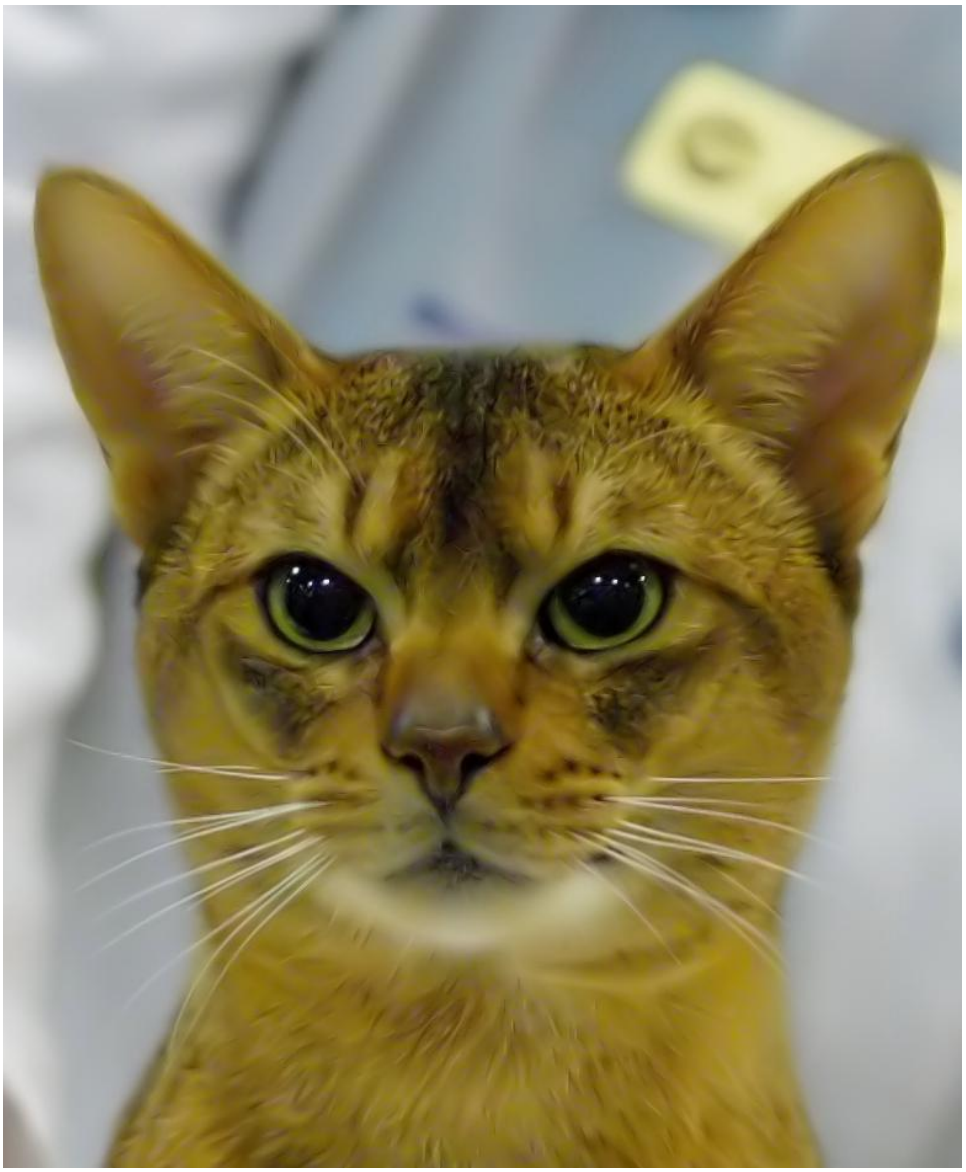
ABYSSINIAN BREED ADVISORY COMMITTEE

THE RECOMMENDED BREEDING POLICY FOR ABYSSINIAN CATS



UK &Olympian Bronze Imperial Grand Champion Glendavan Roderick-Jaynes

LIST OF CONTENTS

Introduction	3
History of the Abyssinian	4
Characteristics and Temperament	6
Genetic Make-Up	7
What is “Ticking” in the Abyssinian	8
Genes responsible for Coat Texture, Quality & Colour	9
Key Genes for Abyssinians	9
DNA Testing for Colour	12
Abyssinian Type	13
Abyssinian Coat Colour & Pattern	13
GEMS Coding & Colours	13
Breeding System	17
Evaluating Kittens for Breeding	17
Inbreeding	18
Acceptable Levels for Inbreeding Coefficients	19
Genetic Anomalies	20
Blood Typing	21
Outcrossing	22
Outcrossing Programme	23
Importing and Exporting an Abyssinian	24
Mentoring	25
Abyssinian BAC Recommendations	26
Useful References	27
Gallery of Abyssinian Colours	28

INTRODUCTION

In conjunction with the current Registration Policy applicable to all Abyssinian Cats registered with GCCF and the GCCF Breeding Policy Document (available from the GCCF Office or Website.) This breeding policy is to help and inform breeders on ensuring best practice in breeding and the continuing health of the breed. The over-riding objective is to conserve and improve the Abyssinian, working to meet all aspects of the Standard of Points, which describes the ideal for the breed. Breeders should learn how to understand the breeding value of their Abyssinians and how to make decisions in their breeding programmes that are 'best for the breed' in its ongoing development. All breeding and placement of kittens should be done in line with the GCCF Code of Ethics, available from the GCCF website.

The overall aims of the breeding policy areas are as follows:

a) To promote the breeding of healthy Abyssinian cats with sound conformation, good temperament and free from any defects known to be heritable traits

b) To encourage the breeding of Abyssinian cats which conform as closely as possible to the Governing Council of the Cat Fancy (GCCF) Standard of Points (SOP)

c) To further the health, welfare and care of Abyssinian cats at all times

Cooperation between Abyssinian breeders, within the GCCF, other UK registering bodies and internationally, will ensure that diverse breeding lines are maintained within the breed and that breeders have sufficient options to maintain low inbreeding coefficients.

The latest version of the Standard of points can be obtained from the GCCF website

