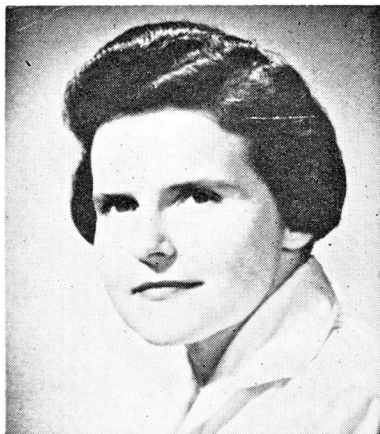


SPOTTED CATS

Rosemonde Stevens Peltz

Perhaps the spotted cat is too common; or perhaps the setting of particular and consistently reproducible patterns is too much of a challenge to breeders; whatever the reason, it is a fact that the spotted cat has rarely captured the interest of the cat fancy. These spectacular animals have been portrayed in paintings, scrolls and frescoes since antiquity. They presently roam our yards and barns, be it in the United States, Europe or Asia. And yet, the spotted cat is confined in the fancy of the United States to the status of "household pet".



Dr. Peltz

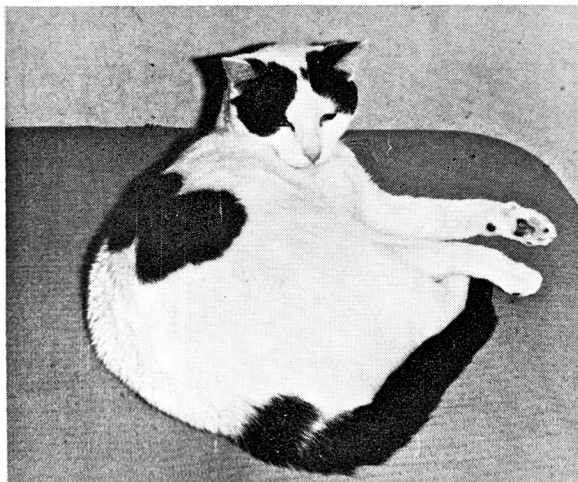
Most accurately, piebald spotting refers to a combination of white with one or more colors. And indeed, white may be combined in a coat with areas of patterns as will be seen. However, to be precise one must indicate white spotting as one entity and pigmented areas on a pigmented coat as another. The word "spot" immediately conditions us to think in terms of roundness; however, spotting may occur in a variety of shapes.

In order to consider the varieties of spotted cats it is necessary to begin with a broad and simple classification which encompasses the

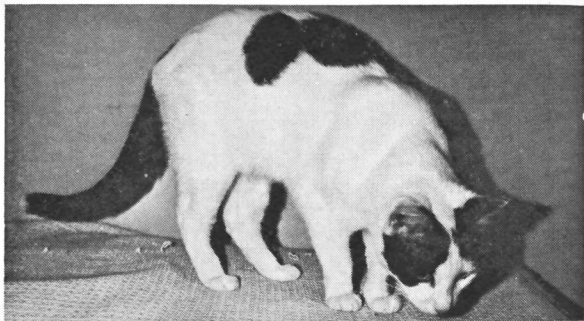
group. This classification can be applied to cats of all coat lengths and types; shorthair, longhair, rex and wirehair. Specifically and simply all spotted cats can be classified as follows:

1. White coat with pigmented spots
2. Pigmented coat with pigmented spots

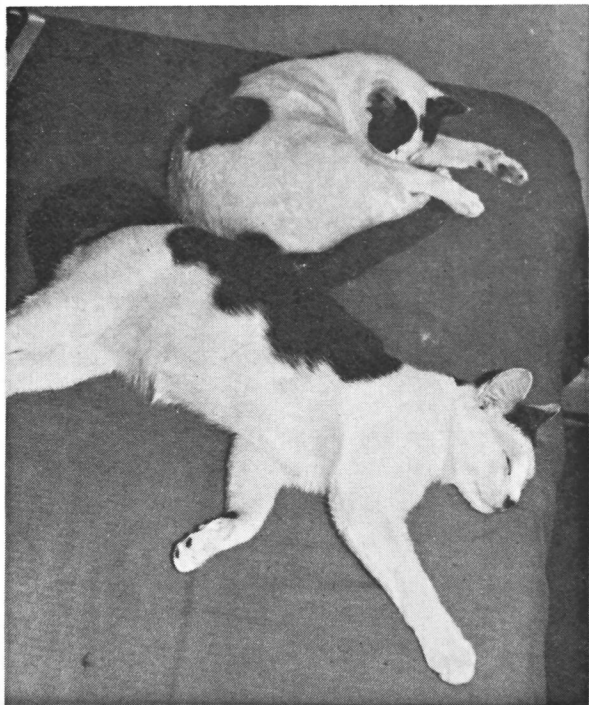
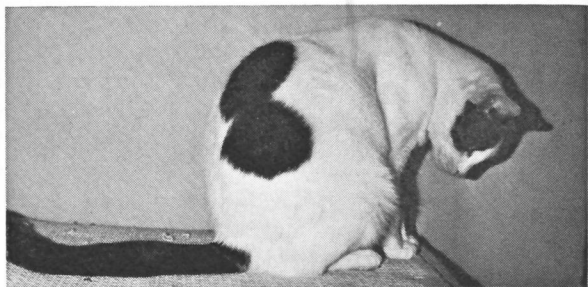
Each of these two large groups and their subdivisions will be described in detail. The presence of these cats



