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Dear Members,

The biggest hurdle for any publication’s ongoing survival is to continually find useful and interesting material that challenges us to think, keeps us informed, and hopefully motivates us to contribute to future issues. This latest UBCF newsletter does all of this and more.

Three outstanding articles exploring HCM provide a wealth of information to help us understand this tragic disease. In addition to Lauri Henry’s summary of essential facts about HCM, her interview with Dr. Kathryn Meurs, recognized as a leading research authority on HCM, helps clarify many misunderstandings and shows us how challenging HCM research can be. Finally, Lauri’s survey of UBCF members is a clear indication of how important it is to address this problem in our breed.

Nancy’s editorial “Generations” underscores how little we know about the origins of the Burmese cat, even though we’ve been told over and over throughout the years. Keep this newsletter handy for future reference!

An interview with one of the cat fancy’s “memory banks” – Daphne Negus - sheds so much light on the heritage shared by Korats and Burmese, and points to some of the things Korat breeders have done right and how this knowledge can help us in the future . . . which is a great segue to Mod Daeng and the creative and historic approach to getting her registered that will help us begin the introduction of new genetic material into our lines, insuring renewed health and vitality for future Burmese.

CFA’s Breed Council Secretary, Art Graafmans, personally attended the February 2011 CFA Board Meeting in St. Louis and a summary of the discussion and the ultimate “forward thinking” decision about Mod Daeng is certainly worth your time. David Mare, a current board member, shared with me afterward that he felt it was one of the group’s finest moments, and that he sees the Burmese as having opened the door for other breeds that may also need to utilize genetic testing for the improvement of their own breed. While we have all known this day would come and the technology would be available for us to use, history will record the Burmese cat as having taken that leap of faith for the entire cat world.

Read on to see the cats and poetry of the Tamra Maew, the “Cat Poems”, and learn why we should all be looking for Martin Clutterbuck’s book on Thai cats. I’m certainly on a hunt and you should be too!

And while you are sitting in your favorite chair reading the newsletter with a glass or cup of your favorite beverage, doubtless you will have a lapful and be surrounded by little round cats, and if nobody else is home they might want to hear these poems as well. So boil that water, brew that coffee, or chill your favorite beverage. This newsletter is packed! Enjoy.

Willa Rogers-Hawke, President
United Burmese Cat Fanciers
When Burmese first came into my life, I knew very little about the breed. I’d only met a Burmese once before, and I had instantly fallen in love with the relaxed, purring, chocolate-colored bundle that a friend had placed in my arms. I knew immediately this was the breed for me. And at the first opportunity thereafter, in early 1990, I was lucky to be able to obtain two sable littermates. For nearly two decades I absolutely adored Truffle and Murka for all the reasons that make Burmese such wonderful, smart, funny, loving, and playful companions, as well as for their own unique personalities. And so did my friends and family, several of whom were inspired to get their own Burmese.

I’d never had pedigreed cats before, and like most new owners I was curious about their history and characteristics. So I bought a book on Burmese and how to care for them. I read how the first Burmese cat came from Burma, and that her name was Wong Mau. I loved the fact that the breed was a “local story,” as I lived not far from San Francisco where Dr. Joseph Thompson raised the first Burmese kittens.

In my book I saw there were four colors (of course I liked the sable color on my kitties the best), and read that it was the first time a cat breed had been developed using genetics. I tried to understand those genetics, but frankly it was too hard for me at the time (it still is difficult for me, I must confess!) There was something about traditional and contemporary Burmese in the book, but I skimmed through that as it didn’t seem relevant. All I really wanted was to know was that my particular Burmese shared the characteristics of the breed (why yes, my kitties do that too!), to know enough history to share with family and friends, and to make sure I gave my Burm buddies a long and healthy life.

After I started breeding in 1998, and showing a few years later, I learned more about the breed but not much more about the history. What else did I really need to know? It was a long time ago and Burma and the world had changed dramatically since 1930. I was more interested in the fun I was having raising kittens and starting to get serious about showing, which involved studying and understanding the Burmese standard and learning what all those ribbons and points meant.

But it wasn’t all fun. I lost kittens to congenital and weaning problems and felt deep grief for each loss. There were battles with URI’s and with ringworm. Then came my worst nightmare – FIP and seven deaths, five of them from just one litter. And through those FIP deaths my life changed. Those losses may have been two years ago and more, but they still tear at my heart. To lose so many babies I had lovingly raised from the breed I was so passionate about was beyond agonizing and frankly unbelievable. What was going on here?

About the same time as I was losing those young cats to FIP, Leslie Lyons made her presentation on the genetic diversity problems in the breed at the 2008 CFA Burmese Breed Council meeting. I learned about low genetic diversity and inbreeding depression and how that could produce fertility and immune system problems. And Leslie recommended a plan to help the breed. That plan included bringing in cats from Southeast Asia – not from Burma, but from Thailand. And through that plan I began to learn about the true origins and history of our Burmese breed.

Jump ahead two years and I found myself with a Suphalak in my house and a healthy litter of six bouncing baby boys, boys bred to help with improving our breed’s genetic diversity. I am absolutely amazed that I am so very
fortunate to be the first breeder to work with this delightful Thai girl, who is so very much like the first Burmese I got so many years ago (why yes, Mod Daeng does that too!)

And I remember hearing the term Suphalak for what I thought was the first time in 2009, as I researched and discussed with colleagues what it would take to bring back cats from Thailand (Excuse me? What was that word? Could you spell that for me?). If I had heard it before, it hadn't stuck. But Thong Daeng – “Copper Cats” – I did at least know the English translation of that term, because I remember thinking how coppery the sable coats of my Burms are in sunlight, and that the name fit beautifully.

Though I may not have heard it before, I had in fact read the term Suphalak, but forgotten it. I had purchased Martin Clutterbuck's book Siamese Cats: Legends and Reality in 2004, directly from the author in Thailand. I loved the book and read it quickly, and was especially fascinated by the paintings and poems from the Tamra Maew. The term Suphalak was widely used in that book and in the poems, but to my embarrassment it didn't stick until I had the pleasure of meeting Dr. Cristy Bird and getting to know Renee Weinberger and J.D. Blythin as they planned their trip to Thailand to find Suphalaks.

Over the last year I have learned a great deal about the history of our Burmese cats and their origins in Thailand as Suphalaks/Thong Daeng. And about how important this breed and others – such as Korats (also known as Dork Lao, Maleht, or Si Sawat) and Siamese (Wichien-Maat or Maew Kaew) – have been to the Thai people for many centuries. And recent genetic analysis of the DNA of Thai cats show that they are unique in comparison to cats in the rest of the world. Now, more than ever, I understand that these breeds must be cherished and preserved for generations to come.

And as I have studied and shared the true origins of our breed, it has amazed me how few of us, myself and my fellow Burmese breeders included, have had this knowledge, in spite of many attempts over the years to help us gain that knowledge.

As the first imports arrived in the 1930s and 1940s, surely those who brought them back must have known something about their origins, but if it was shared it was not well documented, not even by Joseph Thompson. And as generations passed, the details about their origins were forgotten.

Then Daphne Negus, who is interviewed in this issue, brought back nine Korats from Thailand in the 1960s. As a former Burmese breeder, she brought back with her information not only about Korats about also about Suphalaks/Thong Daeng and the true origins of Burmese cats in Thailand. She wrote a wonderful article in the 1969 CFA yearbook about this and included a bounty of photos from her journey. She helped introduce Western breeders to the Tamra Maew, the Thai cat poems, including photos from The Smud Khoi of Cats, a late 19th/early 20th century folding book of handmade paper in the Bangkok National Museum, created to preserve some of these ancient poems and paintings of the Thai cat breeds. Daphne had the Smud Khoi poems translated for our benefit, and gave talks to CFA and Burmese breeders around the country. She also brought back with her stories about the catteries from which many Thai imports were obtained (in particular the Mahajaya and Chiangmai catteries), and for a while the knowledge was shared.

But it didn't stick. Generations passed and it was forgotten.

In the late 1990s, Martin Clutterbuck wrote the first edition of his definitive book on Southeast Asian cats and their origins and history. With the help of Dr. Cristy Bird, Martin revised and expanded his book and published it again in 2004, including a wealth of photos and gorgeous reproductions of the paintings of the cats of Thailand, including the Suphalaks that would become known to us as Burmese. It was in part because of Martin’s first book that Roger Horenstein was inspired to travel to Thailand to bring in more imports. And he also brought back with him stories about Thailand and about Thai cats. Only a few years have passed since that time, not quite a generation, but unfortunately for most of us all this has once again been forgotten.

These terms Suphalak and Thong Daeng and the true origins of our Burmese breed have been forgotten time and time again over the decades since Wong Mau first came to the United States, in spite of efforts to educate us. When Renee Weinberger and J.D. Blythin brought back Mod Daeng, and I started my blog about her and her kittens, and the discussions amongst breeders began about how to register them, it quickly became apparent that the information was new and surprising to many (Excuse me? What was that word? Could you spell that for me?).

As we move forward in our efforts to help our beloved Burmese regain genetic diversity, whether through importing Suphalaks, bringing in European Burmese from other registries, or outcrossing to Tonkinese and Bombays, let's be sure the important history we have learned through Mod Daeng, and thanks to Martin Clutterbuck, Cristy Bird, Daphne Negus, Roger Horenstein, and their predecessors,
finally sticks. It takes effort to remember, but it will be worth the effort. At this critical time in our breed's history, we cannot afford to ignore the true origins of our cats. Through understanding our breed's heritage, we now know that in Thailand the distant cousins of our Western Burmese can help restore health and vitality to our breed.

Equally important, we must preserve and share this heritage with Burmese colleagues worldwide, and document it in our own histories for the sake of generations of Burmese breeders and cat lovers to come.

My deep and heartfelt gratitude to Daphne Negus for her time and the privilege of interviewing her and sharing so many of her wonderful stories, to Lauri Henry for her comprehensive and invaluable articles on HCM, and to Cristy Bird and Martin Clutterbuck for all they have done and continue to do to educate us on the true origins of our beloved Burmese and to preserve the precious breeds of Siam.

Nancy L. Reeves
Burma Pearl Cattery

Siamese Cats by M. Clutterbuck

To date this is the definitive book on Thai cat breeds. It was written by Martin R. Clutterbuck, a long-time British expatriate in Thailand and a respected authority on Thai culture. The book was also edited and the last chapter written by Dr. Cristy Bird, a research scientist who has studied the dynamics of nutrition, genetics, and cancer in human populations. Dr. Bird has traveled to Thailand many times to import cats, and she is an expert in her own right on Thai cats and an avid proponent for the preservation of Southeast Asian cat breeds. She was instrumental in developing the Thai breed in TICA, which helps preserve the Siamese breed in its original form. Both Bird and Clutterbuck provided critical assistance in the acquisition of Mod Daeng, the most recent Thai import to be used in Burmese breeding programs. Mod Daeng's breeder Aree Youbamrung, who is a major conservator of Thai breeds, is featured in the book along with photographs of many of his cats.

Anyone who breeds or exhibits any of the Western breeds that have Thai origins should have or study a copy of this book. The insights into the history and genetics of our breeds are invaluable. While it is difficult to find copies in the United States, some are available and others can be borrowed from local libraries. Copies can also be requested directly from the author in Thailand at martinclutt@yahoo.com

Siamese Cats: Legends and Reality is a revised and expanded edition of Clutterbuck's original book, The Legend of Siamese Cats, which was published in 1999. The 2004 edition was published by White Lotus Press in Bangkok, Thailand.
Korats: A Lifelong Passion

An Interview with
Daphne Negus

By
Nancy L. Reeves

As I interviewed Daphne Negus for this newsletter, and learned about the Korat breed that she loves so much, I could not help but be reminded of one of my favorite Reeves family traditions.

