before she was gone. We have a closed-in carport. It is off my laundry room. We fixed a couple of enclosures in there for Starla and several of our domestic cats. The reason for the enclosures was so the cats could be confined and stay safe. There was no way of getting outside. We have had to limit the time they had in the same room with my husband. Over the last six months or so, my husband has become allergic to the cats. He takes allergy medicines for it.

I acquired another female Geoffroy's cat and a Bengal that we housed next door to Starla. Cages in the carport are side by side. I do not think Starla was very happy. She was eating normally, but had become very clingy. She still received time inside our home with me. The last month, I was enjoying all the nice time she was giving me. She could be a little diva when she wanted to be.

Three days before she died, on Monday, the first day she was ill, she was lethargic, had watery eyes, was trying to eat, but was still drinking water. I had to work the second shift these couple of days. Tuesday, the second day, she was still lethargic and had some upper respiratory symptoms. Wednesday, the third day, she was about the same. I had a vet appointment scheduled on Thursday at 10 am. When I came home from work

Wednesday night, it was late. I went straight to Starla and I knew something was seriously wrong. We headed to the emergency veterinary hospital and she died before we could get there.

I went back home. Pacing and upset and crying; I was a real mess. I had to wait until my regular vet office opened up to see about getting a necropsy performed. The vet overnighted her body to Clemson Veterinary Diagnostic Center in Columbia, South Carolina. I got the report back in a week. Their diagnosis: Chronic diffuse pyogranulomatous myocarditis, Bartonellosis suspected.

Diagnosis comment: The cause of illness and death is the profound myocarditis with fibrosis and interstitial pneumonia. The pyogranulomatous inflammation in the heart suggests a bacterial infection. A few silver staining, short, rod-shaped bacteria were seen in macrophages and may be *Bartonella* ssp.

I know *Bartonella* is caused by an infected tick or flea bite per my vet. Make sure to keep regular flea and tick medicine on all your pets.

In conclusion, I wonder if there is anything that I could have done differently. I do not know. I ask myself how I could have known she was that sick in her lungs and chest. The vet said it took her quickly. Even antibiotics probably would not have helped with as much pus and fluid was around her heart and in her lungs. Do I think stress brought it on? Yes, I do. But enough to kill her? I do not see how. There are a lot of questions I will never have answers to. Hopefully my story will help someone else.



Geoffroy's cats are one of the smallest felid species. Adult females generally weigh 6 to 8 pounds, and males are 8 to 12 pounds.

Myocarditis

Edited from (vetbook.org/wiki/cat/index.php?title=Myocarditis) & (www.vetary.com/cat/condition/heart-inflammation)

Myocarditis is an extremely rare inflammatory disease of the heart muscle (endomyocardium) which develops slowly over days or weeks and is characterized by leucocyte infiltration of heart muscle and secondary degeneration as a result of inflammatory changes. In felines it is thought that myocarditis may be triggered due to stress, respiratory infection, Toxoplasmosis, Bartonella, or restrictive cardiomyopathy.

Affected cats are often less than eight years of age. Many are found dead, rather than showing pre-mortem clinical signs. Felines which do show symptoms often present with difficult breathing, depression, and increased white blood count for one to two days before death. Interstitial pneumonia is a common histological finding post-mortem.

Treatment of heart inflammation requires immediate treatment and hospitalization if there are any signs of myocarditis. Veterinary efforts will target improving the heart's contraction, relieving congestion, and reducing constriction. There are many medications to stabilize the heart and provide relief. Beta-blockers can be used to slow the heart rate down if there is tachycardia. It will also decrease stress on the heart and reduce its need for oxygen. One of several types of muscle relaxers may be chosen if the heart is restrictive due to the beginnings of cardiomyopathy (stiffness of the heart wall). If the heart is failing to contract properly because of congestive heart failure (weakness), medication will be prescribed to help the heart to contract properly. ACE inhibitors and diuretics will be administered to relieve hypertension and congestion if heart failure has occurred and if pericarditis (inflammation of the pericardial sac sur-

rounding the heart causing excessive fluid buildup and pressure) is present. Blood clots can be common if the heart is experiencing cardiomyopathy. Certain blood thinners to decrease the possibility of blood clots forming may be utilized. Any additional necessary medications such as antibiotics and anti-inflammatories will be prescribed to treat any underlying disease causing the myocarditis.

Treatment success largely depends on the feline's immune response to the inflammation, as it will indicate any structural or functional abnormalities. If the myocarditis has become severe and has led to congestive heart failure, the prognosis may be poor. Likewise, if arrhythmia or cardiomyopathy is determined, then the prognosis will be guarded. Be sure to minimize stress at all times if possible after treatment to help with recovery, and limit feline activity until your veterinarian tells you it is okay.

