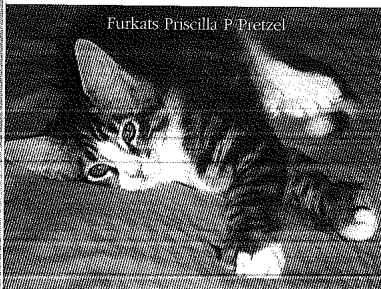


**H**ISTORICALLY, THE polydactyl made up 40% of the original unregistered Maine Coon population. Local folk tales claim that these cats were fierce hunters and could use their oversized paws to catch live fish right out of the streams. These tales included stories of cats bringing fresh fish home to help feed their human families. They were the cats on the pirate ships and even the cats that rode with the Pilgrims. Sailors traditionally treasured polydactyl cats because they were believed to be adept at mousing, an important shipboard duty of cats (Buck, 1998). They have also been the victims of horror stories, hidden in back rooms and blamed for a variety of birth defects. It is the purpose of this article to help to correct some of the misinformation on polydactylism and to support the statement that the polydactyl is a part of our American Heritage.

From the Mayflower to the White House to Papa Hemingway's cathouse at Key West, the Maine Coon polydactyls are our American's treasures. There have been many famous polys. Our President Theodore Roosevelt had a poly named Slippers. Slippers was one of the first feline residents of the White House. At press conferences and official functions, Slippers was often the center of attention. The author Ernest Hemingway had a Maine Coon poly that was named Snowball. He reportedly had 6 toes on his front paws. The author had an estate on the island of Key West in the Florida Keys. One story cited that Snowball was a gift from one of Hemingway's drinking buddies who was a sea captain named Stanley Dexter. Another chronicle claims that a sea captain gave Hemingway a female double pawed cat that was named Princess. Sailors believed six-toed cats were lucky and cats arrived on Key West in the early 19th century in the company of sailors looking for sunken treasure.



Furkats Priscilla P Pretzel

Pictured left is Furkats Priscilla P Pretzel (Brown Mactabby & White Poly, shown here at 11 weeks) who has one extra toe on each foot.

According to Dr. Rod Ljostad, in order to get the Maine Coon accepted for show status with the various cat associations, exhibitors would enter 30 Maine Coons in Household Pets. Dr.

Ljostad says that this was done so that the show associations would grant them new breed specialty ring status. They would make their own ribbons and trophies for the judges to award. It took years of doing this before the MC received show status. Dr. Ljostad reported that originally the proposed breed standard called for the MC foot standard to read "may have extra toes on any and all legs". The description under the Legs and Feet was later change to read "five toes in front and four in back." According to Dr Ljostad this was not done as a reflection on the soundness of the poly; rather it was an economic and political decision. It was expensive to enter 30 or more cats in these shows without the benefit of show status. People were

# Polydactyl Maine Coons

A Part of America's Yankee Heritage  
By Janet Marr

in Color Class 1700 Solid Color Male Maine Coon.

Also, Beverly Lockaby of Hamilton, OH could show her boy Furkats Pleasant Benjamin (Brown Mc Tabby and White Poly, pictured below at 7 months) in Color Class 1778 Brown Tabby & White Male Maine Coon.

Likewise, Sharon Boggs of Charleston, WV could show her boy Furkats Sebastian (Silver Mactabby & White Poly, pictured top of next page at 3 months) in Color Class 1758 Other Tabby & White Male Maine Coon.

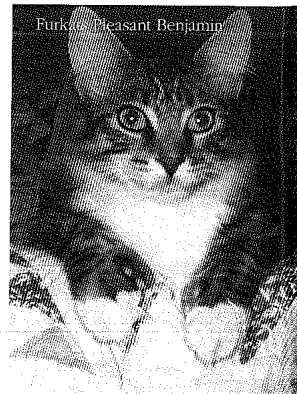
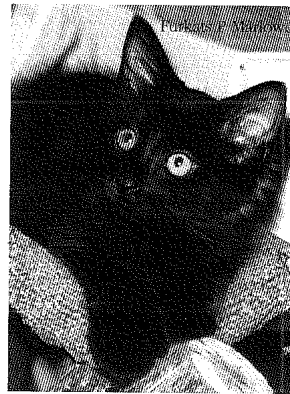
And finally, so could I have shown Furkats Churchill (Blue & White Bi Color Poly, pictured right at 11 weeks) in Color Class 1746 Parti Color Male Maine Coon.