Heatherwood Cat



Photos
by
Dr. Peltz



Camera
Studies
of the
Black & White
Harlequin
(ASH type)
Guinevere
of
Heatherwood
and
(lower left)
Heatherwood's
Kuniyoshi

in art will be briefly reviewed and their relative genetic frequency in cat populations today will be cited.

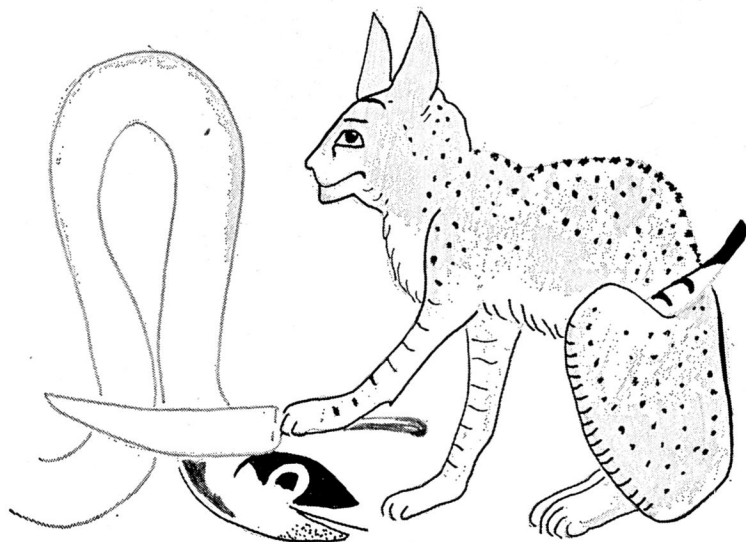


Figure 1. Egyptian Spotted Cat. The Great Cat Ra killing Aaperp the serpent. Drawing based on print, *Cats, Ancient and Modern*, Sillar and Meyler, 1967, plate 14.

THE SPOTTED CAT IN ART

The ancient spotted cat has been preserved for us in the art of early Eastern and Western countries. The fact that each of these cats pictured lives today defies belief. Yet they are apparent in the domestic cats around us. Compare those ancient cats and their modern counterparts. Egyptian hunting scenes, for the most part, present what is basically a lined tabby; the darker linear markings are broken and are separated by areas of agouti ticking. As the lines become more broken, the pattern becomes spotted. The famous wall painting from the tomb at Thebes shows Nebamen, the fowler, with his cat. The cat is partially lined, and the lines are broken into spots over the cat's hind legs and body¹. The body of the Great Cat Ra as depicted in the Papyrus of Hunefer XIXth Dynasty is entirely spotted on its dorsal surface². Egyptian cats, therefore, are commonly lined or spotted cats and fall into the category of pigmented spots on a pigmented coat. The modern example of this cat is not the Abyssinian but rather lined or mackerel tabbies and the "Egyptian Leopard Cat" of present day hybridization.

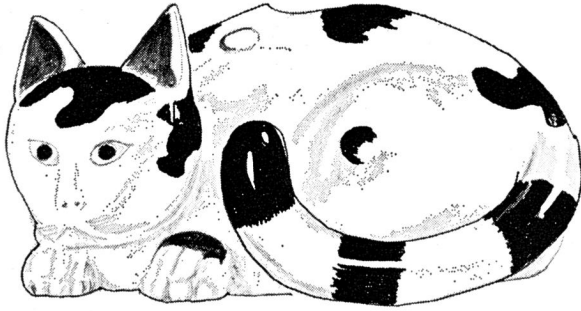


Figure 2. Chinese cat, based on photograph *Cats and Kittens*, Ed. by Bryan Holme, 1951, plate XIX, p. 30.

Cats in Chinese paintings are usually white cats with pigmented spots. Most often, these spots are black; there are examples of tabby lines or tabby spots within the pigmented area. In addition, these cats have tails of the same color as the body spots. Such a cat was painted by the Emperor Hsian-tsung (1398-1435) in *Spring Play in a T'ang Garden*⁵. The above described type of spotting is most commonly seen