Incidents of Myocarditis in Cats from Bartonella

Edited from www.cfsph.iastate.edu/DiseaseInfo/pdf/bartonella-infections-in-animals-supplement.pdf

In experimental studies, most cats inoculated with *B. henselae* remained asymptomatic or had only mild clinical signs. In one experiment, cats developed inflammatory swellings or pustules at the inoculation site. Other clinical signs reported in experimentally infected cats were lymphadenopathy, myalgia, and transient fever with lethargy and anorexia during febrile periods. Transient mild behavioral or neurological dysfunction, consisting of disorientation, nystagmus, hypersensitivity to stimuli, decreased responsiveness to environmental stimuli, or increased aggressiveness, as well as mild transient anemia, eosinophilia, and reproductive disorders have also been reported.

In a recent study, no cats inoculated intravenously with *B. henselae* became ill, although bacteremia was detected in all cats. Three of six cats exposed to *B. henselae*-

infected fleas, however, developed fever and inappetence. One of these cats was euthanized, as it became severely ill, and myocarditis was found at necropsy. There was some evidence that this cat may have failed to mount an adequate immune response; it had the lowest IgM titer to *Bartonella*, and was the only cat that did not have detectable IgG to this organism.

A few case reports have attributed cardiac conditions, especially endocarditis, to *Bartonella*. *B. henselae* DNA was detected by PCR in the diseased heart valves of two cats that died of endocarditis. *B. henselae* was also isolated from

the blood of a young cat with aortic valve endocarditis, and antibiotic treatment resulted in total resolution of the heart murmur and valvular lesion.

B. henselae infections were reported in two cats with fatal pyogranulomatous myocarditis and diaphragmatic myositis at an animal shelter. Ten cats at this shelter developed fever, lethargy and diarrhea after a litter of flea infested cats entered the facility. Feline leukemia virus (FeLV), feline panleukopenia virus, and feline immunodeficiency virus (FIV) were ruled out. One kitten died after developing acute respiratory distress, and an eight month old cat, which had been in

contact with the litter, died acutely two weeks later. Bacteria were found in inflammatory foci in the heart of both cats, as well as the diaphragm of one cat. These bacteria were identified as *B. henselae* by immunohistochemistry. PCR detected *B. henselae* DNA in the heart of one cat, and in multiple tissues including heart and diaphragm of the other cat.



Visit the site, choose "Feline Conservation Federation" as your charity and then shop. You'll find the exact same low prices, vast selection, and convenient shopping experience as Amazon.com, with the added bonus that Amazon will donate a portion of the purchase price to the Feline Conservation Federation.

Acupuncture for Ataxia

By Shelleen Mathews

Two years ago we found one of the jungle cat hybrids (F1) at the Center, Booba, having sudden difficulty walking. The trouble seemed to be primarily affecting his hind quarters and back legs. He was brought inside for further examination and evaluation. We watched him closely during that day and determined that a trip to the veterinarian was needed, as he was basically unable to use his back legs to stand up or walk.

He was seen by one of our regular veterinarians, who hoped to get a much better idea of what was going on.

We left him there for a few hours so they could do a thorough examination, blood work, and x-rays. When we returned later in the day, we were told that the prognosis was not good. They had discovered a genetic abnormality in his spine, about midway, which was probably affected by taking a fall or jumping wrong in his habitat. We were told there was no medication or surgery they could suggest that would help him. Although we had never used it before, I asked if it would hurt him further if we tried acupuncture. The vet told us they could really do nothing but traditional medicine for him, so I made an appointment with another veterinarian that uses acupuncture.

According to WebMD, "Acupuncture is a form of traditional Chinese medicine that has been practiced for centuries. It's based on the theory that energy, called chi, flows through and around a body along pathways called meridians."

The super-thin acupuncture needles are used to redirect or influence the flow of the patient's energy (chi) to address certain issues. Like people, cats have about 365 key



The first needle is placed between the ears to calm the kitty, and is aptly named the "happy needle."

acupuncture points in their bodies. The needles are one half to 1 1/2 inches long. The process is generally painless.

I wasn't sure how this procedure was going to be accomplished, because Booba wasn't entirely tractable. I asked if sedation would be needed and was told that they would prefer not to. The vet said there was a secret called the "happy" or "calming" needle, which is the first one



Needles placed at key points on the inside of Booba's back legs and along both sides of his spine stimulate energy flow and cause the area corresponding to his back problem to twitch and crawl.

placed. This needle is inserted above the forehead between the ears. I took a blanket to hold him on the table while it was inserted. Almost immediately he relaxed and became drowsy. He lay down on the blanket and the vet said she would be back in a few minutes. During her absence, he was very good and only required a nibble now and then on a crunchy cat treat.