When I was growing up and it was time for a Christmas or birthday celebration, family members would sometimes receive a special package, usually when we least expected it. The wrapping on the package was always very beautiful; as a family we took pride in the art of wrapping gifts. This gorgeous package would be presented to the delighted recipient who would carefully open it and try (in vain) to save the lovely ribbon and elegant wrapping paper. Then when the box underneath the wrapping was finally revealed and opened – surprise! There was another beautifully wrapped package inside. Much laughter ensued all around, and the next gift would be carefully opened, to reveal yet another wrapped package, smaller still. This could go on for quite some time until the smallest box, which contained the actual gift, finally appeared.

Interviewing Daphne Negus and learning about Korats was like opening those special packages from my childhood. As I dug deeply into her wonderful stories and the rich history of our breeds, it was like finding a series of beautiful and fascinating packages, one inside the other. And just when I thought I’d reached the final gift, I’d find another just as interesting. There are still more I’d like to open, but unfortunately not enough room in this newsletter. Still, I am grateful for this opportunity to share so many of them with you.

You might be asking, why write about Korats in a Burmese publication? It is because there is so much our two breeds share in common, and so many lessons we Burmese breeders can learn from Daphne and her Korat cats and colleagues. I’ve written another article on that subject, “A Tale of Two Breeds,” which you’ll find later in this newsletter. Equally important is understanding what a significant impact an individual like Daphne can have on the breed that they love.
admiration until the judges felt the slight kink at the end of his tail.

“I recall taking one of Maggie’s kittens to a CFA show in Ventura where she was given the winner’s ribbon in one ring. I was acutely aware of the Burmese breeder-exhibitor whose kitten had been given the red ribbon because she, in a loud voice, gasped and said: ‘Oh! I don’t believe it!!’ as I carried my kitten from the ring. I had a great deal to learn about the cat fancy, which I was finding exciting and challenging.”

And that very same day, Daphne’s life as a cat fancier and breeder took a dramatic turn. As she recalls, “It was at that Ventura show, in November 1964, that I had my first sight of Korats, when a lovely little female further along the aisle was standing up with her silver paws on the wire of her cage, her enormous green eyes widely taking in the events down the aisle where I stood. I was literally rooted to the spot as I gazed at her, my heart lost forever. Her name was Jami and her breeders were Mr. and Mrs. Ray Gardner of Arcadia cattery. Doris told me that, if I promised to have him neutered, she would give me an adolescent male. Arcadia’s Silver was my first Korat.”

COLORFUL LIFE BEFORE THE BLUE OF KORATS

Like so many of us, Daphne’s love for cats started when she was a child. “We had pet cats all my life, and an occasional small dog. They were ‘doctored’ as was the euphemism in those days for neuter/spay. I loved them dearly and wept when their little lives ended with old age.

“I was born in London, England, where I grew up. My father, Henry Alfred Timewell, was a Lieutenant-Colonel who brought the Newfoundland Contingent into WWI. He had emigrated with his family to South Africa when he was 4 years old and Johannesburg was ‘a muddy street’. He had fought in the Zulu War and the Boer War. He and my mother, Mildred Jarvis, were married in London when my father was 50 and my mother was 25. There were 3 surviving children. My sister Mary and I were extremely close. I have now outlived all my family except for two nieces who live in London.

“My education began with governesses in our home and progressed thru high school. In lieu of graduating, I had rheumatic fever.” But not having graduated wasn’t an obstacle for Daphne, as soon she began a career in film. “My working life progressed in the British motion picture industry as what was then termed Production Secretary and Continuity Girl, now known more grandly as Production Assistant and Script Supervisor. Several assignments took me to Italy and Spain. I loved the foreign environments and usually cried all the way back to England.

“WWII started in 1939, putting an end to my travels. Nobody in my family was eligible for combat duties. However I was conscripted in 1942 so I took myself to the Admiralty and got myself signed on to the Royal Navy, specifically the Royal Naval Film Unit . . . I traveled a lot doing Continuity on Royal Naval instructional films. I found myself in the most northern part of Scotland on a
film about mini submarines that were used to sneak up on the hulls of enemy ships to plant explosive devices. I was in Rothesay, in the Kyles of Bute. A full sized submarine was in the waters. The skipper sent a message inviting me to dive with them. To my eternal regret, I politely refused! Such an offer would never come again!

“The main film was about Naval Gunnery. On a destroyer in the Mediterranean the twin 4.7s trained around closer than during rehearsals and I received gun blast in both ears. This was my ticket to my exit from naval service after two years. Back to the British film biz and a location in Italy on a Burt Lancaster epic, The Crimson Pirate. This, later, led to my being offered a location in Hollywood and a Fiji Island stay while Burt filmed His Majesty O’Keefe. I had often stated I was going to America. Upon my return to Hollywood I elected to take up residence there.”

A PARTNERSHIP FOR THE LOVE OF ANIMALS
It was while living in Hollywood that Daphne met her husband-to-be. “I met London-born Richard Negus at a mutual friend’s house . . . probably in 1959 . . . I then went away for a year, first on the Suzie Wong 2nd Unit in Hong Kong, then to London, then to Rome, then Switzerland, back to London, then home to Hollywood. We married in 1960 at the offices of a Superior Court Judge in San Francisco. My mother came from London to be with us as our Witness.

“Richard had by then gone into the title and escrow business. He wanted to be an actor – almost made it. He had the looks, the voice, the talent. He used to say all his life he wished somebody would say: ‘Put that boy under contract!’ His destiny lay elsewhere. His family were doctors. Sir Victor Negus, his father, was a Harley Street ENT Specialist whose patients included Elizabeth Taylor, Claudette Colbert, and Sir Winston Churchill.”

Richard shared Daphne’s love of animals. Years later, while on vacation in the Grand Canyon, they learned that the unwanted burros in that area were to be shot because they were competing with bighorn sheep for food. According to Daphne, “Richard phoned the late Cleveland Amory of The Fund for Animals and gave him his plan for the great burro rescue that took place in the early ‘eighties. It was Richard’s execution of the plan, funded by Cleveland’s group, that resulted in the rescue and adoption of the fabled Grand Canyon burros.

“Richard was taken up with animal welfare for the rest of his active life. As President of the Arizona SPCA he drove an animal rescue ambulance in and around Phoenix, AZ where we were now living, picking up hurt creatures and taking them to participating veterinary emergency clinics. He had cockfighting outlawed and dogfighting activities lessened. We purchased Cat World Magazine, which was dedicated to the serious breeder/exhibitor in the cat fancy internationally, and published it for twelve years in the ‘eighties’/nineties.”

LIFE WITH KORATS
Back to 1964 and the fateful day that Daphne saw her first Korat, Jami. “Much as I loved my Burmese, Jami set the course of my future in the cat fancy. I went to work to promote Korat cats. Foremost was my plan to protect the breed. There were already some exhibitors claiming to have Korats. With the few breeders already in the Korat fancy, I went ahead with forming a breed club, the Korat Cat Fanciers Association, whose motto stated ‘For the Protection and Development of the Korat Cat, Native of
Thailand’. “The cat fancy at that time had nine flourishing registration bodies, each of which had to be made aware of the Korat. It was important to find out where shows and their judges were coming up, so that I could send our proposed Standard of Points for each to see before viewing the Korat placed on the judging table. “We had already been forcibly reminded we had a hard row to hoe when a prominent personage’s comment was reported as: ‘Who needs another blue cat!’ at the CFA 1966 Board Meeting, where the Korat was being presented for championship recognition. Nevertheless, the vote was 11-4 in favor and we were delighted”

**Origins of the Korat Breed**

Korats, along with Burmese and Siamese, are ancient breeds dating back at least 700 years, likely much longer than that. It was Daphne Negus who, following a trip to Thailand in 1968, helped introduce 20th century cat fanciers in the West to the Tamra Maew, the “Cat Poems.” (See article about the Tamra Maew in this newsletter.)

In the Tamra Maew, the Korat is described as the Maleht (“seed” or “flower”) or Dork Lao (“Lao flower”), but in Thailand is more widely known as Si Sawat (“the color of the sawat seed.”) And that was the name that Daphne chose for her own cattery. The breed name Korat, with which we are most familiar in the West, refers to a region in Thailand. This name is reported to have been bestowed on the breed by Siam’s King Rama V, when he first saw a Korat and said, “What a pretty cat, where is it from?” He was told Korat, and that was the name he chose for the breed.

Korats are described by some as the “Good Luck Cats of Thailand,” and reportedly are given as gifts to couples on their marriage day as well as to persons of importance, for luck.

**Korats Come to the West**

The first Korats were introduced to the United States in 1959 by Mrs. Jean Johnson, who with her husband had lived for many years in Thailand. The first Korats were named Nara and Dara, and they were obtained from the Mahajaya cattery in Bangkok, the same cattery from which a famous Suphalak/Burmese import, Mahajaya Toffee of Bowbell, would be obtained in the 1970s. A few additional Korat imports were acquired early on, per Daphne. In addition to Nara and Dara, “A female imported by Mrs. Gertrude Gecking, Me Luk of Tru-Lu, and the addition of Ms. Gail Lankenau’s Nai Sai Sawat of Gala from Cholburi Province, together with Mahajaya Dok Rak of Gala, were our foundation Korats, later joined by Mrs. Jean Clark’s Sirikit. Then later Malaid’s Doklao Noi of Si Sawat came to me from Mr. Sunti Sriskoon in Bangkok.”

From the very beginning, Korat breeders were dedicated to assuring the long-term health of their breed, including establishing a diverse pool of breeding cats. It was Daphne, representing a consortium of breeders, who journeyed to Thailand to bring more Korats to America. Daphne recalls, “In November 1968 I flew to Bangkok intending to find and bring back Korats to aid our breeding program. ‘You must bring back nine,’ said a Thai friend. ‘Nine is an auspicious number.’ I was fortunate to have made prior contact with Mme. Rajamaitri of Mahajaya, Mr. Sunti Sriskoon of Malaid, and with Col. Chompoo Arthachinda, then retired from cat breeding and the breeder of Mrs. Gecking’s Tru-Lu. As you will find in the 1969 CFA Yearbook, I did fly back to my home in Los Angeles with nine Korats.” (Daphne’s “Picture Story” of her journey to Thailand in 1968, featured in the 1969 CFA Yearbook, can be found at: www.nenuphar.plus.com/pendragon/features/sisawaat/ as
KORATS: A LIFELONG PASSION

well as at koratworld.com.)

Mme. Ruen A. Rajamaitri (Khunying Abhibal) of the Mahajaya cattery, according to Martin Clutterbuck in his book *Siamese Cats: Legends and Reality*, was largely responsible for educating Westerners about Thai cats other than Siamese. Like many Thai breeders, she did not focus on only one breed, but raised all the major Thai breeds including Korats, Wichien-maats, and Suphalaks. The Mahajaya cattery was located at Mme. Rajamaitri’s home in Bangkok, and the name “Mahajaya” translates as “great victory.” Her husband Mr. Phraya Abhibal Rajamaitri, who was deceased by the time Daphne traveled to Thailand, had been Ambassador to the United States from Thailand (1935 - 1940). Mme. Rajamaitri had also been a Lady-in-Waiting to Queen Sirikit, according to Daphne. Thanks to many imports from Mme. Rajamaitri to the West, the important legacy of the Mahajaya cattery lives on in the Thai origin breeds we know and love. By coincidence, Daphne and Mme. Rajamaitri shared the same birthday, and remained close correspondents until Mme. Rajamaitri’s death at the age of 75.