https://www.gccfcats.org/Cat-Breeds/Abyssinian

Linczozo Valjeta ABY n

THE HISTORY OF THE ABYSSINIAN

The Abyssinian is one of the oldest known breeds of cat. Its origin is somewhat unknown and there are several stories as to how the breed came about. Discarding the romance and mystique associated with most of the older breeds of pedigree cats, the true history of the Abyssinian will almost certainly never be known. H C Brooke, a founding Vice-President of the Abyssinian Cat Club, wrote in 1930:

"It is with genuine regret that I have to state that it has been impossible to discover any really satisfactory facts regarding the history of this beautiful and interesting breed".

A small number of cats imported from The Horn of Africa and India in the period 1868-72 may well have been used as the basis of the breed in the UK, but British breeders continually used British sourced cats to refine and improve the breed. The first standard of points for the breed was drawn up in 1889. The first appearance of the breed in the National Cat Club Stud Book was in 1896, although most of them were registered with one or both parents unknown. The Abyssinian Cat Club Year Book of 1931 shows that half the listed cats were of unknown parentage or had one or both parents who were unknown. The use of non-Abyssinians continued up to the beginning of the 1970's. Many were officially registered as "Unknown". However handwritten pedigrees list numerous types of cat used in the refinement of the Abyssinian; "black cat", "unregistered Siamese", "Mr Brookes Red Self", "Blue Tabby", "Unregistered Chinchilla from down the road" this one was the foundation of the Somali breed in Australia and New Zealand, and "Unregistered Abyssinian" amongst them. The truth is that the breed probably owes more to the banks of the Thames that than those of the Nile.

The earliest show report in "Fur and Feather" is of a blue Abyssinian in 1903.

One of the earliest Abyssinians, Aluminium, was quite probably silver, though in those days colour photography had not been invented so it is difficult to be certain about the exact shade.

In the period 1935-55 "Albino Abyssinians" were often mentioned in the cat magazines of the time but were not shown. From the one published photograph, these were in fact Colour Point versions with ticked points, having inherited the Siamese allele from earlier outcrosses. The pattern was not continued with and disappeared in the late 1950- early 1960's No cats of this pattern have emerged from the later outcrosses.