Needles were placed at key points on the inside of his back legs and along both sides of his spine, with special attention given to the area where x-rays had shown the genetic issue. Within minutes, the vet beamed and said, "This is VERY good! Look

at the energy flowing." The area corresponding to his back problem was twitching and crawling. It was an amazing thing to see. The veterinarian said the needles need to stay in for 45 minutes for the maximum effect. I had my doubts, but he lay there calmly for the needed time. When the needles were removed and Booba was placed in his crate for the trip home, the vet said she wanted to see him again in a week. She showed me how to exercise his back legs and told me he would need to be switched from one side to the other about every two hours. And, of course, because he couldn't get to a litter box, we needed to keep him clean. With a hind end injury it is common to see problems with urination and defecation. Not to mention that it would be difficult for him to clean himself.

We returned the following week for his next treatment, with much the same result. The veterinarian was still extremely pleased with his reaction to it. The next treatment the following week produced the same hopeful response on Booba's part. Later that day, I was working on the computer and turned

around to check on him and, to my surprise, he was sitting upright for the first time in over three weeks! I went over to tell him what a good guy he was and; although he was wobbly, he was able to stand on all four legs. Over the next few

days, he regained his strength and ability to walk. Three treatments of acupuncture were able to accomplish what we originally didn't believe his future would hold. Two years later, he continues to be mobile; however, we can no longer keep

him in an overly large habitat with high or difficult things that he might fall from and reinjure himself. He has several soft beds, low hammocks, and always at least one cardboard box, which every cat enjoys.

Acupuncture in Cats

Edited from www.felinewellness.com/acupuncture-and-cats

Acupuncture is not painful or distressful to a cat when done by a qualified and experienced veterinarian. Special needles are inserted into specific points on an animal's body. The needles help redirect the body's energy fields (called chi) back into harmony. Like people, cats have about 365 key acupuncture points in their bodies. The needles induce the release of endorphins, the body's feel-good hormones. Endorphins control pain by causing blood vessels to dilate, which increases oxygen and allows nutrient-rich blood to flow around joints and muscles.

Acupuncture needles are very small – quite a bit smaller than the hypodermic needles used to give vaccinations. There may be a mild sensation of warmth or tingling when the needle is inserted, but it is very transient. There may also be a sensation at the prick of a needle, but this does not last when the needle is left in the acupoint. Some points are more sensitive than others and most veterinarians will avoid them altogether or use other methods such as low level laser to stimulate those points. Most veterinary acupuncturists who practice on cats try to use as few needles as possible, use very small needles such as Korean Hand Needles, or use low-level laser.

Each ten- to 20-minute treatment is individualized to each patient. The

points selected, the number of needles used, and the length of the session all depend on the condition being treated. In general, most patients are seen once or twice a week initially, and then the number of treatments is tapered off. Although a response may be seen after only one treatment, four to six are usually needed.

Acupuncture can be used along with regular veterinary medicine to treat a variety of feline conditions, including inflammation, pain, arthritis, neurological issues, traumatic injuries, intervertebral disc disease, inflammatory bowel disease, loss of appetite, liver support with chronic elevated enzymes, chronic constipation, endocrine and reproductive issues, thyroid disturbances, respiratory and cardiovascular issues, asthma, hypertension, urinary issues, kidney support in chronic insufficiency, painful urination syndromes, dermatologic issues, hyperesthesia (hair loss), allergies, lick granulomas, anxiety, immunologic issues, and support for FIV.

A couple of case histories:

Disc Disease

Panda is a 12½-year-old male domestic

cat brought in on an emergency basis for paresis of both hind legs. He was in great pain and unable to stand. After radiographs, a diagnosis of intervertebral disc disease and arthritis was made. Because Panda had underlying kidney disease, the selection of pain control medication was limited. The owners decided to try acupuncture. Acupoints were selected for pain control and muscle relaxation. After the 20-minute treatment, Panda went from screaming in pain to being relaxed and purring. Panda continues to have regular treatments as needed for his chronic disc problems.

Arthritis and Hyperesthesia

Kujo is an 18-year-old male domestic



cat that had hyperesthesia (rolling skin) and barbering of hair on his lower back. He experienced much pain in the lower lumbar area and spent a lot of time pulling out his hair there. His back felt hot in this area. He was diag-

nosed with pain and arthritis of the lumbar spine. Chiropractic and acupuncture were performed on Kujo – these were his only treatments. After five acupuncture treatments, the hair-pulling had completely resolved. Kujo now has monthly maintenance treatments.