**THE KORAT IN THE WEST**

By no means “just another blue cat,” the coat of the Korat is a unique gun-metal gray with a silver halo. The Korat’s hair color begins at the base as a lighter shade of blue, then darkens, with each hair shaft tipped in silver. In Thailand, some describe this beautiful coat poetically as having “the appearance of rain clouds before a thunderstorm.” On the nose, legs and tail, where the hair is shorter, the silver color is more prominent.

According to the CFA standard, Korats are a medium sized, semi-cobby shorthair cat. They are very muscular and, like their Burmese cousins, they are heavier than they appear. The heads of Korats are heart shaped and dominated by large, pale, luminous green eyes.

In personality, there are many similarities to Burmese – they are confident animals, social and playful. Korats can also be quite territorial and usually form a close bond with one individual, human or animal.

Korats are generally healthy, however some lines of the breed were affected by two forms of a genetic neuromuscular degenerative disease known as GM1 and GM2 gangliosidosis. (Note that GM2 is also seen in some European Burmese lines, and there will be an article on this in the next UBCF newsletter.) Fortunately, Korat breeders were able to essentially eliminate this disease from their lines thanks to Dr Henry Baker, Director of the Scott-Ritchey Research Center at Auburn University in Alabama, who developed a genetic test for Korats who are carriers of GM1 and GM2. Korat breeders worked closely together to test their lines and have virtually eliminated this disease from the worldwide Korat population.

**DAPHNE’S KORAT LEGACY**

Daphne’s influence on the development and preservation of the Korat breed has been nothing less than extraordinary. Ultimately Daphne personally imported a total of 12 Korats from Thailand. But more than that, she was a pioneer in the development of the breed in the West. Daphne helped write the Korat standard, and pushed to have it be uniformly accepted across the registries. Apart from allowing only Korat to Korat breedings, Daphne and her colleagues early on limited outcrosses only to Korats with origins in Thailand, and all imports had to show proof of origin including import papers and a three generation pedigree. Also, only the silver blue color was accepted. Finally, the Korat Cat Fanciers Association, the first Korat breed club, asked members, breeders and clients to sign a pledge that guaranteed Thai ancestry, required Korats to be given a loving home, not be declawed or allowed to run loose and unprotected outside, and not be mistreated in any way.

When describing Daphne and her impact on the breed, one of her Korat colleagues commented, “She never gives up. From her first efforts in the 60s to her efforts a month ago to match up available Korats with willing new owners, she never falters. She has her goals in mind and never loses...
Another commented, “My experience is with her indefatigability . . . reviewing the correspondence (of which she kept meticulous records), she kept the whole Korat world on track, especially in the early days.”

Without question, one of Daphne’s most important roles in the history of the Korat was that she wrote extensively about the breed, documenting its history in the west as well as sharing what she had learned about its origins in Southeast Asia. Many of Daphne’s stories and her writings about the history of the Korat breed are available on the web, in particular at www.koratworld.com, the most comprehensive website I found about the Korat. Daphne’s articles there include “The Korat: The Good Luck Cat of Siam” and “The Smud Khoi: A Many Splendored Celebration.”

Daphne’s husband, Richard, passed away while they were living in Kanab, Utah. Daphne remained there until early 2010, when she moved to Tucson, Arizona. Unfortunately, she is no longer is able to have any of her beloved Korats as companions. The last Korat of her breeding, CFA and TICA GC Si Sawat Thai Babilonia, passed in January 2011 at remarkable age of 22+.

Daphne’s email signature bears testimony to her lifelong passion for her breed: “AAD - Ancient Aunt Daphne Negus, Si Sawat Korats Nov. ‘64 to Nov. ‘04, and forever.”

ADVICE FOR BURMESE BREEDERS

Daphne and her Korat colleagues know of the problems facing the Burmese breed, are supportive of our efforts, and have kindly offered advice based on what has helped them face their own challenges with the Korat breed.

Daphne herself says that our Burmese colleagues “must be encouraged to embrace ‘hybrid vigor’ and to educate the judges . . . we only have to look at how breeds are changed because exhibitors are influenced by the preferences of some show judges.”

Other Korat breeders have offered the following recommendations:

“Work together and think only about the cats. Allow for others’ opinions and for other registries’ rules without losing the ability to move forward. Figure out the bottom line – what is truly important – and move forward. If you work together, CFA and other registries will have no argument to use against you.”

“Cooperation and remembering the breed is more important that any breeder.”

“When a breed is from a located area we have to keep on using new lines when it’s possible, even if the type of ‘imports’ is challenging. In just a few generations you recover the type and add great diversity in your breed. Also it is important to work with Thai breeders in order to help them to improve their breeding standards so they can offer us new lines in the future.”

In conclusion, my deep gratitude, Daphne, for the pleasure and privilege of interviewing and getting to know you. You have my eternal admiration and thanks for all you have done not only for Korats but for all the Thai breeds.

My sincere thanks also to Ann Segrest, Daphne’s niece Sarah Timewell, and Daphne’s friends Pam Kramer, Robyn Bruce, and Tiffany McFall for providing photos. My thanks also to Ann Segrest, Dennis Ganoe, Frederic Goedert, Dr. Cristy Bird, and others for their help and input.

Following is a brief list of sources and recommended articles for those who want to learn more about the Korat breed – many of the articles are found at koratworld.com:

A Tale of Two Breeds

by

Nancy L. Reeves

The Burmese breed is in trouble. Serious trouble. In an upcoming scientific paper on genetic diversity in cat breeds, Leslie A. Lyons, PhD includes the following statement regarding the challenges facing Burmese:

“Significant genetic variation is present in many cat breeds . . . Burmese had one of the highest levels of inbreeding and lowest levels of genetic variation. Burmese were established in the post-World War II breed bloom, and has been a moderately popular breed. However, concerns for two diseases, a craniofacial defect and hypokalemia, has limited migration of cats between countries and within the USA, and fractionation of the breeding pool by color preferences within the USA has also caused poor breeding dynamics. Thus, a reduction in observed heterozygosity due to the Wahlund-effect may be likely, resulting in an under-estimation of the already severely high inbreeding coefficients, which may be sending the Burmese into extinction. A breed management plan that balances diversity, health and breed type may need to be implemented to help the Burmese breed survive.” (Text emphasis by the UBCF newsletter editor.)

As we consider steps to strengthen and preserve our Burmese breed through outcrossing and other measures, it is important to examine another related breed: the Korat. Though it may have a smaller breeding population, it is in significantly better shape. Burmese breeders can learn a lot from this genetic success story.

Origins

Burmese and Korats originated in Southeast Asia, most likely as the Suphalak and Korat breeds of ancient Thailand. But the roads these two breeds have taken since leaving their homeland are quite different.

A lack of information about the birth place and ancestry of Joseph Thompson’s cat, Wong Mau, led to the assumption that the breed he founded came from Thailand’s neighbor, Burma. Brought to the United States in 1930, Wong Mau was bred to Siamese and back to her offspring to develop the breed. For decades afterwards, Burmese breeders did not have any sense of Thailand as the ancestral homeland following the founding of the breed in the United States.

Korats were first brought the U.S. in the late 1950s, and early breedings were also done using Siamese. However, from the start, Korat breeders understood clearly where their breed came from. They took pride in the breed’s heritage in Thailand. Korat breeders made a decision early on that it was of critical importance to bring in additional foundation cats to assure diversity and health for the breed, and, they knew exactly where those foundation cats should come from. Daphne Negus herself brought in 12 cats, and Korats continued to be imported. In fact no other outcross is allowed for Korats. All Korats imported must have a “Thai Passport” to qualify for a breeding program. This has worked well because they have been outcrossing from the earliest days of the breed to the present.

Standards

Also from the beginning, Korat breeders made the decision to create a standard that was uniform across all registries worldwide. That remains true today. Early on, there were attempts to “Westernize” the breed by creating rounder heads and making other type changes, however Korat breeders have generally preserved in the breed as it originated. Certainly there are variations in conformation within catteries and countries, however the type remains close enough to what is still seen in Thailand today that incorporating new imports into the breed does not have a significant effect on show type.

While Burmese breeders, through the United Burmese Cat Fanciers, also created a standard that was accepted by all registries, the genetic craniofacial mutation that occured in the 1970s resulted in two divergent styles of Burmese: the “contemporary” Burmese, a phenotype created by the lethal craniofacial mutation gene, and the “traditional” style of cat, which remained closer to the breed’s Southeast Asian origins. Since that time the “traditional” style has also been divided into two groups. The European Burmese continues in the general tradition of the original breed, with red gene colors added. The American “traditional” cat, in an effort to compete with the “contemporaries,” has over the last several decades developed a much shorter nose and rounder head in imitation of the contemporary look, but without the craniofacial mutation. Now, at a time when bringing in Thai imports to help the breed’s health is critical, the “show conformation” of many Burmese will be significantly affected because of these variations in type.

Outcrossing

Recent genetic research has shown that Thai cats are genetically unique when compared to cats in the rest of the
world. Burmese, Siamese, and Korats share their ancestry in Thailand and no doubt interbred – thus they are all distantly related. These breeds have the same basic structure, the same genetic house as it were. But the paint colors on the houses are quite different.

We know Siamese were used to create the Burmese breed, though the first Siamese used had European cat blood, and oversusing Siamese as outcrosses got the Burmese breed in trouble in the 1940s. In looking at outcross options other than the Siamese, given that Suphalaks are currently hard to find, would Korats be an option to consider for outcrossing? It appears that Korats are currently the most popular breed in Thailand. So what would happen if you used a Korat for outcross? My gratitude to Dr. Cristy Bird for helping me understand these genetics.

The vast majority of Korats are full color cats and are homozygous for dilute and black (CC,BB,dd), while most Burmese are homozygous for the sepia recessive allele of the full color gene. If you bred a sable Burmese that doesn't carry dilute or chocolate (cbeb,BB,DD) to a Korat (CC,BB,dd), that would produce a solid black cat (Cbeb,BB,DD). The black cat would carry one copy of the sepia allele and one copy of dilute, but that wouldn't be evident in the cat's appearance. While some Korats do carry the Siamese allele (cs), it's not common. Therefore in most cases breeding a Korat to a Burmese would produce a solid-colored cat. But one variable would be what color the Burmese carries. A chocolate (champagne) Burmese bred to a Korat would most likely produce solid black kittens, because Korats do not usually carry chocolate. A lilac (platinum) Burmese bred to a Korat would produce solid blue kittens, unless the Korat carried the chocolate allele (also rare). Likewise a blue Burmese bred to a Korat would give you solid blue kittens.

Therefore, using Korats there would be only two coat colors likely produced through these breedings: solid black and solid blue. Those with patience could wait for the next generation, which could produce Burmese colors if the correct pairings are done.

While Korats may be more popular in Thailand right now, that does not mean there are a lot of Korats being bred. There simply are not that many breeders of traditional Thai breeds. The Thai people have discovered the novelty of Western breeds (to them), and now there are more breeders of Persians in Thailand than of traditional breeds, though there are not that many catteries in Thailand that produce any breed. The few traditional Thai breed catteries that do exist mostly draw from the same small pool of cats.

Breeders in Bangkok swap breeding cats with each other, and breeders outside of Bangkok go to Bangkok to buy new breeding cats. On occasion they will acquire random bred cats from the streets or the temples in order to outcross. This was the case with Mod Daeng’s mother, who was obtained from a nun at a Buddhist temple. Nothing is known about her pedigree or heritage.