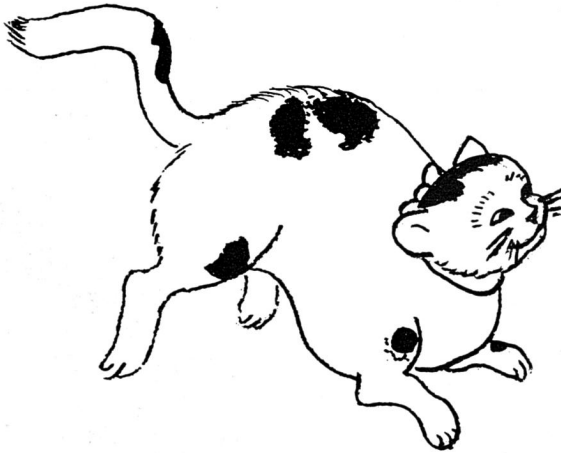


Figure 3. Japanese Cat. Drawing based on print, *Maiden Dreaming*, by Kiyomitsu. *Japanese Prints, From the Early Masters to the Modern*, J. Mitchner, plate 92.

in Chinese paintings; however, a porcelain cat figurine of Chinese origin (1664-1722) resembles the spotting seen more often in Japanese cats. Instead of a single area of pigment and solid colored tail, three or four spots are present, and the tail is banded⁶. A pair of cloisonne cats, 16th century Chinese, are entirely covered with small



Figure 4. Japanese cat, Drawing based on print, Princess Nyosan by Harunobu. Japanese Prints, From the Early Masters to the Modern by J. Mitchner, plate 102.

ing a young Japanese maiden. Each of these cats is quite similar. Pigmented spots occur on the body as well as on the tail. Perhaps one of the greatest illustrators of cats was Kuniyoshi who was born in 1798. The cats of Kuniyoshi appear most frequently in the prints he made around 1840, many of these show spotted cats with witches. However, one of the most interesting group of spotted "cats" is a series of prints showing the faces of cat-actors which is in the collection of Mr. B. W. Robinson. A full color illustration of the group is

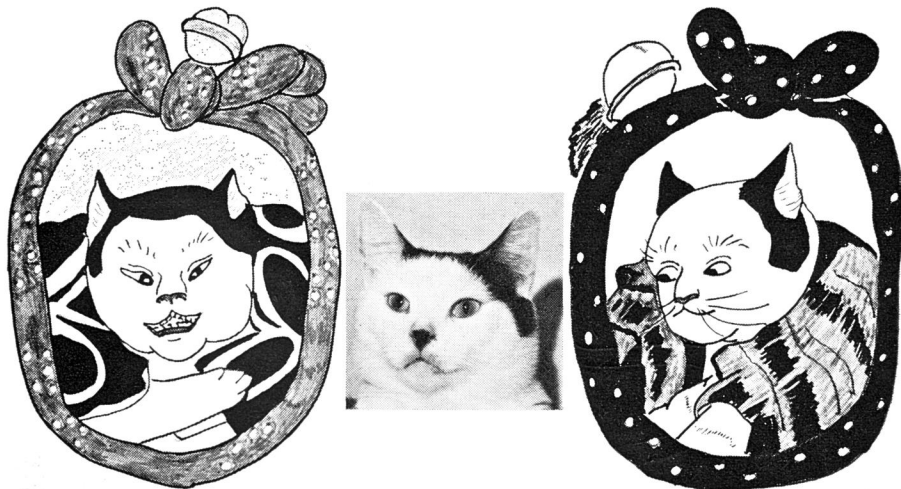


Figure 5. Faces of cat actors. Drawings based on prints by Kuniyoshi, published in *Cats, Ancient and Modern*. Sillar and Meyler, 1967, plate 63. Interposed is Heatherwood's Kuniyoshi, modern day counterpart.

spots⁵. Further examples of the spotted cat appear in the art of Japan. Similar to the Chinese, these artistic pets have black spots on a white coat. The areas of spotting are smaller and more numerous in the Japanese cat. An interesting difference is the extension of pigmented spots onto the tail. Typical Japanese spotted cats were painted by Kiyomitsu, Harunobu, Masunobu and Kujonobu I. The cat is usually frolicking with or frightening

reproduced in *Cats, Ancient and Modern* by Sillar and Meyler⁶. A drawing based on these prints, together with a live counterpart is shown in Figure 5, and the live counterpart in lower picture at the beginning of this article. (Kuniyoshi.) (Pg. 434.)

The spotted cat is also seen in Japanese pottery. A mother cat with her kittens has similar areas of pigmentation⁷.

The good luck cats which guard the Temple of Go-To-Ku-Ji are another example of spotted cats. The temple is dedicated to cats, and on the altar there is a large collection of cats represented in all artistic media. A forepaw of each cat is raised "as if to greet the visitor or attract attention. This is the classic way of representing 'Maneki-Neko', the small female cat who lures and enchants people, brings happiness and ensures good luck." The majority of these cat figures and paintings are of spotted cats⁸.



Figure 6. Japanese Good Luck Cat.