Until the 1960's, Usuals were the only colour recognised in Britain, although Blue, Sorrel and Fawn were being bred. The first Sorrel that appeared on the Show bench was Coleswood Christopher in 1952. This colour was officially recognised in 1964. The first Blues to be shown were Fairlie Mehesso and Menelick born in 1968. The first Fawn to be shown in competition was Barentu Blondin, in 1972. In 1967 It was decided to try and recreate the pre-war Silver Abyssinian by outcrossing to a British Silver Spotted, Culverdean Mercury, the colour has become established with a small but active minority following within the Abyssinian world. In 1972 attempts were made to understand the genetics of Sorrel Abyssinians then called "Red" and Fawns, then called "Cream". Outcrosses were made to

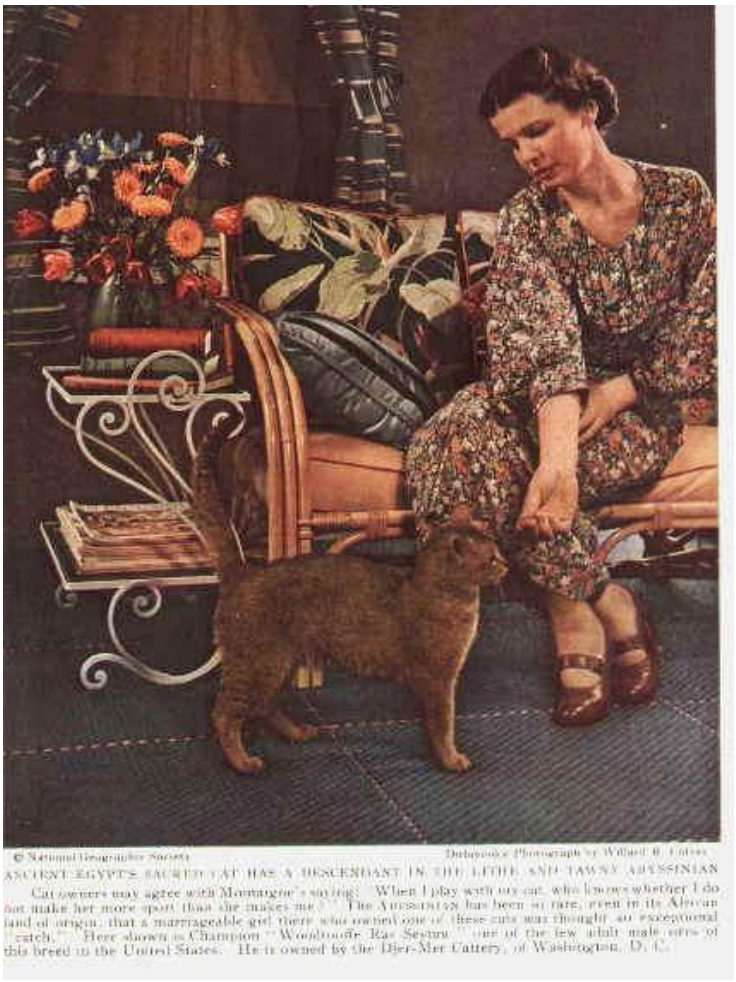
Red point Siamese by Julia May and Morris Sklader and to Chocolate Point Siamese by Mr & Mrs Dyte. These experiments helped establish the genetics of the Sorrel Abyssinian and also the development of chocolate, lilac, sex-linked red cream and Tortie Abyssinians and their silver counterparts.

Following the period 1967 to 1982, when pedigree British, Burmese and Siamese were used to introduce the Silver, Sex-linked Red and Chocolate colours into the breed, British breeders have chosen to import pure-bred Abyssinians, rather than do further outcrosses.

The first such import was done by Mrs Val Kilby with Du-Ro-Al Topaz in 1972. For several years the UK breeders benefited from American cats "passing through" on route to Australia and being bred from whilst resident in the UK.