And therein lies what may be a more realistic option for us to consider. Random bred sepia and black cats are frequently seen around temples and in Bangkok neighborhoods. Rescue organizations in Thailand pick up these cats, test and vaccinate them, and find them homes. In order to survive the heat and humidity and diseases endemic to a tropical country, Thai breeds have proved to be generally very hardy. These genetically diverse cats could be another important resource for outcrosses for the Burmese breed. A test breeding program using random bred Thai cats is currently underway, the results of which will be presented to UBCF members when available.

**GENETIC DIVERSITY**

In the paper “The ascent of cat breeds” published in the journal *Genomics* in 2008, the Korat breed was shown to have the lowest inbreeding coefficient of all domesticated cat breeds. The same study showed that Burmese have the highest level of inbreeding and the lowest levels of genetic variation. The Korat breed is not without its own challenges, however in terms of genetics Korats are a success story to which we should pay attention.

Dr. Leslie Lyons and her colleagues are preparing a paper about Korats, and I will let her have the last word in this comparison of our two breeds:

*A variety of genetic markers and population statistics are used to measure a population's genetic diversity . . . regardless of the type of marker or the type of test we use to analyze genetic diversity, the USA Burmese population is amongst the least diverse cat breeds. Surprising, breeds with very low population sizes, such as the Korat and Chartreux, have low inbreeding and decent heterozygosity. Our research has been able to confirm our inbreeding values and heterozygosity values by calculations from pedigrees, which is consistent with our genetic studies . . .

The Korat study also suggests that the breeders are cooperating and sharing cats, as well as having periodic imports that also get shared within the foreign and domestic breeding program. Thus, we hope to publish the Korat work as an example of an effective “Breed Management Plan” that could be implemented by other breed groups.
The majority of the people of Thailand (known as Siam until 1939) are Buddhist, and Buddhism preaches tolerance of animals. In fact the First Precept of the Theravada School of Buddhism, which the Thai people practice, forbids killing. As a result many unwanted animals are released around temples, and so it is not surprising to find a number cats in those environments.

In general the Thais are fond of animals, cats included, and they also hold a number of animist superstitions that have been incorporated into their Buddhist beliefs from earlier Tai (the aboriginal people in Southeast Asia) and Hindu practices. Cats have been participants in royal court rituals, as well as serving in more traditional roles as mousers, particularly in Buddhist temples and monasteries where they served to guard foodstuffs and also to protect fragile manuscripts and scriptures from vermin.

While the first Siamese cats that reached the West were exotic to Westerners and marketed as the “Royal Cats of Siam,” in reality the Thai royal family did not raise any breed of cat. However, thousands of residents of the palace city, who were wealthier and had more leisure time for hobbies than rural people, did breed Thai cats. While these breeders may have taken some aesthetics into consideration, more likely they followed Thai traditions and superstitions developed over centuries, which described certain types or breeds of cats as more lucky or auspicious than others.

We know that at some point many centuries ago a great deal of Thai lore relating to cats had developed into a poem passed down as part of an oral tradition. Eventually, the orally transmitted “Tamra Maew” (which means “Cat Poems”) were published in written form. The cat poems and paintings of the “lucky” and “unlucky” cats were published in folding books called “Samut Thai” or “Samut Khoi”, made of specially prepared handmade paper. We don’t know when the oral tradition of the poems began, as it must have been a very long time ago, but we know it was already well established by the Ayutthaya period, from the 14th to 18th century. Ayutthaya, to the north of Bangkok, was the capital of Siam for nearly 500 years (three dynasties and 33 kings) and was a thriving and wealthy city of more than a million people. Tragically, this city with its palaces, temples, and libraries was destroyed by the Burmese in 1767. Nearly all manuscripts and other records were burned. Fortunately, it appears that some were rescued and preserved, among them poems and paintings about cats, dogs, and birds.

Because these ancient manuscripts were deteriorating with time, King Rama V (who ruled Siam from 1868-1910) asked a high ranking priest, Somdej Phra Buddhacharn Buddhasarnahathera, to paint copies of the “Tamra Maew,” and the resulting “Smud Khoi of Cats” can be seen in Bangkok’s National Museum. A few “Tamra Maew” manuscripts can also be found in museums and private collections around the world.

In the manuscripts 17 “Good Luck Cats” are generally described. The order of the cats depicted varies depending on the manuscript, but the good luck cats include the breeds we know best as the Thong Daeng/Suphalak (Burmese), Wichien-maat (Siamese), Dork Lao (Korat), and Ninlarat (Bombay). Other good luck breeds shown include the Kao Taem (Nine Points), a white cat with black spots, several varieties of black and white cats that we might call “tuxedo cats” in the West, and some cats with characteristics and coat patterns not seen today. As we look at these paintings with 21st century eyes, there must be allowances for “artistic license,” in particular as we view the bright copper color depictions of Thong Daeng/Suphalaks, the ancestors of the Burmese cats of today.

Primary sources for this article are Martin Clutterbuck’s book Siamese Cats: Legends and Reality and Daphne Negus’s articles and photographs at KoratWorld.com.
Text selection from the Tamra Maew Manuscript B676 in the Museum Fur Indische Kunst in Berlin, Germany, about Suphalaks/Thong Daeng.

Any cat which gleams, that is with copper mixed in
get a kitten to rear, there will be result, wealth, gold and silver
Both rank and power, slaves and servants in abundance
In time will prosper, a courtier is a minister
Who so raises will do well, my good sir.

Selected text from the Tamra Maew Klon Phleng Yao (KPY) Samut Thai in the Bangkok National Library, catalogued as kham klon, about the caring for the good luck cats.

The cat's bed must be kept clean, with food and fish, of all kinds provided as appropriate, for the cat's merit is great. They are rare, so hurry to look after, do not be suddenly angry. Do not rashly strike the feline. It must be bathed and rubbed down, scented with sandalwood and musk mallow three times a day, to get the results in gathering gain, along with rank and happiness. It must be cared for as one's own child, it must be pampered well . . .

Whoever does not believe the words in this prescription will meet evil, as has been related in past klon, in ancient treatises of magic. It is hoped to tell the people in all directions who have intellect to look carefully to know.

Translations are by Martin Clutterbuck. See Siamese Cats: Legends and Reality for the Tamra Maew texts. Martin Clutterbuck is the only person to date who has completely translated the poems into English.

On the following pages are four of the 17 good luck cats of the Tamra Maew, three of whom are most familiar to western cat fanciers. The fourth is an ancient predecessor to what we call the Bombay. The descriptions for each of the four cats are from The Cat Book of Siam (K4) in the Bangkok National Library collection of Tamra Maew manuscripts.)
Cats of the Tamra Maew

Suphalak
(Excellent Type)

or Thong Daeng
(Copper Cat)

Burmeese

Of appearance and Excellent Type,
the graceful feline
Colour of copper glinting
Eyes light of shining rays
Against all evil, malevolence turns to content

Wichien-maat
(Diamond Gold)

or Maew Kaew
(Jewel cat)

Siamese

Upper mouth, tail, four paws, to ears
Eight points of pure black as stated
Eye colour shines bronze-grey
The name Diamond Gold for the white fur ground
Dork Lao
(Lao Flower)

or Maleht
(Flowe)

or Si Sawat
(color of si sawat seeds)

KORAT

The feline Maleht, its body evenly coloured
Fur like the lao flower, smooth
Fur roots a cloudy grey, off white
Eyes as dewdrops on a lotus

Ninlarat
(Dark Sapphire)

BOMBAY?

As the name the breed – Dark Sapphire
Perfect shiny black form
Teeth, eyes, claws, tongue, black as the body
And tapering tail to the end, running back to touch the head
Editor’s Note: The two charts on this page show the migration to and evolution of cats in Thailand. The upper chart shows the early evolution from wild tabby cats through the albino series mutation. The lower chart shows the evolution of the primary breeds in Thailand. Designed by Cristy Bird, published in Siamese Cats: Legends and Reality by Martin R. Clutterbuck, used with permission.
On Friday, February 4th I bid a very fond farewell to Mod Daeng. I flew down to Southern California, where I had first met her, and delivered her to Art Graafmans. I have to admit I was quite sad to say goodbye, and that I still miss her. She is an extraordinary cat. I love her affectionate and confident personality, even her grumbles at other cats when they invaded her personal space. Through birthing and raising six babies and beyond, she remained as playful as a young kitten. And her health and strength through all the transition and travel she has been seen in her young life is an inspiration.

My experiences with Mod Daeng were transformative for me in many ways, and will continue to be. I have learned much about the origins of our breed, some of which I’m sharing in this newsletter. I’ve made new friends. And I have raised six beautiful kittens, four of which we hope will add health and hybrid vigor to our gene pool. Mod Daeng’s legacy will last for generations of Burmese if all goes as we plan.

On Saturday, February 5th, Art flew with Mod Daeng to St. Louis, Missouri, and Saturday afternoon delivered her to J.D. Blythin. The next morning, at the CFA Board of Director’s meeting, Mod Daeng was in attendance as the board discussed how to register her and her kittens. Apparently she was quite the guest celebrity!

Sunday, February 6th was a momentous and historic day both for the Burmese breed and for the Cat Fanciers Association. After the meeting, Art Graafmans submitted the following report to the Burmese Breed Council:

*The proposal to reduce the number of generations required to bring a cat into CFA from another registry has passed unanimously. We now only require 5 generations.*

*The ballot proposal to register Mod Daeng (as a sable Burmese) was rejected and replaced with the following:*

1. Mod Daeng may be registered in the CATS registry as a native Thai foundation Burmese.
2. Mod Daeng may be bred to CFA registered Burmese and the offspring may be registered as Burmese with the stipulation that they be genetically tested as cbcb (solid color).
3. The offspring which test cbcs (mink pattern) may be registered in the CATS registry as F2, F3, F4... foundation Burmese. These cats may be bred to CFA registered Burmese with the same stipulations as Mod Daeng.

The discussion included the issue of which genetic labs could be used. It was agreed that CFA did not want to specifically endorse any specific lab, so any lab qualified to do the test will be accepted.

This revised proposal was passed with only one no vote. After the vote, the Burmese breed council was commended for being forthcoming regarding Mod Daeng’s color and for proposing a forward thinking method for registration. This is the first time CFA will use a genetic test as part of a registration requirement and we were applauded for requesting the test.

Thus Mod Daeng has helped the Burmese breed to once again make history. As the first cat breed developed through genetics, it is most appropriate for it to be the first breed to use genetic testing for registration. This decision will open doors not only for future imports from Thailand, but also sets an example and a precedent for others who might want to use genetic testing to benefit their breeds as well.

After the meeting, Mod Daeng returned to the Chicago area to live with J.D. Blythin and Renee Weinberger. On that same Sunday, February 6th, she was in heat and she was bred to produce more offspring to help with Burmese genetic diversity. My deep gratitude to Renee and J.D. for allowing me to host and breed Mod Daeng. I will continue my blog with the journeys and stories of her offspring.

Nancy L. Reeves
Burma Pearl Cattery
http://moddaengjourney.blogspot.com/
UNDERSTANDING
FELINE HYPERTROPHIC
CARDIOMYOPATHY
(HCM)
BY
LAURI HENRY, PA-C, MS

DEFINITION:

Hypertrophic Cardiomyopathy, also known as HCM, is "the most common primary heart disease diagnosed in cats." HCM refers to a disease process that makes the heart get big: hypertrophic (overgrown) cardio (heart) myo (muscle) pathy (disease process). When the heart gets big it can no longer pump efficiently.

The heart is mostly a muscle. It is divided into four chambers, arranged with four valves, and all together these pieces create a pump. Simply, HCM refers to a thickening of the heart muscle when the enlargement is not caused by a condition outside the heart such as an overactive thyroid or high blood pressure.