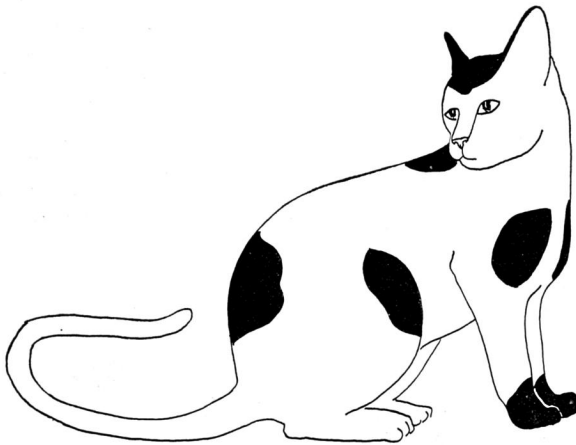


Figure 7. Gow Tham, one of the favorite cats of Thailand. Drawing based on booklet graciously loaned by Mrs. Daphne Negus.

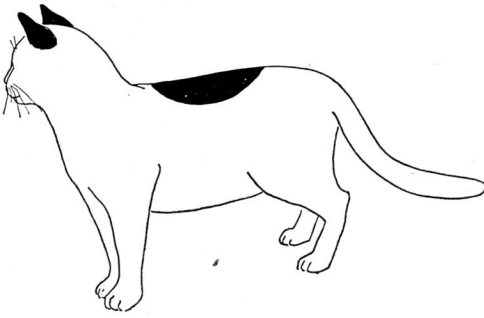


Figure 8. One of the favorite cats of Thailand. Depicted in the *Smud Koi*, and drawing based on photograph graciously loaned by Mrs. Daphne Negus.

A catalogue of cats popular in Thailand is presented in the form of a large scroll or manuscript called the *Smud Koi*. It hangs in the National Museum at Bangkok and was pictured in the *CFA Year Book 1969* by Daphne Negus in her article *A Journey to Thailand*. The varieties illustrated include some beautiful and rare spotted and patterned cats. Three of

these are of greater interest because of their apparent rarity. The *Gow Tham* or "nine point" is a cat with oval spots on the body, a pigmented cap and pigmented boots on the front paws. (See Fig. 7.) A drawing of this cat was reproduced in a booklet published on the occasion of the cremation of the Chief Abbot of Wat Anongkaram, a great lover of cats during his lifetime.

A second cat, quite unusual and probably the rarest patterned cat, has a single band of pigment encircling the body immediately behind the shoulder girdle.

The third distinctly patterned cat has pigmented ears and a single oval spot on the dorsal aspect of the trunk⁹. (See Fig. 8.)

These three varieties of spotted cats would present a lifetime of challenge to a breeder.

The examples cited have been largely oriental cats, but the existence of such patterned coats is universal in art. The mosaics found in Pompeii at the House of Faun provide evidence of this coat pattern elsewhere than in the Orient¹⁰. The *Lincoln Bestiary* shows a cat seated in a group with numerous spots on its trunk. This drawing is from England of the twelfth century¹¹. A tapestry of the sixteenth century at Rheims includes a spotted cat (*La Naissance de Saint Remi*)¹². *Garden of Earthly Delights* painted by Hieronymous Bosch is yet another example of the non-oriental spotted cat¹³.

GENETIC DISTRIBUTION

As stated earlier, the modern counterparts of these ancient artistic cats exist throughout the world. The breeder need only pause and discover what is available to him. Consider then what Searle has so aptly called the gene geography of cats. The frequency of known cat genes has been recorded not only by Searle but by Todd, Pocock, and the earliest of these studies was done in 1910 by Isida in Japan. What each of these studies amounts to is a census of the types of cat genes

in a known area. It is accomplished by observing a large sample of cats in a pound or animal refuge in a specific locality. In addition, Searle has reviewed a collection of skins in the British Museum.

A global survey by Searle reaches the following conclusions:

Dominant whiterare in all areas

Yellowdecreased in London and eastern U. S. A.
Increased in San Francisco, Singapore, Japan

Solid blacklow

Striped tabbycommon in Japan, Singapore

Blotched tabbymore common in London, Europe,
intermediate in frequency in U. S. A.'

Diluteuncommon except in eastern U. S. A.

Chinchillainsufficient data

White spottingcommon throughout the world¹⁴

What is the importance of these studies? To the geneticist they reveal certain shifts in cat populations and contribute to an understanding of how certain coat colors evolve. To the breeder, these studies may mean nothing, but they may point out that certain coat colors and patterns are as common in one area of the world as another. In other words, what the fancy decides to call the Japanese Woolly Woolly breed (or some other intriguing name) is just as common on the streets of Cleveland or Pittsburgh. There is no objection to exotic names as long as the breeder does not get caught up in his legend. Perhaps the greatest significance of these studies to the fancier is that they point out what is common, what is thereby available to the breeder, and what has thus far been ignored by the fancy.