From 1980-to the present day, Large numbers of Abyssinians have been imported from America, Australia, Canada, Denmark, Finland, France, Germany, Holland, Norway, Sweden and the Ukraine.

The breed is far more popular in the USA, Australia and Europe than the UK and therefore have a wider gene pool, as a result the imported cats have very diverse pedigrees.



© National Geographic Society Dubuyoux Photograph by Willard R. Culver

ANCIENT EGYPT'S SACRED CAT HAS A DESCENDANT IN THE LITHE, AND TAWNY ABYSSINIAN

Cat owners may agree with Montaigne's saying: "When I play with my cat, who knows whether I do not make her more sport than she makes me?" The Abyssinian has been so rare, even in its African land of origin, that a marriageable girl there who owned one of these cats was thought an exceptional "catch." Here shown is Champion "Woodnoffe Ras Sevum," one of the few adult male cats of this breed in the United States. He is owned by the Djer-Mer Cattery, of Washington, D. C.

Ch Woodrooffe Ras Seyum ABY n Born September 1935 From the National Geographic Magazine November 1938

Characteristics and Temperament

Abyssinians are highly intelligent, extroverted and active cats and are extremely affectionate, sweet-tempered and intelligent and make wonderful companions to people of all ages. Abyssinians love to play and remain playful and active throughout their lives, enjoying a run through the house or garden. Abyssinian cats often enjoy a game of fetch with their human companions. They are usually happier if they have company, whether the company is human, feline or even canine.

Abyssinians do not have a loud meow and often communicate with a charming trill. They love people and like to be included in everyday family life. They are not an overly talkative cat and have a quiet voice. Words often used to describe Abyssinians include loyal, active, intelligent, playful and inquisitive.

UK Olympian Bronze Imperial Grand Champion Abydreames Specsappeal ABY a

GENETIC MAKE-UP

The Abyssinian cat is always a shorthaired ticked tabby cat with the basic genotype AA, LL, ss, TaTa

AA means that they are homozygous for the agouti allele. This means that Abyssinians breed true as tabbies, but it does not play a role in determining which specific tabby pattern is present.

LL means that they are homozygous for the dominant shorthair allele of the hair length gene, meaning that all Abyssinians breed true for short hair.

ss means that they are homozygous for the non-white spotted allele of the white spotting gene. This means Abyssinians are not allowed any white spotting.

For this reason, the Abyssinian Standard of Points regards a white locket or any white patches of fur anywhere except around the chin, lips and nostrils as a very serious fault, where no awards may be given at a show. Such a cat is not of show quality should not be bred from.