It was reported in Marilis Hornidge's book 'That Yankee Cat, The Maine Coon' (Harpwell Press, 1981) that the number of claws in the paws was the most controversial of all issues in setting up a standard for the Maine Coon". According to Hornidge "the traditional Maine Coon was frequently a polydactyl or a many-toed cat." She further stated that "the polys were so dear to the hearts of the original group of enthusiasts who drew up the Maine Coon Breeders and Fanciers Association——(MCBFA) standard, that rather than divide the ranks, a special classification with its own standard was set up for them." She also noted that "this was the last variation on the standard to fall victim to the striving for a single standard to be adopted fancy wide."

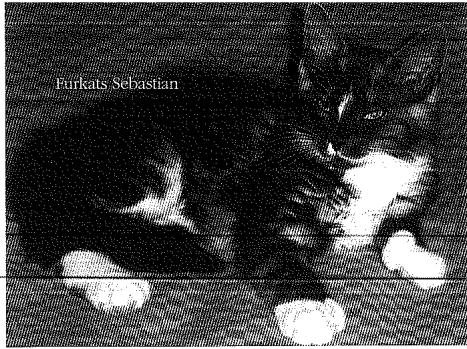
Once the poly clause was removed from the standard, people made the assumption that it was

accepted. The Maine Coon Breeders and Fanciers Association voted to go with the smaller foot provision. Dr. Ljostad feels that this was a mistake and that MC exhibitors should have held out for the poly standard. At the time of the MCBFA vote, Dr. Ljostad was under the impression that within two years they would be able to change the foot standard to include the poly.

If this standard had been accepted by CFA then Sari Gennis of Los Angeles, CA could show her boy Furkats P Marlowe (Black Poly, pictured below at 11 weeks)



Furkats Pleasant Benjamin



Furkats Sebastian

assumption that it was because it was considered a deformity. For the next thirty years the unwritten policy with the Maine Coon Breeders and Fanciers Association was that the poly did not exist. This writer was told that polys could be used for breeding but all poly kittens were to be sold as pets. These kittens should be quietly placed in pet homes. The poly Maine

Coon was not even to be shown in Household Pets. This also was a time when breeders told many horror stories about polys. One image that was particularly distressing described litters being born with extra heads, tails and legs all over the place. Any feral poly community of barn cats that was identified with a health problem was used to prove that the poly gene was lethal. The poly Maine Coon was hidden in back rooms as breeders tried to breed the characteristic out of their lines.



Furkats Churchill

Since the gene for polydactylism is a dominant gene it is possible to breed it out of a line of cats. In order to get a poly you must have one parent that is a poly.

This dominant gene will only express itself from 40% to 50% of the time. According to Dr. Montgomery (Bone and Joint Specialist, Auburn College of Veterinary Medicine) "historically many owners are not even aware their cat has polydactylism". This could explain why some breeders report a poly kitten out of nonpoly parents. These cats may have a small undetectable toe which has been genetically passed from generation to generation. The poly gene is not a recessive trait so it must be present in some form to produce a poly kitten. It has been observed by poly breeders that the nonpoly kittens of a poly parent seem to have heavier boning than kittens of a non-poly mating. The increased boning is more noticeable in the front legs and chest. Some breeders report that the extra toe causes greater width than the double dewclaw.

Shown above right is the front foot of Furkats Pleasant Benjamin (Brown Mactabby & White Poly, foot picture here at 7 months) owned by Beverly Lockaby. He is an excellent example of a cat with the double dewclaw.

An article from Cornell University, *Cat Watch* (1998), stated that studies done on polydactylic cats, beginning in the 1940's and continuing into the 1970's, showed that the trait probably initially occurred in cats which came over from England to the Boston area with the Puritans in the mid-1600s. This article also speculated that it was possible that the mutation developed in cats already in the Boston area. Scientists surmise that the immediate descendants of these cats may have lived on board trading ships, and soon found their way to Halifax, Yarmouth, MA, and Nova Scotia, which now have sizeable multi-toed cat

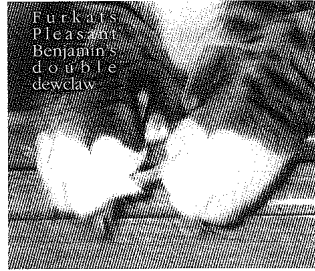
populations. In Europe, polydactyl cats are virtually non-existent, because during medieval times any cat, which was unusual, was put to death due to superstitions regarding witchcraft (Kelly, Larson, 1993). A reliable source in Sweden (1998) reported that they do see polys in the household pet population and a reliable source in Europe (1998) reported never having seen a poly household pet. The only polys that my European source had seen were registered Maine Coons. (It should be noted that any type of cat could be a polydactyl, not just the Maine Coon.) When researchers were taking censuses of polydactylous cats, they found that areas close to Boston had greater populations of polydactylous cats than New York City or Chicago.