WHITE SPOTTING

White spotting is quite common in all studied populations. It was higher in Singapore and Calcutta than in London. Strictly speaking,

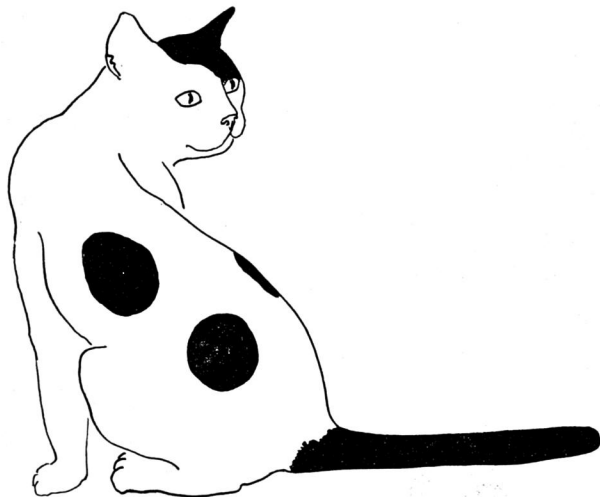


Figure 9. Harlequin variety.

these cats are very common in the United States; and perhaps because of their availability have not been of interest to the fancier.

White spotting has been graded by several scales, each of which bounds the extremes between the totally pigmented non-agouti and the solid white cat. The challenge to the breeder is to take the most attractive group of cats with spotting and to set certain patterns. These cats are American Shorthairs, although the breeder may attach whatever exotic name he pleases.

Jasperine Jones began working with white spotting many years ago, and it is to her credit that the Harlequin variety of cats is gaining wider acceptance. The general pattern of these cats is round pigmented spots on a white coat; the tail is pigmented, and there is a pigmented cap on the head. (See Fig. 9.) Several interesting variations on the Harlequin pattern involve the head and

tail pattern. In certain kittens, the spots instead of being centrally located, to one side or the other of the midline, occur closer to the tail and on it. One such kitten, born prematurely and deceased in 24 hours, in the author's cattery had a single round black spot between the ears, the remainder of the body was totally white except at the base of the tail where another round black spot occurred; an inch away from the base, another spot was on the tail, and then the rest of the tail was black. (See Fig. 10.)

Some of the variations of the basic Harlequin pattern are illustrated. Each of these can be classified as S_3 cats. The question is what does the fancy want to do about these varieties of white spotting patterns. Is the breeder to adhere strictly to a two or three spotted cat and discard all other equally beautiful patterns? I think not. The basic patterns can be defined, standardized and placed in one large group, subdivided into three or four groups or divisions. The patterns will be divided according to head, body and tail pigmentation. Since

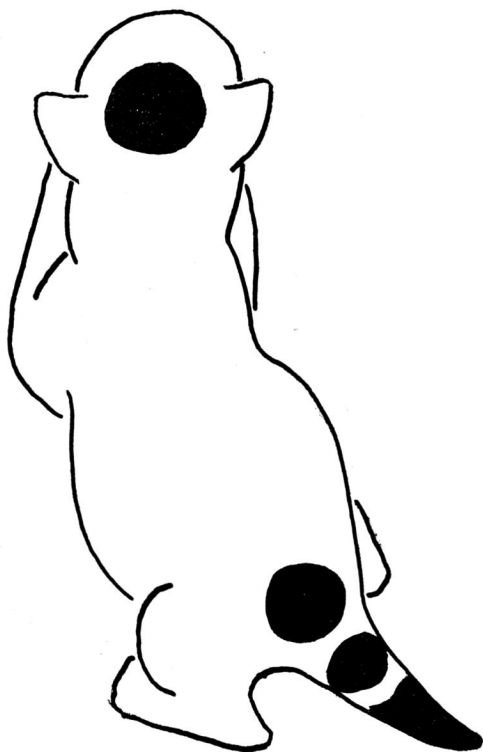


Figure 10. Harlequin newborn, Heatherwood Cattery. Born prematurely and deceased.

the cats may be black and white or red and white or black and red and white, color necessitates further division. Indeed, dilutions of the colors have also been recorded.

RESTRICTED SPOTTED CATS

Those cats which are largely white may be divided into groups by the distribution of color upon that white background. The various groups are divided according to the manner in which areas of color occur on the head, trunk and tail. The colors basically are black, red or black and red plus the dilutions of those pigments.

I. Harlequin variety (Fig. 11)

Head: Color on the head is in the form of a cap which has as its boundaries the lower eye and the base of the ear. Color may be distributed in any manner as long as it does not extend beyond the eyes or base of the ears.

Trunk: Color is distributed as round spots on the trunk. The number of the spots is determined by their size. One or two large spots may be present or there may be three or five smaller round spots. White surrounds the spots.

Tail: Color may extend from the tip to the base of the tail. However, if spots extend onto the tail they are obviously surrounded by white.

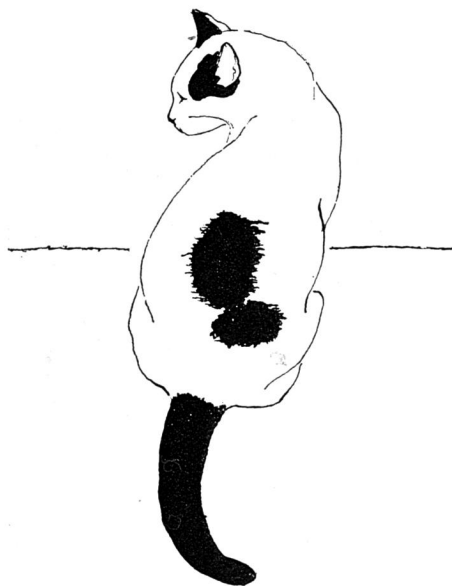


Figure 11. Harlequin, Heatherwood Cattery.