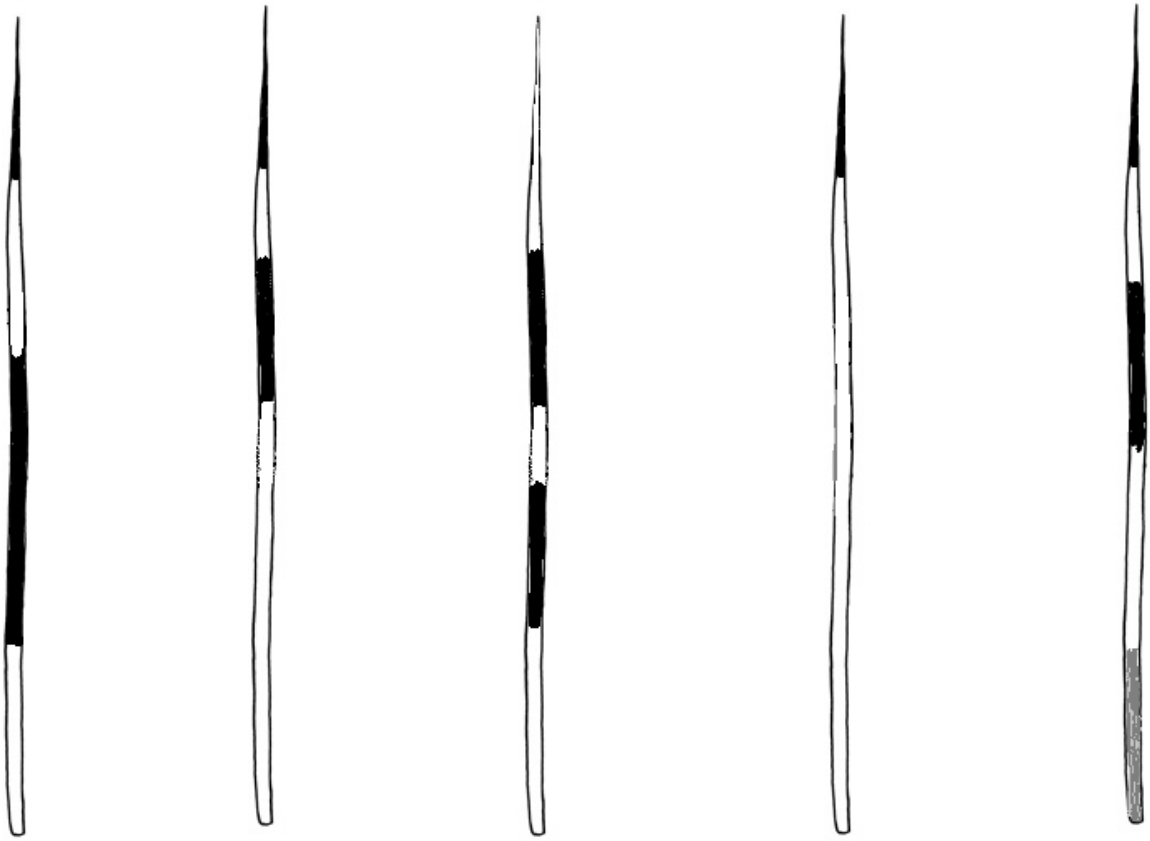
TaTa means Abyssinians are homozygous for the ticked tabby pattern. All Abyssinian cats breed true for ticked tabby and no other patterns should be seen.

Supreme UK Olympian Silver Imperial Grand Champion
LINCZOZO JAVIER FERNANDEZ ABY b

What is "Ticking" in the Abyssinian

From the Abyssinian SOP

"Distinctly ticked, resulting in at least four bands of colour. The roots must be the colour of the base hair and the final band must be the ticking colour."



A - Four bands of colour evenly spaced

B - Four bands of colour with most of the length the base colour (*most commonly seen*)

C – Reverse ticking (*Rare and a withholding fault*)

D – Tipped not ticked (*two bands of colour and a withholding fault*)

E – Ticked with dark roots, often not always the same as the ticking colour (*A fault if covering a major part of the body*)

GENES RESPONSIBLE FOR COAT TEXTURE, QUALITY AND COLOUR

A large range of colours are seen in the Abyssinian breed. These variations are controlled by a group of both dominant and recessive genes; consequently, one cannot fully understand colour inheritance in Abyssinian cats without a basic understanding of cat genetics. Breeders may wish to ensure that they register cats correctly and DNA testing may be used for clarification but the Abyssinian Breed Advisory Committee would advise that should there be any doubt as to the correct colour of a Abyssinian, that cat is not of the expected quality required for breeding and/or showing.

All domestic cats are descended from a wild ancestor, probably either Felis silvestris lybica, a mackerel tabby patterned animal, or Felis chaus, a ticked cat and thus all domestic cats are of an underlying genetic tabby pattern. All cats have 19 pairs of chromosomes upon which there are many thousands of genes that govern the eventual shape, size, sex, colour, coat pattern and hair length of the individual animal. Over the generations a number of mutations have occurred and selective breeding has been used to isolate these to produce the various pedigree breeds we see today.

Genes normally come in pairs. Different variations of a gene are called alleles and a pair can either contain two alleles that are the same (homozygous) or two different alleles (heterozygous). When a heterozygous gene pair occurs, it is the dominant allele which determines the cat's appearance. The recessive allele can be passed on to the cat's offspring. Dominant alleles are written with a capital letter and recessive alleles are written with a lower case letter.

KEY GENES FOR ABYSSINIANS

A/a Agouti or Non-agouti

Agouti (A) - the natural "wild" allele that is the basis of the tabby cat. The base agouti pattern consists of bands of black on a yellow background; in the cat this is overlaid with one of the tabby patterns.