PROGNOSIS:

There are a number of possible outcomes for HCM cats. HCM can remain stable for years or it can progress. Some cats die suddenly. Some develop Congestive Heart Failure, CHF. When CHF develops, the heart is unable to maintain blood circulation and fluid backs up into the lungs causing difficulty breathing. Finally, a particularly devastating consequence is called thromboembolism, where a blood clot causes paralysis, particularly in the hind legs.

HCM is frequently discovered by accident. Either the cat dies suddenly at home or a veterinarian hears a heart murmur or an unusual heart rhythm during a routine physical exam and then HCM is later diagnosed after further tests are done. When clinical signs of HCM are present, these can include decreased exercise tolerance, shortness of breath or vomiting, but most often there are no signs early on. Age of onset is widely variable and has been observed as early as 3 months and as late as 17 years of age although most patients are "middle aged." Prognosis is highly variable, with many mildly affected patients having a good long term prognosis.

DIAGNOSIS:

Auscultation is the first step in diagnosing HCM. Auscultation is the process of listening to your cat's heart with a stethoscope during a physical exam. If an abnormality is discovered during auscultation, the next step is for your veterinarian to determine if further evaluation is needed. Abnormalities would include a heart sound called a murmur, or an unusual heart rhythm such as a gallop. Not all abnormalities discovered during auscultation are cause for concern. For example, a murmur occurring during pregnancy that disappears after the kittens are born is not necessarily a sign of a problem. When a murmur is discovered, your veterinarian will need to determine what follow up or evaluation is needed. If evaluation is desired, other medical causes such as an overactive thyroid or high blood pressure will need to be eliminated. If the heart is enlarged and thyroid or blood pressure issues are present, then these other issues will be addressed. In these cases the cause of the cardiac enlargement will be attributed to the thyroid or blood pressure problems and HCM will be ruled out as the cause of enlargement.

Structure of a Normal Heart
After other causes have been ruled out, the next step is an ultrasound of the cat's heart. An ultrasound of the heart is called an echocardiogram. Echocardiograms show the size and motion of the heart. Color Flow Doppler is an additional test that can be used alongside an echocardiogram to show patterns of blood flow in the heart. This is used to determine if the blood is moving in the direction and with the speed that it should. Diagnosing HCM can be challenging for someone who does not have training in cardiology. Therefore it is recommended that a board certified veterinary cardiologist be consulted at this stage. This can save time and money by getting a correct and accurate diagnosis the first time. (3)(6)

New diagnostic modalities under study include MRI. At present Dr. Mark Kittleson at UC Davis is investigating the use of MRI as another diagnostic tool. An early trial shows promising results although it is too soon to say if MRI will play a role in the diagnosis of HCM in cats. (7)

In many cases HCM has no symptoms and many cats will remain undiagnosed during their lifetimes. Some veterinarians recommend an examination after death, called necropsy, for young cats that die suddenly. (3) However it is possible that a necropsy will not reveal the presence of HCM since post mortem findings can be too subtle for a pathologist to detect. Therefore, other veterinarians are of the opinion that necropsy may be of questionable benefit in diagnosing HCM. (6)

HCM can remain undiagnosed for a number of reasons. Some cats with HCM will never see a veterinarian. Some cats who receive basic veterinary care will not have abnormalities during auscultation and these cats will not receive further evaluation. Unfortunately, some cats who receive an echocardiogram will also remain undiagnosed. Some of these will not have enlargement at the time of echocardiogram. And, unfortunately, some cats who do receive echocardiography may not be diagnosed due to test measurement error. This is because ventricular wall thickness is measured at a specific place in the heart. Cats may not sit still for the periods of time required during the exam. Therefore measurement errors are possible, particularly when the test is not performed by a veterinary cardiologist. Finally, some cats will remain at a borderline normal ventricular wall thickness for a period of time. For these cats the diagnosis will remain unclear.

CAUSES:

In people, HCM is considered to be a hereditary disease and more than 450 genetic mutations have been identified in people so far. In cats, at present, one genetic mutation has been discovered in Maine Coons, and one genetic mutation has been discovered in Ragdolls. The two feline mutations discovered at this time apply only to the breed they are discovered in. The Maine Coon and Ragdoll mutations are mutations within the same gene, but the mutations occur in different places on this gene and they are not the same mutation.

In the case of Maine Coons, a genetic test has been developed that can identify the single known mutation within that breed. The test can also discover if the cat tested is carrying one or two copies of the defective gene. This is invaluable information for a breeding program, since it is theoretically possible to use cats with only one copy of the defective gene in a breeding program in an attempt to maintain the line and breed the defective gene out. However, even the presence of a test does not solve the HCM problem in Maine Coons. First, there are cats who test negative for the known mutation who still develop HCM. Second there are Maine Coons who test positive for the mutation who are negative for HCM on echocardiogram. For both of these reasons it is thought that there are other undiscovered
causes of HCM in Maine Coons, including genetic and non-genetic causes. Also there are other issues that influence the behavior of the genes. (8) (9)

RECOMMENDATIONS FOR BREEDERS:

Veterinarians agree that all breeding cats should be auscultated annually. If an abnormality is detected and no other cause is discovered, cardiac ultrasound should be performed, preferably by a board certified veterinary cardiologist. Some veterinarians believe that all breeding cats should also receive cardiac ultrasound annually during their breeding years, even if auscultation does not show any abnormality. (3)

Maine Coons are recommended to have a genetic test for the mutation discovered in their breed. However, even Maine Coons testing negative for their breed's known genetic mutation have been recommended to receive annual auscultation and annual echocardiogram since there are other causes of HCM in their breed.

BREEDING GUIDELINES:

In the case of Maine Coons, where there is a genetic test available, a number of veterinarians and geneticists recommend that some cats testing positive for a single copy of the known mutation remain in breeding programs on a limited basis. Genetic testing is available for both Maine Coons and Ragdolls at Washington State University (www.vetmed.wsu.edu/depts/VCGL/test.aspx) and for Ragdolls only at the Veterinary Genetics Laboratory at the School of Veterinary Medicine, University of California, Davis (www.vgl.ucdavis.edu/services/cat/). At WSU, approximately one third of the Maine Coon genetic samples submitted test positive for the mutation. It is thought that abruptly removing one third of all breeding cats from the breeding pool could have a devastating effect. Fries, et al, note that, "Because of the high prevalence of this mutation, a breeding recommendation to eliminate all cats with the mutation could have a substantial impact on the gene pool." (10)

Some veterinarians believe that removing one third of the cats from the breeding population could adversely impact the breed by allowing an undue influence of undesirable genes and by removing a disproportionate number of desirable genetic qualities from the gene pool. (11)

Jerold Bell, DVM and Clinical Associate Professor of Genetics at Tufts Cummings School of Veterinary Medicine comments, "My normal recommendations concerning genetic counseling and genetic disease management are based on two (sometimes conflicting) premises. One is to prevent more affected individuals from being produced, and the other is to maintain the quality and diversity of the breed." (11)

Other veterinarians disagree. They believe that in breeds that have a genetic test, all cats that carry the known HCM mutation should be removed from the breeding pool. (3)

Veterinary Cardiologist Mark Kittleson notes, "If a mutation has been identified in a breed all cats should be tested and positive cats should not be bred". (12)

Where no genetic mutation has been identified, common sense and candid sharing of information between breeders are the only options available at present.

TREATMENT:

There is no consensus on medical treatment of HCM at this time. Betablockers are the most common drugs given although their value is limited, since many HCM cats can live comfortably for 5 years or more with no treatment. (4) (12)

HCM can progress on to Congestive Heart Failure, CHF. Heart failure occurs when the heart is enlarged to the point where it is unable to pump effectively and fluid backs up into the lungs. When the heart is in failure, fluid begins collecting in the lungs making breathing difficult. Diuretic therapy can be used at this stage to improve breathing. Furosemide is a diuretic that has been used successfully for this purpose. (9)

It is possible for thromboembolism (a blood clot) to form when the left atrium enlarges. Therefore, anticoagulating drugs have been used as a prophylactic therapy (preventative medication) in an attempt to prevent blood clots from forming. In human patients, blood clots can be prevented using blood-thinning drugs such as clopidogrel or aspirin. The effectiveness of these medications in cats is under study at this time. Thus far, aspirin has not been successful in higher doses. However a 2003 study explored the use of aspirin at lower doses. (13) A study of Clopidogrel is currently in progress. (14)

DISCLOSURE:

It might be reassuring to have an independent resource, such as a database, for information on HCM tested cats. One database, Arch, is associated with ACVIM (the American College of Veterinary Internal Medicine). Arch
attempts to offer "reliable certification to breeders and pet owners that their animals are free of congenital and adult onset heart disease."  http://www.archcertify.org/ It is unclear what benefit such a database might have and what number of participants might make the data they collect meaningful.

Some veterinarians advise that everyone should openly disclose their HCM status to all other breeders and pet owners: "All breeders that are using cats related to an affected cat should be notified that a cat has been diagnosed with HCM. Similarly, pet owners should be notified that a relative has been diagnosed with the disease. Echocardiographic examination (and genetic testing if a Maine Coon) of cats related to the affected cat should be performed." (3)

**IN CONCLUSION:**

Having a diagnosis is invaluable to breeding programs. Breeders who do not check for cardiac disease do not know if cardiac issues are present in their breeding programs. The absence of cardiac disease in a breeding program that has not been evaluated by a veterinarian does not indicate that the breeding program is clear of cardiac disease. Therefore, a breeder who has not, at minimum, had their breeding cats auscultated, cannot make the claim that their breeding program is free of cardiac disease. While evaluation by a cardiologist does not guarantee that cardiac disease will not develop in the future, regular veterinary examinations allow breeders to make informed decisions about their breeding programs.

Genetic testing offers the best hope of eliminating at least some HCM from a gene pool and this is an avenue that cat breeders should consider working towards. At this time the genetic defects that have been discovered in Maine Coons and Rag Dolls cannot be applied to other breeds. Breeders will need to work together toward developing genetic testing for their own breeds.

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(14)  The Feline Aortic Thromboembolism Clopidogrel vs Aspirin Trial (FATCAT), http://www.vin.com/fatcat/
INTERVIEW WITH KATHRYN MEURS

Interview with Kathryn Meurs, DVM, PhD
On Hypertrophic Cardiomyopathy

by Lauri Henry, PA-C, MS and Michael Henry, M.D.

Dr. Kathryn Meurs is the Richard L. Ott Professor of Small Animal Medicine and Research at Washington State University College of Veterinary Medicine. Her specialty is small animal cardiology, with a special interest in the genetic causes of feline and canine cardiac disease. She has been instrumental in identifying and developing tests for hypertrophic cardiomyopathy in Maine Coon and Ragdoll cats and in investigating possible genetic causes for other breeds such as Sphynx. Recently, Lauri Henry had the pleasure of interviewing Dr. Meurs via telephone at Dr. Meurs' office at Washington State University. Lauri spoke to her about hypertrophic cardiomyopathy (HCM) in purebred cats and about the possibility of inherited HCM in Burmese.

How did you become interested in Hypertrophic Cardiomyopathy (HCM)?