II. Saddle or Mantle variety (Fig. 12.)

This variety of cats, again, is largely white but the degree of color pattern is greater, not necessarily round but occurs in as symmetrical a pattern as possible.

Head: The color cap begins above the upper extent of the orbit, may include the ears or may extend between the ears onto the neck. It should not extend beyond the base of the neck or onto

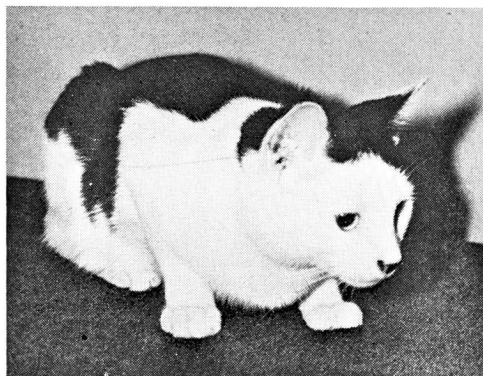


Figure 12. Mantle variety.

the shoulder girdle. The face and anterior neck are white.

Trunk: The trunk on its dorsal or top aspect is covered by a colored saddle. This extends on the sides and to the pelvic girdle. It should be solid in color, as symmetrical as possible on both sides of the body. The undersurface and extremities are white.

Tail: The tail is the same color as the saddle, and the color extends from base to tip. White should separate the saddle from the tail.

Nose leather and pads: In each of the two large groups of spotted cats the nose leather and pads may be pink or spotted in the same color of the coat pigmentation.

III. Single spot variety

The rarest of the spotted cats is that small group which is white almost in its entirety. A single round spot of color occurs on the trunk.

The groups of cats just described may have any eye color or be odd-eyed. With selective breeding eye color may be set, and hopefully, it will be green.

COLOR

It was mentioned briefly at the beginning of this section on spotted cats that the basic colors of black, red or black and red comprise the pattern color. Jasperine Jones in her Harlequin cats had red and black spotted cats as well as blue and cream spotted ones. One of the first spotted cats in the author's cattery was a tabby Harlequin. The cap and tail were typically marked in tabby fashion. The round spots on the trunk were grey, superimposed upon which were smaller round black spots. Obviously then a tabby Harlequin exists, and in addition these round spots can be black, cream and red so that a tortie Harlequin is possible. Interestingly enough, the tortie pattern of nose markings persists so that only in this instance of the tortie Harlequin does the nose bear color. (See Fig. 13.)

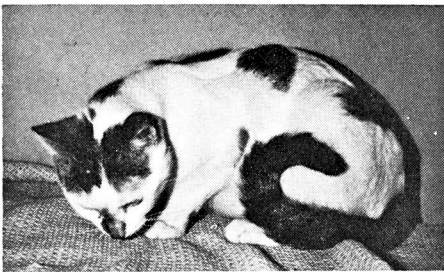


Figure 13. Tortie Harlequin.

PIGMENTED COAT WITH PIGMENTED SPOTS

C. E. Keeler has written of the Egyptian Leopard Cat. He states, "The pictures of this Egyptian Leopard Cat have been preserved to us in the several millennia, and then excavated. But the real live animal can probably also be resurrected by somebody with a vision, from its hiding in the gene stockpile of *Felis domestica*."

"I base my claim upon the following story. When I taught Medical

Genetics at Harvard Medical School a quarter of a century ago, an Abyssinian breeder in Washington, D. C. sent me some photographs of two most beautiful spotted cats matching perfectly the ancient Egyptian spotted cats that sprang waterfowl among the reeds along the Nile.

"She told me how her Abyssinian queen had done some slumming and returned to bear three of these most remarkable spotted kittens that reminded one of a cheetah or a leopard.

"On several occasions since that time I have tried in vain to get Aby breeders to cross their cats out to blacks in order to produce a segregation of tabby modifying factors from which the Egyptian Leopard Cat could be resurrected."¹⁵

The Egyptian Leopard Cat can be produced today by crossing a black shorthaired cat to an Abyssinian. If the Abyssinian is heterozygous for spotting, the Leopard Cat will appear in the first generation. As Keeler states it is a matter of persistence in finding the right Abyssinian. In other words the breeder must by trial and error find the spotted genotype which has been covered by the modern refined Abyssinian coat.

Another modern spotted cat has been produced by Mrs. Whitman Daly in the Oicat. These cats are basically cream coated with chocolate spots. These cats are Chocolate Point Siamese-Abyssinian crosses.