First Quarter Board of Directors Meeting Minutes 2017

By Rebecca Krebs

The first quarter board of directors meeting was held on the FCF forum from March 8-19. Board members present were: President-Kevin Chambers, Vice President-Mindy Stinner, Treasurer-Lynn Culver, Director-Pat Callahan, Director-Robert Bean, and Director Chris Tromborg.

Ratify the 3rd Quarter 2016 Minutes - The minutes stand ratified as previously approved, no changes or comments made.

Treasurer's Report:

Total in bank: \$85,070.50

Voting and motions:

Make Appointment to Appoint Lynn Culver as the *Journal* Editor - Moved by

Kevin Chambers, seconded by Pat Callahan. The motion carried with a unanimous "yes" vote.

Make Appointment to Appoint Caroline Alexander Chair of the FCF Wildcat Safety Committee - Moved by Kevin Chambers, seconded by Pat Callahan. The motion carried with a unanimous "yes" vote.

IUCN Update: Cat Taxonomy

The taxonomy of cats has undergone considerable changes in the past, not only at the level of species and subspecies, but even at the level of genus. The IUCN (International Union for the Conservation for Nature) Cat Specialist Group initiated a review of the present taxonomic system of the Felidae by an expert group, the Cat Classification Task Force (CCTF), and their findings are published below.

Cat family (8 lineages, 14 genera, 41 species, 80 subspecies)

Panthera lineage (2 genera, 7 species, 14 subspecies)

Lion - *Panthera leo leo melanochaita*

Jaguar - *Panthera onca*

Leopard - *Panthera pardus pardus nimr delacouri kotiya tulliana fusca orientalis melas*

Tiger - *Panthera tigris tigris sondaica*

Snow Leopard - *Panthera uncia*

Borneo Clouded Leopard - *Neofelis diardi diardi*

borneensis

Clouded Leopard - *Neofelis nebulosa*

Puma lineage (3 genera, 3 species, 6 subspecies)

Cougar - *Puma concolor concolor cougar*

Cheetah - *Acinonyx jubatus jubatus soemmeringii venaticus hecki*

Jaguarundi - *Herpailurus yagouaroundi*

Caracal lineage (2 genera, 3 species, 8 subspecies)

African Golden Cat - *Caracal aurata aurata*

celidogaster

Caracal - *Caracal caracal caracal*

nubicus schmitzi

Serval - *Leptailurus serval serval constantina*

lipostictus

Bay Cat lineage (2 genera, 3 species, 4 subspecies)

Borneo Bay Cat - *Catopuma badia*

Asian Golden Cat - *Catopuma temminckii temminckii*

moormensis

Marbled Cat - *Pardofelis marmorata mar-*

morata

longicaudata

Ocelot lineage (1 genus, 8 species, 16 subspecies)

Pampas Cat - *Leopardus colocolo colocola*

braccatus

munoi

budini

garleppi

pajeros

wolffsohni

Geoffroy's Cat - *Leopardus geoffroyi*

Guíña - *Leopardus guigna guigna*

tigrillo

Southern Oncilla - *Leopardus guttulus*

Andean Mountain Cat - *Leopardus jacobita*

Ocelot - *Leopardus pardalis pardalis mitis*

Oncilla - *Leopardus tigrinus tigrinus pardinoides*

Margay - *Leopardus wiedii wiedii*

vigens

glauculus

Lynx lineage (1 genus, 4 species, 8 subspecies)

Canada Lynx - *Lynx canadensis*

Eurasian Lynx - *Lynx lynx lynx*

balcanicus

carpathicus

dinniki

isabellinus

wrangeli

Iberian Lynx - *Lynx pardinus*

Bobcat - *Lynx rufus rufus*

fasciatus

Prionailurus lineage (2 genera, 6 species, 14 subspecies)

Leopard Cat - *Prionailurus bengalensis bengalensis*

euptilurus

Sunda Leopard Cat - *Prionailurus javanensis javanensis*

sumatranus

borneoensis

heaneyi

rabori

Flat-Headed Cat - *Prionailurus planiceps*

Rusty Spotted Cat - *Prionailurus rubigi-*

nosus rubiginosus

phillipsi

koladivius

Fishing Cat - *Prionailurus viverrinus viverrinus*

rhizophoreus

Pallas's Cat - *Otocolobus manul manul nigripetus*

Domestic Cat lineage (1 genus, 7 species, 10 subspecies)

Chinese Desert Cat - *Felis catus*

Domestic Cat - *Felis catus*

Jungle Cat - *Felis chaus chaus*

affinis

fulvidina

African Wildcat - *Felis lybica lybica*

cafra

ornata

Sand Cat - *Felis margarita margarita thinobia*

Black-Footed Cat - *Felis nigripes*

European Wildcat - *Felis silvestris silvestris*

caucasica



FCF T-Shirts feature snow leopard face in bone white ink.