I decided to do a three year cardiology residency, and during my training program I became interested in cardiomyopathies, because it was pretty clear to me that we saw a lot of heart muscle disease cardiomyopathies generally in specific breeds and that it might be inherited. If you looked at the human literature it was clear that they were most commonly inherited diseases in people. So I started to work on the inheritance of it. And I continued on with my training after cardiology residency and got a PhD in genetics so I could study the inheritance of cardiomyopathy both in cats and dogs. They are actually different forms of cardiomyopathy. In cats, most commonly it's hypertrophic. In dogs most commonly it's either dilated or arrhythmogenic. So that's sort of how I fell into it. I really started out to be a cardiologist and realized that as a cardiologist we really weren't very effective at successfully treating these cardiomyopathies, which make up a large part of our practice.

In terms of what causes HCM, do we still think it's primarily an inherited disease?

It's certainly most commonly inherited in people, and we've shown it to be inherited in several breeds of cats: Ragdolls, Maine Coons, and Sphynx. We have a feeling it's most likely inherited in other breeds of cats as well. But in people it can also sometimes be caused by other things. We don't know what causes a lot of HCM. It's possible it could be viral. It could be nutritional. It could be caused by many other things. But I think when you see a high percentage of it within a particular breed that should make you think that it may be inherited in that breed.

So if you are just seeing sporadic cases then you can begin to think of non-genetic causes?

I think we need to be careful. People are quick to look for other possible causes, and in sporadic cases to dismiss the possibility that it's inherited. Most likely it is inherited, but it is possible that there are other causes out there that we don't know about yet.

What do we know about the Burmese breed in terms of HCM?

Really, nothing. We know there are occasional cases reported. But there are no studies specifically done on your breed. And that is true of many breeds. That is just the way it goes. It's expensive to do research and veterinary colleges don't have money to spend on research. Any research that is done has to be funded. Most studies are funded by a breed organization, for example the Maine Coon people really funded their study. Or if a veterinarian at a university can obtain medical records, and if they are seeing a lot of Burmese, then they might write a paper on it just based on the records they have. But there is nothing published specifically on your breed.

When we are talking about a primary heart muscle disease, are there any other problems in the heart that can be confused with HCM such as problems with the mitral valve, like systolic anterior motion?
It could be a birth defect with the mitral valve, like mitral valve dysplasia. If that were the case then that should be a kitten that had a murmur its whole life, and hopefully that kitten had seen a cardiologist at a younger point and that murmur would have been picked up. High blood pressure can cause it. High blood pressure is not common in cats, but it can exist. Most commonly it is caused by something else going on in the cat like kidney disease. That is more often seen in older cats. And the other one would be hyperthyroidism, which would also be seen in an older cat.

What about hypertrophic obstructive cardiomyopathy (HOCM)

That is the same. That is just a variant of HCM. So that is also probably inherited disease. If somebody sends me a record and the cat has HOCM, I still consider that to be HCM.

Could a mitral valve issue come first and lead to HCM?

No. It's thought that in those cases that the mitral valve issue develops secondarily to the hypertrophic disease.

And is there any significance when you see structural abnormalities like false tendons in the heart?

That is not known.

Is there a standard for diagnosing HCM? And do all institutions use the same measurement of ventricular wall thickness?

There is a standard that all institutions and all boarded cardiologists have access to. Probably everybody agrees on what is affected, but then there is a gray area which exists between normal and affected. Cardiologists tend to interpret that more subjectively just based on their own experience.

Is it difficult for a veterinary cardiologist to diagnose it?

It is not tricky for a boarded veterinary cardiologist to diagnose it once the cat really has it. But I think that's an important point. Many people, because it is expensive, don't see a boarded veterinary cardiologist. They see a veterinarian who has an ultrasound machine or a radiologist. And those people don't always have the same level of experience. You are looking for a heart wall that is greater than 6 mm. You are really measuring millimeters at a very specific area in the heart. So if the person doesn't have a lot of experience and the cat is not so patient to lie there, which is often the case, it's not impossible that they would incorrectly classify that cat. You do want to see somebody who knows what they are doing and that would be a boarded veterinary cardiologist ideally. It's tricky to know what to do with the in between stages. The cat that is not fully normal and isn't fully affected either, such as the cat that is a little different or a cat that is on its way to being affected, those are cases where we don't know. And also it should be remembered that this is an adult onset disease. If somebody does an ultrasound at two years of age and the cat is normal, that doesn't mean it will stay normal its whole life. It has to be done annually.

How often should cats that are at risk be evaluated? Is there any standard?

Every year, because we don't know the age of onset in Burmese. Maine Coons usually develop HCM between 5 and 8 years of age. They can show it as young as 3. Ragdolls are more common to show the disease at a very young age between 12 months to 24 months of age, but they can show it later at 4 years of age. In Sphynx the average age of diagnosis is 2 years. But we don't know in your breed. It might be later, like Maine Coons. It could be younger. Evaluation really has to be done every year. And that's another problem for folks too, because it's expensive to do every year.

In terms of Burmese breeders, if you are not aware of anything in your line for, let's say, 3 generations back and you have heard a rumor that there might be an HCM affected cat earlier in the line, what should you do? Auscultation once a year followed by echo if there is a murmur or gallop?

I don't think I can make recommendations for your breed because we honestly don't know enough. I would, at a minimum, have it listened to once a year after the age of two. If there has been a problem somewhere in that line, or if they are the type of person who wants to do absolutely everything, you really should do an echocardiogram every year because there are a small percentage of affected cats that have normal auscultation. They sound normal with a stethoscope, but they have abnormal echos. So you will risk missing some if you don't do an annual echo. But we
don't know specifically for your cats for your breed if there's an age that people should be more concerned about.

Is there a way to use pedigree analysis in the absence of a genetic test, where you can predict if you've got HCM in your line?

It would help if you've got pedigrees and you know that you've got affected cats, then you might be able to take those pedigrees to someone who has training in genetics and have them look at it and try to determine how the disease is passing on, is it a dominant trait or not. What is a little bit tricky is that cardiomyopathy is a disease that is referred to as having variable penetrance. And that means that some affected cats will only show a very mild form of the disease that would only show up on an echo. Some with the same genetic cause of it will have a very severe form. So you can look at a pedigree and say here are the affected cats, but you'll be making an assumption about the unaffected cats. And it's possible that the unaffected cats actually carry the trait but just had a more mild form of it. So that makes doing a pedigree analysis, unless you are working with somebody who has routinely echoed their cats every year, very difficult because you have to make assumptions on cats where there is no known history of heart disease, and it is possible that they actually did have mild heart disease.

Since most people don't echo their cats it's probably not really a worthwhile exercise.

It's going to be really hard. What you could say is if you know you have had affected cats in your line then you know you may have an inherited problem there. So at the very least what you should do is breed out. Because in a best case scenario, by trying to breed out to other lines, you may move away from it a little bit. But you probably aren't going to get very much information just from looking at pedigrees.

Are there any effective drugs for HCM at this point?

It depends on what the stage of the disease is. That's why people should be working with a cardiologist. If they are in heart failure there are effective drugs for treating heart failure. If the cat has a large heart there may be drugs that should be added on to try to prevent them from throwing a clot. If they are a HOCM cat they may get benefit from adding a beta blocker like atenolol. It really will depend a lot on the individual cat and what the cardiologist is seeing whether drugs would be helpful.

Have you had success with the antithrombolics (blood clot preventative medications) such as aspirin or clopidogrel?

We don't know. We routinely prescribe them because having a blood clot is a very bad thing. So veterinary cardiologists probably recommend starting an antithrombotic when the left atrial size is big. It's very hard to know whether those drugs make a difference even when people have tried to study them, because the problem is you don't know which cats are going to throw a clot. So if a cat is on an antithrombotic and doesn't develop a clot, is that because the drug prevented it? Or is that because his form of heart disease, his severity of heart disease, or something else about the cat meant that he wouldn't have formed a clot anyway. Not all cats with this disease will throw a clot. So that makes it really hard to know with certainty that the drugs are doing something. But, on the other hand, we know that the drugs do prevent clots from forming in general. We don't know if they actually have a preventative impact that is better than doing nothing in a cat. Still, if they get a clot it's a very bad thing, so we generally treat them.

Maine Coons and Ragdolls are lucky as they have genetic testing available. How was so much progress made in these two breeds?

It's a little bit of luck and, particularly with the Ragdolls, it took one or two highly motivated people within the organization. Generally what it takes to be successful in finding and identifying a mutation are two things: first, affected DNA samples, specifically blood samples. It needs to be a blood sample rather than a mouth swab because in the beginning you don't know what causes it, so you need a lot of DNA to be able to look at. You need to have DNA samples from cats that are proven to be affected by a cardiologist. So to start out with, one needs to have a very solid pool of DNA samples. It doesn't necessarily take a ton, maybe 20 or so affected cats in the beginning. And then, it also takes some money, because we have to be able to pay for the supplies and for the person to actually be spending their time looking for things. And so in both Maine Coons and Ragdolls, a breed organization and a few people really got involved and got people to collect blood
samples and pedigree information, if that was available, and also did fund raising. And the Ragdolls actually got lucky in that we found it pretty early on. And so in the end it only was $20,000 in funds.

It took us much longer for the Maine Coons. We were able to find money from other sources but that, in the end, was probably more like $50,000 before we found something. It really takes a breed organization getting involved. We've been working with the Sphynx for some time. And they've been aggressive about collecting samples and getting them to us and they've done pretty well with the fund raising as well. They don't have the Maine Coon or the Ragdoll mutation. And they don't even have a mutation within the same gene or any of the common human genes. So it's costing us more and it's taking a longer period of time. You just never know in the beginning. I would have thought the Ragdolls would have the same mutation as the Maine Coons because phenotypically they both have large boned, long haired cats and so one might predict they have some shared genetic background. But they have completely different genetic mutations. And the Sphynx doesn't have either one of theirs. So it would appear that each breed developed separately.

How much money would need to be raised?

It's hard to know. If one raised $20,000, that's a start. But the problem is that we can easily spend the $20,000 in a year and not find anything like the Sphynx. Maybe your breed is fortunate like the Ragdolls and it's found fairly quickly. But if it's not, you go back at the end of the year and you say, "you know we spent all the money and we ruled out some things, but we didn't find anything. " So they have to go back to their members, and at that point some folks start to loose enthusiasm. Finding genetic mutations is a little bit like turning over rocks. Sometimes you have to turn over a lot of rocks. And that's where people get frustrated.

But $20,000 and 20 echo positive cats would be enough to start a year of work?

Absolutely. That would get you started, and who knows, maybe you would find something right away. And then it's the greatest. The Ragdolls were lucky, and it was a really strong mutation. If they're homozygous, they have two copies of it; they develop a really bad form of the disease. And so the test was a very useful thing. And they could use that to gradually reduce the prevalence of it within their breed. You could get very lucky. Or you could not be so lucky. It's hard to know.

The Maine Coon and Ragdoll mutations, this is the same gene, c-MyBPC, but the mutation is different, correct? And it's in a different location.

Right. So clearly they did not inherit it from the same cat.

If we can work together as a breed, then what would we do? We would contact you and say we think we have enough cats and enough money and then we can figure out what to do from there?

Right. And an easy way to start is with people with cats who have a problem, and if they want to send us blood samples I can send you a form that breed organizations can send out to their members. If we have enough samples we can also go to funding organizations like the Winn Foundation and the Morris Animal Foundation and say we have enough samples here, we would like to do a small study, and can you help fund this? Sometimes the Winn Foundation goes back to the breed organization and says "Washington State is asking for $15,000 to do the first stage of the study, will you guys split it with us?" So then Winn might come up with $7500 and Winn might ask you to come up with $7500. But if we don't have samples then the funding organization feels that we're not even ready to do the genetic aspect anyway. You can start spreading the word that if you have an affected cat, and you are able to get it into the clinic and have a blood sample taken, then if you send those samples in then we can start extracting the DNA and store it. When we have enough to really look at something, then we can come back to you and say we are probably going to write a grant and ask Winn Foundation, and how are you doing with fundraising.