Obviously, there is a close relationship in all spotted cats regardless of their derivation. The basic premise is to segregate spots in one breed and cross it to another in which spotting will appear in the offspring. Some Abyssinians, genotypically carry spotting, but spotting is recessive to the ticked coat without tabby markings.

THE SPOTTED TABBY

The following remarks of C. H. Lane seem as applicable today as when they were first published in 1903. "As far as my experience goes, this (The Spotted Tabby Short-Haired Cat) is by far the least common of all Tabbies, and correctly-marked specimens are very rarely seen. I am bound to say they do not receive much encouragement, as at very few shows indeed do they have classes provided for them"

"A great many specimens may be seen with stripes and spots, but these are not what are wanted . . . the only approach to a line or stripe of color in the Spotted Tabby is the trace running along the back, and even this, to be quite in order, should be made up of a number of spots from the back of the neck to the root of the tail, which should also be marked with spots from one end to the other."¹⁶

The drawing of such a cat in 1903 shows fairly regular spots approximately the same size and nearly round in shape. (See Fig. 14.) The color varieties at that time were "brown, grey, silver and red." (Fig. 15.)

The Spotted Tabby cat is presently recognized for showing in Great Britain. The spots may be "round, oblong, or rosette shaped. The spots, however, shall be distinct and not running together."

The color varieties are few in number at present. The majority are silver with some red spotted being shown and a rare blue has been

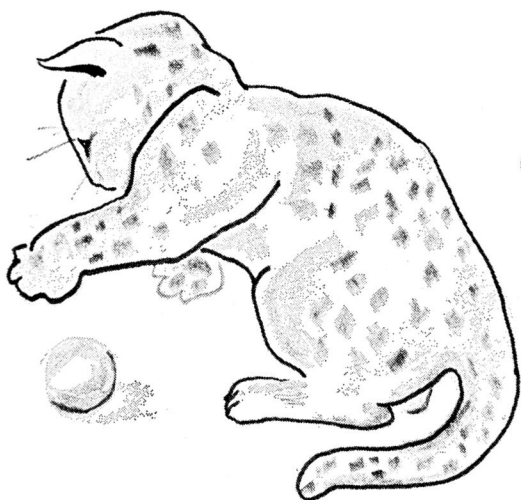


Figure 15. Spotted Kitten. Drawing based on a drawing by Louis Wain originally published in the Illustrated London News 1892, reproduced in *Cats, Cats, Cats, Cats, Cats, Cats*. J. R. Gilbert, p. 132.

produced¹⁸.

Present day spotted tabbies have been produced in Britain by crossing solid colored cats to marbled silver tabbies. Two silver spotted cats were produced by Miss I. Robson in 1965 when she bred a black shorthair to a marbled silver tabby. One of these spotted cats was then crossed to a British Blue and their litter was composed of one marbled silver tabby, one smoke and two brown spotted cats¹⁹.

Note the close, if not identical, genetic relationship between the Egyptian Leopard cat and the spotted tabby of Britain. In each instance the modifying factors for spots of the tabby has been separated and transferred. In one instance the spots are derived from the refined lined tabby (Abyssinian) while the other is from the marbled tabby.

Whereas spotted cats have received little attention in Britain, they have received even less in the United States. At the present time in this country, none of the varieties of spotted cats is recognized for showing in championship status.

An obvious criticism of breeding white spotted cats is immediately apparent. The combination of white and color has consistently been eliminated from many breeds. This has been done to good purpose and now is almost universally accepted as if it had never existed. However, in order to preserve certain mutations, it has been necessary to draw from domestic stock; and the white spotting has gone hand in hand with the mutation and has been accepted. On the other side of the coin, white spotting has been present in the mutation and has passed on to succeeding generations.

The purpose of the cat fancy is to breed fancy cats. Contemporary breeders begin by buying stock from established lines and continue to try to produce the best cat possible in that breed. This is a suffi-

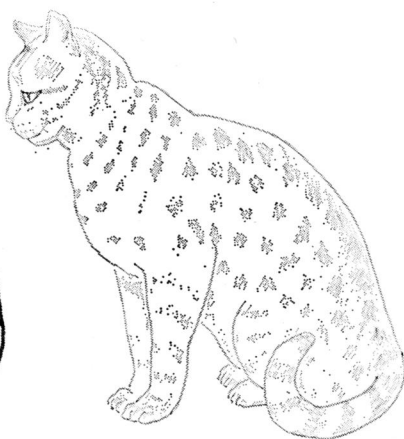


Figure 14. Spotted Tabby. Based on drawing by Rosa Bebb in *Rabbits, Cats and Cavies* by C. H. Lane, 1903, p. 181.

cient challenge to many, but there are those who wish to open new doors without letting in the flood. There are those who wish to take white spotted patterns from domestic stock, produce healthy cats and consistently reproduce set patterns.

White spotting in such breeds as the Rex and the Birman and Manx is acceptable, but the sources from which the spotting was derived are not. To the true breeder of cats such inconsistency is unimportant. The ultimate goal of a breeder should be to produce healthy cats that are beautiful to see and a pleasure to be with. The fact that one is able to reproduce the beauty of these cats captured in art in centuries past is sufficient reward.