The standard front paw has 4 toes and one dewclaw and the back paw has 4 toes. A polydactyl will usually have one or two extra toes on each foot. This may be an extra toe or an extra or double dewclaw. In the October, 1968 issue of *The Journal of Veterinary Medicine/Small Clinician*, R. F. Sis, D.V.M., M. S., Ph.D. and R. Getty, D.V.M., M.S., Ph.D. published an article called "Polydactylism in Cats." They reported that the cat normally has 18 digits, 4 on each hind foot and 5 on each front foot, however, polydactyl or hyperdactyl cats are not uncommon. The *Cornell Book of Cats* (1990) noted that "Polydactyl is very common in cats and occurs most frequently on the forepaws. This source also noted that "these doubled pawed cats do not usually suffer any ill effects." Descriptions of individual polydactyl cats' feet were published as early as 1868.

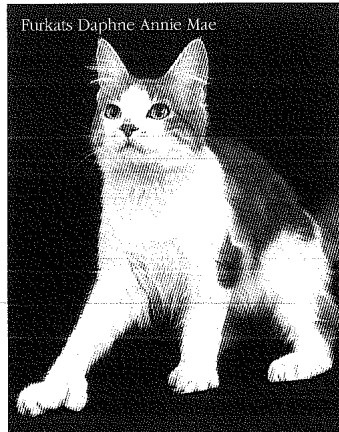
Pictured below right is Furkats Daphne Annie Mae (Blue Classic Tabby & White Poly, pictured at 5 months), owned by Sherry & John Cheney, Crestwood, KY. Daphne has a double dewclaw on her foreleg that is quite visible here and she also has a dewclaw on her back legs.

A literature search done at Auburn College of Veterinary Medicine indicated that the medical view of polydactylia is that the presence of extra digits on one or more feet is not uncommon (Danforth, 1947; Chapman & Zeiner, 1961; Sis & Getty, 1968). Sis and Getty (1968) further reported that the trait is not related to sex. The characteristic is inherited as an autosomal (not sex-linked chromosome) single dominant trait, the probable effect of which is to incite some change in the pre-axial (i.e. medial) part of the limb causing as excess of growth in that area (Sis & Getty, 1968). The fore feet are most

often affected and usually five toes are present in addition to the dewclaws. They also reported that in cats observed at the Iowa State University Small Animal Clinic, the anomaly had been limited to the medial side of the limb. In addition to the extra digits, each with its own terminal pad, there is one extra palmar pad and usually at least one extra plantar pad.

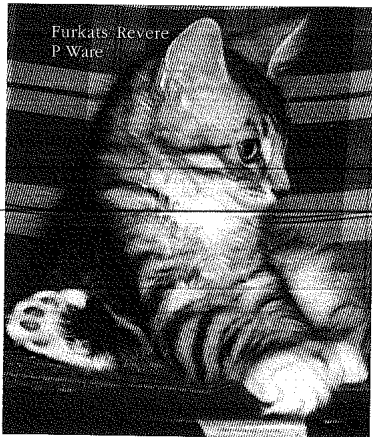


Furkats Pleasant Benjamin double dewclaw



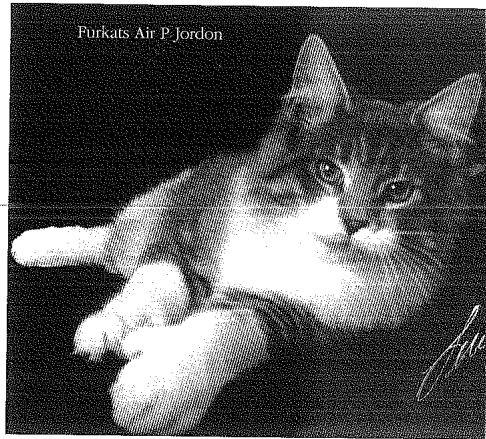
Furkats Daphne Annie Mae

Lois Kitz of Plo Pet Photography



Pictured left is Furkats Revere P Ware (Silver Mactabby & White Poly, shown here at 12 weeks) showing off his extra foot pads.