So if a breeder who reads this and they have a living HCM cat and can afford to get a purple top tube blood sample, they just send it to you?

Exactly, with a copy of the form that we use for other breeds (in this newsletter and on the UBCF website). We log them in and we extract the DNA. And when we've developed enough of them for us to actually feel like we can do something, then we can go forward with it.
**Interview with Kathryn Meurs**

**How long can you store that DNA?**

Decades!

**So even if we are not very successful in generating a lot of interest now, I'm sure there are people out there who have these cats. So if it's just a handful we can just send them to you now, and at some point those would be of use.**

It's something that people can feel like they are already doing. And you never know. Sometimes when you start doing that you stumble on a breeder who gets really behind it and wants to help through the fundraising and they have a lot of them. And that's how I think the Ragdoll thing ended up taking off. They started slowly just collecting some samples and then they found two people who were really enthusiastic about pushing it. And it just went forward from there.

**And pedigree data? If we can get it to you with the blood samples?**

Pedigree data is helpful because there are two ways we can do the study. The first way is we will just look at common genes that are known to cause the disease in cats and other species. The other thing is something called a genome wide association and that's what we are down to doing in the Sphynx. In that case you actually want the cats to not be too closely related. So then we have to go back through all the samples we collected and look at their pedigrees, when we have them, and try to pick out cats to run the assays that are not siblings or ideally not even within a generation or two. Now it's not always possible. We would still like those blood samples. But it is helpful if they have pedigree information and that's included on this form as well if they would send that to us.

**You need the blood sample and you also need how the diagnosis was made correct?**

Right, so what the form asks for is, if possible, to include a photocopy of a pedigree and any echocardiographic information.

**When you are talking about the Sphynx, is that the "Genome Wide Association Analysis"?**

Yes, that's what our goal is to work with them. They've really done an admirable job collecting samples and so the real lag is that the Genome Wide Association Analysis hasn't been available for cats but there is a company that is working on it that says they will have it available the first of the year (early 2011). So that will be the direction. It's more expensive, and so probably it would make more sense for the Burmese to start by making sure it's not the same gene that the Ragdolls and the Maine Coons have.

**Any breeding guidelines for breeders who may have seen HCM in their lines? Or who may know of an affected cat?**

Really the only guidelines would be to breed away.

**When we are talking about breeding away, how far back in the pedigree is it safe to use a cat, because we have a very small pool of cats. And they all descended from one cat.**

What I would generally say is try to go at least 3 generations out if there is any chance that it's recessive. In most cats it's dominant. But if there is any chance that it's recessive, the more distantly related they are the less likely you are to see the trait. So if you can breed out a few generations, you are less likely to actually see it and you'll have more silent carriers, which are ok as long as they are not bred to each other.

**And is there any such thing as a disclosure guideline? What is the correct thing to do in terms of working with pet owners and even other breeders?**

I don't know the answer to that question. And now that we are testing for it, people certainly have concerns because if their cat is positive heterozygous, how do they place that cat? I think it's something that the lay public may not understand very well anyway, and you don't want to overly concern them. I might just say that heart disease does exist in cats and that HCM is the most common heart disease in any cat, whether it's a Burmese or Sphynx. Let the owners know there are studies looking at whether it's inherited, and so if that owner's cat should ever develop heart disease it would be useful to let the breeder know.

**Is there any value to a formal cardiac database for breeders or for pet owners?**
Different breed organizations look at it differently. We have really left it up to the breed organizations, because people sometimes become really hostile about these things. I think one thing that is important is that if you run a database you really have to require the actual submission of the cardiologist's report. And you have to list the age at which the animal was studied. If they are sending in information that says this cat is normal and it's because the cat was echoed at 10 months of age by a non-cardiologist, then that information isn't useful. Some of the databases don't require as much stringency as to who can put the data in and how it can be obtained. And then that's probably not very useful.

It's difficult for people to understand. And sometimes giving them too much information is going to lead them to come to an incorrect conclusion.

I think that's right. Many people really struggle with the idea that it's inherited but it's adult onset. So that even with a genetic test you know they will have echoed a cat at ten months of age, and it was negative, and then they get there genetic test back that says they're positive for the mutation. And then they will come back to us and say well the test must be wrong because I echoed my cat and it was negative. Well, their cat was too young to have even developed the disease. So there is just a lot of confusion with these things. What the Maine Coon people have done, at least in Europe, is an open database. I don't know honestly how much they use it. The Ragdoll people haven't. We work with dog breeders, Dobermans and Boxers, that we have identified genetic mutations for. They ask if they can put a database on the web with the optional listing of the adult's results of the tests. The owners can elect whether they want it posted. We did that, but I don't know how much people actually use it.

Is there value in sending in a test on a non-Maine Coon or Ragdoll at this point?

I think not. I don't see any Burmese in our database. Since we've never tested an affected Burmese, then a few should be tested because it's possible they have the same mutation. But it is extremely unlikely. So I would not, by any means, recommend that people routinely request it. It probably is not the same mutation in their breed. And when a breed organization asks us to start looking at it, the first thing we do is make sure they don't have either one of the other ones. Because that would be the easiest thing. But it's very unlikely that it would be the same.

Do the Maine Coon and Rag Doll hearts look similar? Does the cardiomyopathy look the same?

Yes, they look identical. There's really nothing that anybody can tell on echo or on death at necropsy that tells you the difference. You know in people there are now over 400 different genetic mutations. And they can't tell which one it is by anything clinically. This is just a really complex disease.

If Burmese breeders would like to donate to HCM research at Washington State University Foundation, you can do so in two ways. Be sure and indicate that the donation is "For Burmese HCM Research." A "Give Now" link is available at the Veterinary Cardiac Genetics Laboratory website:

http://www.vetmed.wsu.edu/deptsVCGL/

To make a gift by mail, please make your check payable to the WSU Foundation and send to:

Dr. Kathryn Meurs
VCGL-WSU
P. O. Box 605
Pullman, WA 99163-0605

If you would like to send DNA samples, please see what is needed for sample submission on the next page. We will also be posting a form on the UBCF website: www.united-burmese.org

Lauri Henry has Master's and Physician Assistant Degrees from Barry University in Florida and a Bachelor's Degree from Bennington College in Vermont. She studied Animal Science and Animal Nutrition at the University of Maryland in College Park. She has been employed in Gastroenterology and in Pediatrics. She held student positions at the USDA at the Beltsville Animal Research Center in Maryland, and at the Florida Department of Agriculture in Tallahassee.

Many years ago, prior to pursuing her interests in human and animal medicine, Lauri was a journalist associated with ABC News in New York.

Lauri has owned Burmese cats for almost 20 years and has been a Burmese breeder and CFA exhibitor for four years.
SAMPLE COLLECTION FOR HCM RESEARCH AT VCGL-WSU

Please ask your veterinarian or a veterinary technician to pull a blood sample into an EDTA tube. Most veterinary hospitals have these readily available.

1. Blood drawn into a Standard EDTA Tube does not need to be refrigerated.
2. Blood draw volume should be 1 to 2 ml, if possible.
3. Please label tube well, with cat's call name and family last name and send the samples to our lab via the address above.

Blood drawn does not need to be mailed back with ice packs or be shipped overnight. However, if possible please try to send the sample within a few days by standard mail. Until the blood can be mailed, it is a good idea to refrigerate it (i.e., if the blood was drawn late Saturday and cannot be mailed until Monday, it's a good idea to refrigerate it between Saturday and Monday).

Indicate that the sample is for the Burmese Cat Hypertrophic Cardiomyopathy Study

Include Cat Name, Gender, Birthdate, Owner Name, Address, Phone Number, E-mail, Date (if ever) of Last Echocardiogram, and how your cat was diagnosed with hypertrophic cardiomyopathy.

If possible, please include a Xerox copy of a pedigree and any echocardiogram information.

Send samples to:

Dr. Kathryn Meurs
VCGL – WSU
Post Office Box 605
Pullman, WA 99163-0605

(Please note that we will post a copy of a HCM DNA submission form on the UBCF website.)

Overview

This was an informal poll of the UBCF membership. The purpose of the survey was:

1. To find out if members are aware of HCM, “the most common heart disease in all cats” according to the Merck Veterinary Manual online
2. To try to generally quantify how many respondents have seen it and also how many have not.

Methods

The survey grew out of my articles "Understanding Feline Hypertrophic Cardiomyopathy" and “Interview with Dr Kathryn Meurs,” both appearing in this issue. Questions were prepared informally and answers were tallied.

The survey was published as an email notice on the UBCF yahoo groups list which currently has 64 subscribers, some of whom are multiple email accounts from a single cattery and do not reflect 64 actual UBCF members. Further, not all UBCF members are subscribed to the Yahoo list, so we were grateful for the help of our club Secretary, Prudence Dorazio, who emailed the survey to additional members who provided their e-mail addresses to her.

Again, this is an informal not scientific survey and we are very pleased with the participation we received.

Number of Participants

There were 22 participants.

21 respondents identified themselves as breeders, one as a non-breeder.
SURVEY QUESTIONS AND RESULTS

1. How often do your cats see a veterinarian?

   Daily: 1  
   Annually and/or whenever an issue arises: 16  
   As needed or rarely: 3  
   Every other year: 1  
   No answer: 1

2. Have any Burmese cats in your breeding program ever been diagnosed with Hypertrophic Cardiomyopathy?

   Yes: 9  
   No: 10  
   Other heart issues: 3

Note: A number of respondents described other heart issues such as murmurs or valvular problems, sometimes in combination with HCM. Also, a number mentioned that they had seen HCM in Burmese offspring who were not part of their breeding programs. These responses were not included if the respondent answered no to this question.

3. If you have had cats diagnosed with HCM, how was the problem discovered? (Routine vet visit? Issue at home?)

   Routine vet visit: 4  
   Issue at home: 5  
   Sudden death: 5  
   No answer: 8

Note: A routine vet visit would be for vaccines or a preoperative exam. An issue at home or at the home of a new owner would be a cough or other clinical sign.

4. Was an echocardiogram done? And who did the echocardiogram (a veterinary cardiologist, a veterinary radiologist, your regular veterinarian, an HCM clinic at a show)?

   Board Certified Veterinary Cardiologist: 4  
   Veterinary Radiologist: 1  
   HCM clinic: 1  
   Not sure: 12  
   No answer: 4

Note: The answer to this question was frequently not clear to the respondents.

5. Please estimate how much money this has cost you. Consider veterinary visits and medications over the lifetime of the cat, the cost of replacing cats, and any other expenses directly involved. Please mention how long you have been aware of the issue (for example it has cost me $5000 over 15 months).

   <$500: 1  
   <$2000: 1  
   <$5000: 4  
   <$10000: 1  
   >$20000: 1  
   Don't know but replaced a cat or cats: 2  
   Didn't keep track: 1  
   No answer: 11

Note: One respondent replied, "How much is a lost sable bloodline worth?" Many were concerned about the emotional costs to their pet homes which cannot be quantified. We did ask about the time period and this ranged from 6 months to 4 years. In some cases there was a concern that expenses would be ongoing if more cats were diagnosed with disease in the future and in other cases no other cats were at risk.

6. Who do you think HCM information should be shared with: Other breeders you are directly working with? All breeders? All pet buyers?

   Breeders I am working with 8  
   All breeders 5  
   All pet buyers 4  
   A Formal Health Registry 2  
   No answer 3

7. How long have you been breeding Burmese? (If you are not a breeder please mention that here and indicate how long you have owned Burmese.)