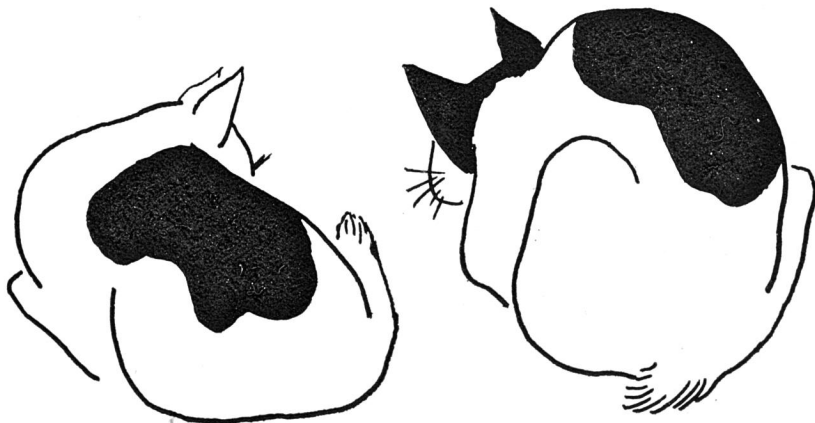


Figure 16. Japanese cats, based on drawing by Hiroshige, *The Life, History, and Magic of the Cat*. Mery, p. 94.

British breeder, Joan Richards has had considerable experience with spotted cats, which apparently began when some Scottish wild cats were turned loose in the vicinity of her home. They lived in a heavily wooded area until a particularly hard winter 1962/63. At that time the wild cats left the forest and sought food in the village and incidentally mated with domesticated cats in the area. The cat population of brown tabbies, mackerels and spotted cats increased.

Mrs. Richards states that her cat Pensylva Jungle Princess resulted from such a mismatching and has been bred to produce kittens with considerable spotting variety. ²⁰

The following outline of spotted color varieties is based on Mrs. Richards' work.

SPOTTED CATS

SPOT COLOR

Black
Blue
Lilac
Deep Red
Black
Brown
Deep Blue
Deep Cream

GROUND COLOR

Silver
Cream
Cream
Red
Sable
Ticked Cream
Blue
Cream

EYE COLOR

Hazel or Green
Copper
Copper
Copper
Orange or Yellow
Hazel or Green
Copper
Copper

Biographical Notes

Dr. Rosemonde Stevens Peltz was born in New Orleans, Louisiana, which immediately places her in the company of artists and gourmandes, a heritage she keeps as scientist and practicing physician, in Georgia. Her first love was art which she studied at Sophie H. Newcomb College, graduating in 1948 with honors in Art. Later at Louisiana State University School of Medicine she received her degree in Medicine. From 1948 to 1950 Dr. Peltz worked in medical art and medical photography, illustrating medical textbooks and scientific articles. After receiving her M.D. in 1954 she moved to Atlanta to intern in the Crawford Long Hospital, until 1958, when she entered private practice in Decatur, Ga., where she now lives; her practice is limited to Internal Medicine and Cardiology. She is also college physician at Agnes Scott College, and Associate in Medicine, Emory University School of Medicine. Finally, rounding out her busy schedule with teaching, she is tutor in Cardiology at the Grady Memorial Hospital, Cardiac Clinic.

Dr. Peltz has been busy otherwise, in the field of writing, and in her favorite hobby cat-watching. The Year Book has had the pleasure of publishing several interesting articles by her, and including **Spotted Cats** in this Edition. We list the other articles written by Dr. Peltz below:

Domestic Cat in Art, C.F.A. Year Book 1963. Reprinted in **International Catfancy Magazine** Charter Issue, 1965.

Inheritance of Coat Color, C.F.A. Year Book, 1965.

White Cats Odd-Eyed and Otherwise, *Int. Catfancy Magazine*, Vol. 1, No. 1.

That Lovely Brown Cat, *International Catfancy Magazine*, Charter issue.

The Burmese Cat, C.F.A. Yearbook, 1968.

The Heatherwood Cattery was established By Dr. Peltz in 1961, where she apparently keeps every cat fortunate enough to be born on the premises. At the last reading she admits to 13 Burmese, 1 Silver Tabby ASH, 9 Siamese, and the spotted cats seen above. Because of her experimentation, Dr. Peltz has more cats than she might have had otherwise, but each is equally loved and cared for. Her address: 716 Decatur No. Professional Bldg., 755 Columbia Dr., Decatur GA 30030.

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- 17 *Ibid.*, p. 179.
- 18 Elizabeth Towse, *The Short Haired Silver Tabby*, *Cats*, Vol. 1, No. 3, March-April, 1970, Great Britain, pp. 85-86.
- 19 *Ibid.*, p. 86.
- 20 *The World of Show Cats*, May Eustace, Pelham Books, Gr. Britain 1970 p. 155-157.
Drawings and Photographs by Dr. Peltz