Non- agouti or "hypermelanistic" (a) - a recessive mutation that turns the original "wild" tabby cat into a self by overlaying the agouti base colour with eumelanin pigment, making the whole animal appear one solid colour, although often in certain light the underlying tabby pattern may still just be discernible.

All Abyssinians are homozygous for Agouti (AA)

The appearance of non-agouti kittens in a litter should raise serious questions for a breeder and they are strongly urged to contact the Abyssinian BAC for help.

Ta/ta Ticked or Non-ticked

Ticked (Ta) – an incompletely dominant gene which removes almost all of the striped pattern leaving the ticked agouti base pattern on the body with minimal overlaying stripes on legs, chest (necklace) and face. Cats carrying a non-ticked allele have more pronounced stripes on the legs and chest. A ticked tabby pattern can cover all three other tabby patterns.

Non-ticked (ta)- the normal recessive form of the gene which allows the other

underlying tabby pattern to show through.

All Abyssinians are homozygous for Ticked Tabby (Ta Ta)

The appearance of non-ticked kittens in a litter should raise serious questions for a breeder and they are strongly urged to contact the Abyssinian BAC for help.

I/i Inhibitor or Non-inhibitor

Inhibitor (I) – a dominant allele that suppresses the development of pigment in the hair of the coat, typically producing hairs that are fully coloured only at the tip and have a silvery white base. It has greater effect on the lighter pigment in an agouti cat, removing the yellow colour and turning the base colour white or “silver”.

All silver Abyssinians have one or two copies of the inhibitor allele. Silver cannot be “carried”

Non-inhibitor (i) – the normal recessive form of the gene in which cats are not silver.

All non silver Abyssinians carry two copies of the non- inhibitor allele

L/l Shorthair or Longhair

Shorthair (L)- the dominant 'wild' form of this gene, which produces a short

coat.

All Abyssinians should be homozygous for this allele.

Longhair (l) – a recessive gene mutation which produces a longhaired cat.

The appearance of longhaired kittens in a litter should raise serious questions for a breeder and they are strongly urged to contact the Abyssinian BAC for help.

B/b/bl Black or Chocolate or Sorrel

Black (B), Chocolate (b) and Sorrel (bl) – three different alleles of this gene occur. Chocolate and sorrel are both mutations of the basic black gene which modify black into dark Chocolate or Light Chocolate respectively.

This gene controls whether Abyssinians are Usual, Chocolate or Sorrel.

Usual can carry EITHER chocolate OR sorrel, but not both!

Chocolate can carry sorrel, but not usual. Sorrel cannot carry the other colours.

The possible combinations are:

BB Usual carrying nothing

Bb Usual carrying Chocolate

Bbl Usual carrying Sorrel

bb Chocolate carrying nothing

bbl Chocolate carrying Sorrel

b1bl Sorrel

D/d Non-dilute or Dilute

Dilute (d) – a recessive gene which reduces and spreads out the pigment granules along the hair-shaft and turns a black to blue, chocolate to lilac, sorrel to fawn and red to cream.

All Blue, Lilac, Fawn and Cream Abyssinians have two copies of this allele.

O/o (O/y) Orange or Non-orange

Orange (O) – this gene eliminates all eumelanin pigment (black and brown) from the hair fibres, replacing it with phaenomelanin, a lighter compound appearing yellow or orange depending on the density of pigment granules. Rufous polygenes, as yet unidentified, affect the richness of the orange gene's expression.

The sex-linked nature of this gene means that it is inherited on the X and Y chromosomes which determine gender. Males with one copy of the gene will be orange (i.e. red or cream), while females with one copy will be torties and need two copies to be orange.

All red or cream Abyssinian males have one copy of this gene, while all red or cream Abyssinian females have two copies. Abyssinian females with just one copy are torties.

These colours will only be produced in matings that involve one or more registered sex-inked Abyssinians. The unexpected appearance of sex-linked coloured kittens in a litter should raise serious questions for a breeder and they are strongly urged to contact the Abyssinian BAC for help.