Sizes Small to XX Large.

Super soft shirts come in charcoal, navy blue, or black.

**Order online at
www.felineconservation.org**

T-shirts mailed to U.S. addresses are \$20, \$23 for XX Large.

Wildlife Conservation Network Spring Expo

By Chris Tromborg

On April 29, 2017, the Wildlife Conservation EXPO was held in San Rafael, California, at Dominican University. The EXPO included exhibitors from 30 conservation organizations and significant presentations from five conservation biologists.

Felines were well represented, with exhibits from the Cheetah Conservation Fund, the Snow Leopard Conservancy, the Fishing Cat Conservancy, the Mountain Lion Foundation, and, of course, the Feline Conservation Federation. The Feline Conservation Federation exhibit was supervised by Dr. Chris Tromborg, who also supervised the exhibit of the Mountain Lion Foundation.

At the FCF exhibit there was assistance from Julie McNamara, Danny Cusimano, and Lynette Lyon. Julie McNamara is responsible for the accompanying photographs. The Mountain Lion Foundation was represented by Dr. Tromborg, Katharine (Kit) Livingston, and Erin Hauge. FCF members will recognize Dr. Tromborg as a member of the FCF Board of Directors and Lynette Lyon as the most recently appointed chair of the FCF Education Committee. Lynette is also an



Dr. Chris Tromborg speaks to visitors of the FCF booth at the Wildlife Conservation Network's Spring Expo. Photo by Julie McNamara.

extremely accomplished animal handler, with expertise working with a variety of small and medium sized animals, including many felids such as servals and caracals. Lynette is also well trained in the vagaries of socializing infant cats, again especially servals and caracals, although she has also raised many other species of cat. In the past, she has published in the *FCF Journal*. Lynette is presently maintaining a group of recently rescued ocelots, which she reports must be nature's most charming and easy-going felines!!

The Fishing Cat Conservancy had an exhibit.



Dr. Tromborg manned not only the FCF booth, but also the Mountain Lion Foundation booth. Photo by Julie McNamara.

Its founder, Ashwin Nadu, maintained that support from FCF was both instrumental and critical in launching the organization's work to begin protecting the fishing cat. The Fishing Cat Conservancy has 25 people participating in community-based research to promote the conservation of the fishing cat and to better protect its mangrove habitat. Ashwin presented his work to the 2014 FCF Conference and his work has been published in the *FCF Journal*.

This year, 2017, FCF awarded a grant in the amount of \$1,000 to Cheetah Conservation Botswana. This illustrates FCF's continued commitment to supporting important research on felid conservation in the field.

In an awkward moment of ironic timing, this award was announced at precisely the moment that the author of this article was engaged in a conversation with Dr. Laurie Marker, the founder of the Cheetah Conservation Fund!

While a few FCF members, such as Lynette Lyon, still work with ocelots, the organization has certainly evolved from its humble LIOC origins, as an association of pet ocelot owners, to become an important contributor to feline conservation.



FCF Education chairperson Lynette Lyon and Dr. Chris Tromborg sit at the FCF booth and educate visitors on the organization and its mission and members. Photo by Julie McNamara.





Feline Conservation Federation

Apr/May/June 2017 Volume 61, Issue 2

The mission of the FCF is to support the conservation of wild felids by advocating for qualified individuals to own and to pursue husbandry of wild felines, providing expertise and material support to ensure the continued welfare and viability of these populations, contributing to research, and funding protection programs that benefit felids living in nature.

Front Cover: Biff, the Eurasian Lynx youngster, is looking mighty "spiffy" for the *Journal* cover. He's the pride and joy of JB and Reva Anderson, living the good life with them in Ashland, Missouri. Photo by Sheila Adams.

Back Cover: Beautiful liger, Mia, and Bengal tiger, Barry White, will be amazing the FCF members attending this year's Convention. Our field trip to Big Cat Habitat and Gulf Coast Sanctuary, in Sarasota, Florida, includes a special wild cat show featuring these two and others. More Convention details start on page 22 in this *Journal*. Photo by Debi Willoughby.