According to the Cornell University College of Veterinary Medicine, Cat Watch, (1998) cats that have supernumerary toes have the dominant gene, Pd (standard number of toes is pd). This means that a cat needs to have only one copy of this gene from either parent to have the trait. The gene specifically affects the tissue formed at the very end of the limb, where the toe will form in the



different degrees of titles called Royals. They must be registered as a Household Pet. If the cat has a cattery name it is acceptable to register the cat with the cattery name as a suffix. Air P Jordon (above) is registered in ACFA as a HHP by the name of Air P Jordon of Furkats. In CFA, Air is registered for breeding purposes as a purebred Maine Coon as Furkats Air P Jordon. When Air was shown as a kitten, he was often the judges' pick for Best HHP. He also was a real showman and enjoyed kissing judges on the lips.

The Pixie Bob, which has the polydactyl characteristic, has been accepted for show status with The International Cat Association. The Pixie Bob standard allows polys. They just reached championship status in TICA May 1st, 1998, but are not registered with CFA. According to Pixie Bob breeders, the polys are not judged separately from the other Pixie Bobs, it is just an allowable feature. TICA sent out a Board Ballot last year to the membership, and it was voted that polydactylism could be shown in all classes, if it was specifically permitted in an approved breed standard. The Pixie Bob is the only TICA breed that permits polys to be shown for competition. The preferred breeding is poly to "straight foot" but poly to poly is done as well. The Breed Section tried to get TICA to prohibit poly to poly matings and wanted the poly to be bred only to the straight footed cat, but TICA would not support this stipulation. According to the Pixie Bob breeders, while there are no known incidents with problems arising from the polydactyl feet, the Breed Section in TICA wanted the poly to nonpoly provision put in to prevent any possible problems developing.

As documented above, the characteristic of polydactylism is not a lethal allele. It is unclear why this harmless variation is not accepted for show status, while other breeds with lethal characteristics are accepted for show status. According to *The Book of The Cat* (Wright, Walters, eds. 1980) the Manx, Japanese Bobtail and Scottish Fold breeds all produce genetic deformities. The Manx and the Japanese Bobtail gene can produce kittens with abnormalities of the lower spinal region such as spina bifida. Kittens can be born alive but with an open spine that makes them crippled. Cats with ears that fold such as the Scottish Fold can cause abnormalities of cartilage growth around the leg joints, affecting the ability to walk.

This writer has been breeding polys for 4 years and has not had any problems with the extra toes. I was surprised to find that even though the poly gene is a dominant gene, it is often difficult to get polys. If the parent has an extra toe, the kittens may have an extra toe and if the parent has a double dewclaw the kittens may have that trait. When the kitten is a poly,

developing embryo. The tissue at the end of the limb is called the apical cap. Sometimes the limb cells will stimulate the cap cells, causing the cap to be larger than would normally be expected. These feline embryos will develop extra toes. The only major problem seems to be that the nails require extra trimming. If nails are not kept trimmed there may be interdigital infections or recurrent traumatic injury (Chandler, E.G. et al, 1994). The toenails tend to grow too long and may grow in a semicircle back into the paw (Cornell University College of Veterinary Medicine, Cat Watch, 1998). It may seem that the nail grows faster than in the small-footed cats but there is no documentation to support this idea. Veterinarians do not consider polydactylism to be a deformity or a handicapping condition. It is considered an anomaly and an anomaly is defined as a "deviation or departure from the normal form or rule" (Funk & Wagnalls Standard College Dictionary, 1973). Dr Montgomery (Bone and Joint Specialist, Auburn College of Veterinary Medicine) stated that "owners of polydactyls have not seen adverse affects. Polydactylism is a fairly common anomaly in cats that is not detrimental to their orthopedic soundness."

It is interesting to note that for approximately 100 years the descendants of Hemingway's poly Maine Coon were allowed to free breed with the local cats. This population produced poly cats with the ratio 50/50 or one poly to every small-footed cat. If the gene was going to cause crippling or deformities this population should have produced many such cats. The cats would certainly have bred poly to poly so that the poly gene would have been homozygous in many animals.