   <5 years: 2  
   <10 years: 3  
   <15 years: 7  
   <20 years: 4  
   <30 years: 3  
   <35 years: 2  
   No answer: 1
Note: It is assumed that most breeders were previously Burmese pet owners, so in the case of breeders only the length of time breeding is totaled.

8. Do you show your cats? If so, what associations do you show in (CFA, TICA, ACFA, CCA?)

   CFA: 11
   TICA: 7
   ACFA: 0
   CCA: 1
   Other: 2
   Don't show: 5

Note: Some respondents show in more than one association.

9. Have you made any changes to your breeding program or the associations you show in because of concerns about HCM?

   Yes: 8
   No: 11
   No answer: 3

10. If a study of HCM in Burmese becomes possible, would you be willing to submit blood samples?

   Yes: 18
   No: 0
   Maybe: 1
   No answer: 3

11. Please feel free to comment further on your experience or knowledge of HCM in Burmese.

Note: There were a very broad range of answers to this question. Here are a few thoughts to close with:

"HCM is tough to determine-shows up years later or suddenly between 2-10 years. Cat can live for years or go down within days. Very frustrating disease"

"I do hope someday breeders can talk to each other openly about these problems and health issues."

"If breeders are honest with each other we may be able to diminish the amount of HCM cases that we see."

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RESULTS OF UBCF ELECTION OF OFFICERS AND REGIONAL DIRECTORS AND PASSAGE OF AMENDMENTS TO BYLAWS

Election Held October 2010
Votes were Talled by Art and Kristi Graaffmans, Lauri Henry, and Rose Wheeler

Officers will serve 2 years terms from January 2011- December 2012.

OFFICERS

President: Willa Rogers-Hawke
Vice-President: Jo Diamond
Secretary: Prudence Dorazio
Treasurer: Art Graafmans
Newsletter Editor: Nancy Reeves

REGIONAL DIRECTORS

Regions 1 & 2: Margaret Stevens
Region 3: Lynette Massow
Region 4: Brian Tripp
Region 5: Fran Eiserloh
Region 6: Nina Pearlmutter
Region 7: Denise Hall
Region 8: Roger Horenstein
Region 9 & 10: Bob Gleason
Region 11: Natalya Gnatiyuk

Proposed Amendments to the UBCF By-Laws dated 10/15/10 were approved, as follows:

1. Permit the election of Officers and Regional Directors to occur in the same election cycle every 2 years.
2. Permit the Board of Directors to increase dues at their discretion, as necessary.
3. Administrative - minor changes to remove verbiage pertaining to the 2007 elections and to add clarification to collection of membership dues verbiage.
Through a variety of circumstances, some of our adult and senior Burmese find themselves without a home or in danger of losing their home. UBCF considers it an important responsibility for Burmese breeders and fanciers to spread the word about these cats, or to provide direct assistance in obtaining new homes for them.

The Burmese Rescue Program provides a great service and plays an important role in helping at risk Burmese across the United States.

If you know of a Burmese at risk, or want to learn more about Burmese cats that currently need new homes, please contact the Burmese Rescue Coordinator at:

burmeserescue@yahoo.com

Treasurer’s Report

by Art Graafmans

Opening Balance 10-10-2010 $5,651.84

Deposits
- Memberships (uneven number due to PayPal fees) 669.02

Debits
- Website hosting (71.80)
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(Note: The UBCF Logo is in Development)
A European Adventure - or at Least a Quarter of One

Last Labor Day weekend I met for the first time a Burmese kitten that had something I considered important to my breeding program. I had wanted this since 2008, when I first learned about the inbreeding and genetic diversity problems facing our breed. This kitten also was the reason why I began registering and showing cats in TICA. This little blue Burmese, named Graymark Tanzanite of Burma Pearl, or “Tanzie” for short, had been bred from American Burmese lines outcrossed to European lines. Tanzie is one quarter European Burmese, and one of her grandfathers came to the U.S. from Australia.

It was at the 2010 TICA Annual in Santa Clara that I met Tanzie, fell in love, and took her home to live with me. I was looking forward to showing Tanzie in the TICA shows in our region in the Fall. But there were also a few CFA shows that I would be attending. As I submitted my entries, I had to remind myself that I couldn’t register Tanzie in CFA. European and American Burmese are not allowed to interbreed in CFA, even though Burmese in the West, regardless of style, are descended from one cat and are the same breed. The only differences are the existence of red gene colors (which as we know don’t “hide” and are easily bred out) along with a more moderate standard in Europeans that is closer to the look of our original Burmese.

The rules in CFA also mean that I will not be able to register or show Tanzie’s offspring for another three generations (as she is the second generation offspring from a European cat). So it will likely be five years or more before her descendants are seen in CFA.

By contrast, in TICA a Burmese is a Burmese. There is no separation of European and American Burmese. While there are different conformation styles seen in Burmese shown in TICA, one standard is applicable to both and judges still award based on the cat that best fits that standard. Bombays are also part of the Burmese breed group, and if a Bombay is bred to a Burmese and produces a “sable Bombay”, that is registered as a Burmese in TICA, as a “black Burmese” is registered in TICA as a Bombay.

When I consider the outcross restrictions in CFA, I wonder what logic there is in continuing to keep the two styles of Burmese within CFA and between registries so far apart. Setting aside for the moment concerns about the craniofacial mutation, the red gene is no longer the misunderstood threat that it was and while the conformation of initial outcross offspring might not be considered grand champion quality by breeders or judges, you can be surprised. Far more important is the health of the breed.

Having shown in TICA for a couple of years, I can see the reasons why three generations of registered cats are needed before bringing cats in from CFA, as they show which breeding lines have been used in the most recent generations. But five generations for CFA? In my opinion, even the new reduction to five generations – which means seven years or more to produce those generations – remains a serious problem for a breed that needs so badly to improve its genetic diversity. Those extra years are a significant obstacle and deterrent to CFA exhibitors who want to outcross for health. At a time when CFA and our breed are facing declines in registrations and so many other challenges, we should be opening our doors to accept the European lines that will help us, by extension those who want to breed and show them, and the CFA registration income they would bring along with them. I respect the concerns of European Burmese breeders in CFA, and don’t see the likelihood of outcross agreements between the two Breed Councils. However, American style breeders in CFA do have access to European Burmese through TICA.

As I contemplated the CFA shows I was entering last fall, I thought about all these things and wondered if the judges and other exhibitors really understand the implications of this separation of Burmese within our breed community. And if they don’t, what can I do to help them understand?

Then I realized that there was a way I could show Tanzie in CFA, at least while she was a kitten. Since CFA rules prevented me from even showing her in the kitten class, as she can’t qualify for championship, the only way I could show her was as a Household Pet. And I also remembered that one of the benefits of showing Household Pets was that judges would sometimes ask questions about the cats shown in that class. And if they asked, I would have plenty to say.

And so I duly registered Tanzie as a Household Pet in several CFA shows, and showed her. The experience was eye opening for me and for some of the judges as well.

Sadly, the contrast between showing Household Pets in CFA and TICA is stark. At the CFA shows I attended in our region, there were only between 2 and 4 Household Pets entered. By contrast, in TICA you can see a class of 20 or more adult Household Pets and another 10 plus Household
Pet Kittens. Also in TICA you can also work toward titles for your Household Pets. This is an area that CFA is working on and needs to. It was clear to me throughout the experience that those exhibitors who were showing their random-bred, rescued kittens alongside Tanzie were extremely proud of them and having a lot of fun showing. And I saw some cats that may not have pedigrees but nonetheless were gorgeous. When you set Mother Nature free with her paintbrush, she can come up with unusual and striking coat patterns that you will see nowhere else in the cat fancy.

As I showed Tanzie in the first ring, I started to feel guilty about exhibiting a pedigreed cat in this class. Fortunately, it became clear rather quickly that the judges knew Tanzie was a Burmese from the moment they set eyes on her, and because she was a kitten they usually placed her second, third, or fourth place in the class, much to my relief. I didn’t want to take away points from my “competitors.”

Plus Tanzie has something else that alerted some of the judges to why she was in this class. She has the head style of an American Burmese and the deep gold, nearly copper-colored eyes of a European.

Many of the judges at the shows I attended did not spend much time with the Household Pet Class, perhaps because the class was so small. This is not to say that they did not judge them well or properly. But they took each cat out without comment, and when it was time to place the ribbons, they simply asked the cat’s name. I was disappointed.

But then there were judges who, when they pulled out Tanzie, asked questions of the cat herself, such as “Why are you here?” or “How beautiful you are, why aren’t you being shown in the championship class?” Ah, I thought, that was my opening, now I have the chance to talk. And I did. Sometimes I only had time tell them the basics – that she is 1/4 European and that I couldn’t register her in CFA as a result – before they were ready to move on. But several judges gave me more time. And through my conversations with those judges, we all learned a lot.

I think one of the most surprising lessons through this experience is that while judges may know their standards, it does not mean they know what is going on in a breed (unless it is their breed or one they have a particular interest in.) Most with whom I had the chance to talk did not know that Burmese had the lowest genetic diversity in the cat fancy. Some did not know that American Burmese had no outcrosses available to them. Others were shocked by the fact that (at the time) we had eight generations before descendents of a European-American mix could be registered. Some were not surprised by that, as Siamese still have that eight generation restriction.

Those who were willing to take the time to listen to the challenges facing our breed were sympathetic. And that was the most important opportunity that showing Tanzie provided. As caretakers of the Burmese breed we love, we must be advocates for our breed, not just within our Burmese community but outside it as well. It can help us make progress. This was demonstrated beautifully at the recent CFA BOD meeting in February when, thanks to the groundwork laid by breeders, judges, and committee members, and not the least the work of our CFA Burmese Breed Council Secretary, our breed made history through a creative approach to registering Mod Daeng.

So as we look at options for outcrossing in CFA, currently being researched and discussed, consider the European-American problem. If you think, as I do, that this separation is illogical and needs a solution, then be an advocate for a solution. Talk to members of the Burmese breed community and to your fellow exhibitors and judges as well. Let’s figure out the best way to resolve this to help our breed, perhaps by temporarily lowering the number of generations even further, by opening the stud books for a couple of years, or . . . ? It is up to us to come up with ways to help the Burmese breed and to pave the way for those solutions to be implemented.

We have taken the first steps towards outcrossing, but we need to go further. Let’s take more steps this year.

Nancy L. Reeves,
Burma Pearl Cattery

By Nancy L. Reeves

Graymark Tanzanite of Burmapearl
Photo by Devon Cattell
**THE MISSION OF THE UNITED BURMESE CAT FANCIERS IS:**

- To create and develop interest and knowledge of the Burmese cat, and in the care, health and breeding thereof.
- To seek to establish markets for the breed.
- To cultivate acquaintanceship among members.
- To promote and advance in every way possible the interest of owners, breeders, and exhibitors of Burmese cats.
- To determine standards of the Burmese cat.
- To maintain, develop, and publish information concerning the breed.

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**PLANNED FOR THE NEXT UBCF NEWSLETTER:**

Possible articles for the Spring 2011 issue may include:

- Promotion of Healthy Breeding Practices
- Ethical Breeding in the Age of Genetic Testing
- Breeding Strategies for the Management of Genetic Disorders
- The Short Life of a GM2 Kitten
- Burmese Being Bred in Burma
- UBCF Member Show Success 2010-2011

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**Cover Photo Credits:** From the Debby and John Howard *Tamra Mae* manuscript, photos by Dr. Julia Craig-McFeely. Clockwise from upper left: Suphalak (Burmese) Wichien-maat (Siamese), Ninlarat (Bombay?), Dork Lao (Korat).