Polys can be registered with the various cat registries in the United States. This includes Cat Fanciers Association (CFA), The International Cat Association (TICA), American Cat Fanciers Association (ACFA) and Cat Fanciers Federation (CFF). In fact the registration of a poly Maine Coon does not indicate whether or not the cat is a poly. It is traditional but not required to include a P some place in the name to indicate that the cat is a poly. Polys can not be shown in championship completion as extra toes are considered a deviation from the show standard, but they can be used for breeding and shown in Household Pets (HHP). It is perfectly acceptable with the cat associations to show a non-registered pedigreed cat (a pedigreed cat with papers that have not been officially filed) as a HHP. Cats that are not altered can be shown up until they are 8 months. After this age the cat must be altered to be eligible to compete in HHP, or they must be retired. They do very well in HHP and are big crowd pleasers. In TICA and ACFA, Household Pets can be shown for National Wins and other titles. In ACFA, cats earn

it seems to have the same toe configuration as the poly parent. The number and placement of toes is very easily controlled by doing poly to nonpoly breedings. I have not done poly to poly matings but I have heard of other people doing poly to poly mating with no ill effect. In fact my poly litters are large, healthy and strong which may be because the poly gene is a dominant gene. According to Cole (1966), favorable genes often have a degree of dominance and unfavorable genes are likely to be recessive.

To purchase a polydactyl Maine Coon one may need to go on a waiting list. There are only a very limited number of breeders worldwide who breed Maine Coon polydactyls. You may also have to pay a little extra for a poly and the pet price will average between \$500 to \$600. The Maine Coon poly will be exactly like the smaller footed Maine Coon except for the number of toes. You can expect polys to be the same colors and patterns as any Maine Coon.

#### Information on polys on the Web

Personal accounts from pet owners are available at the Internet Site on Fun Things Polys Do With Their Extra Toes and Polys at the Cat Shows on <http://w3.one.net/~furfkats/funstuff.htm>. More information on polys may be found on the web page <http://w3.one.net/~furfkats/polart.htm>. Many thanks to Dr. Boosinger, Dr. Montgomery and Tamera P. Lee at Auburn College of Veterinary Medicine for their help with the research for this article.

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## Quotes About Cats

Comic Corner

"Managing senior programmers is like herding cats." - Dave Platt  
*"There is no snooze button on a cat who wants breakfast."* - Anon  
 "Thousands of years ago, cats were worshipped as gods. Cats have never forgotten this." - Anon  
*"Cats are smarter than dogs. You can't get eight cats to pull a sled through snow."* - Jeff Valdez  
 "In a cat's eye, all things belong to cats." - English proverb  
*"As every cat owner knows, nobody owns a cat."* - Ellen Perry Berkeley  
 "Dogs believe they are human. Cats believe they are God."  
*"One cat just leads to another."* - Ernest Hemingway  
 "Dogs come when they're called; cats take a message and get back to you later." - Mary Bly  
*"Cats are rather delicate creatures and they are subject to a good many ailments, but I never heard of one who suffered from insomnia."* - Joseph Wood Krutch  
 "People that hate cats, will come back as mice in their next life." - Faith Resnick  
*"There are many intelligent species in the universe. They are all owned by cats."* - Anon  
 "I have studied many philosophers and many cats. The wisdom of cats is infinitely superior." - Hippolyte Taine  
*"There are two means of refuge from the miseries of life: music and cats."* - Albert Schweitzer  
 "The cat has too much spirit to have no heart." - Ernest Menaui  
*"Time spent with cats is never wasted."* - Colette  
 "No heaven will not ever Heaven be; unless my cats are there to welcome me." - Anon  
*"Some people say that cats are sneaky, evil, and cruel. True, and they have many other fine qualities as well."* - Missy Dizick  
 "You will always be lucky if you know how to make friends with strange cats." - American Colonial proverb  
*"Cats seem to go on the principle that it never does any harm to ask for what you want."* - Joseph Wood Krutch  
 "Cats aren't clean, they're just covered with cat spit." - John S. Nichols  
*"I got rid of my husband. The cat was allergic."*  
 "My husband said it was him or the cat... I miss him sometimes."  
**Our thanks to Janine Greenberg for these quotes.**

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