Polygenes – these are collections of genes which modify the effect of the main dominant and recessive genes above. A build-up of polygenes creates a bigger effect, for example a collection of certain polygenes increases the length and density of the long-hair gene to create the Persian, and a build-up of polygenes serves to enhance the effect of the main colour genes, turning the effect of the orange gene from the sandy colour of the ginger domestic tom to the rich vibrant red of the Red Persian, British or Asian Self. It is likely that Polygenes, Genes with small, but cumulative effects on the expression of a character. So, rufous polygenes can affect the richness of the coat colour.

Females normally have a pair of X chromosomes – XX; while males have one X and one Y - XY

a group of polygenes is the reason for a high degree of warmth and rufusing in many Abyssinians. So, in summary, the genetics involved in the ideal Abyssinian cat are complex. Not only are there many interacting genes, but sometimes those genes do not express themselves fully, or they may conflict with one another. For example, the melanin inhibitor sometimes does a poor job of blocking pigment, resulting in an excessively grey undercoat on a Usual, or tarnishing in Silvers, which are considered as faults in the Show Standard for the breed. Various polygenes, epigenetic factors, or modifier genes, as yet unidentified, are believed to result in different phenotypes of colouration, some deemed more desirable than others. Polygenes also appear to influence coat texture.

DNA TESTING FOR COLOUR

Tests for colour and pattern genes can be used either to determine the correct colour or pattern to register a kitten correctly if there is a problem and also to discover what colour and/or pattern genes a cat or kitten carries. Available tests include

Black/Chocolate/Sorrel

Dilute

A test for the inhibitor gene (silver) is available in the USA

However, the Abyssinian Breed Advisory Committee would stress that should there be any confusion regarding the correct colour of any individual Abyssinian, then that cat is not suitable for showing or breeding.

In this situation breeders are strongly urged to contact the Abyssinian BAC for help.

ABYSSINIAN TYPE

The Abyssinian Standard of Points, the "bible" for all Abyssinian breeders:

A balanced medium-sized animal of foreign type. The lithe muscular body should be of medium build and have a well ticked close-lying coat, which conforms to the standard for that colour. A cat should not be placed high just because it has one outstanding quality. The Abyssinian should be in excellent physical condition with good weight and muscle tone for its size. The current complete Abyssinian Standard of Points is available from the GCCF website.

https://www.gccfcats.org/Cat-Breeds/Abyssinian

ABYSSINIAN COAT COLOUR AND PATTERN

As described in the Standard of points: The roots must be the colour of the base hair, and the final band must be the ticking colour. Pigmentation lines of the ticking colour must extend from the inner edge of the eye to the top of the head; and also from the outer edge of the eye to the edge of the ear. The hair around the eyes is pale and the eyelid edge darker. The back of the ears should be darker at the tips, preferably with clear brighter colour at the base. Chin, lips and nostrils should be the colour of the base hair or cream; white here is undesirable. White markings, such as a locket, anywhere else are not permitted. A line of the ticking colour should extend from the back of the head along the spine and tail, ending in a solid tail tip of that colour, the same colour to extend up the hock. There should be no heavy necklet or bars or any other marks, although a faint, well broken necklet or slight leg barring is acceptable.

It is very important breeders are totally confident regarding the colour and ticking of the kittens they register on the Active Register as suitable for breeding and showing if the quality and integrity of our breed is to be maintained.

There is no restriction in the Registration Policy for the breed concerning the mating of different colours of the breed. All colours of Abyssinians may be mated to each other and the offspring will be registered as Abyssinians.

GEMS CODING

The GEMS codes were introduced by GCCF as an easy method of writing a visual description of a cat that could be used for all breeds, all colours and all patterns without too much complication. In the main it follows that of the system used in Europe by FIFE. Abyssinian is ABY. The codes for colour and the s for silver are written in lower case.

ABYSSINIAN COAT COLOURS IN GEMS

Ticking is the "essence" of the Abyssinian coat. See “What is Ticking in the Abyssinian” above. Ticking may be slow to develop, particularly on the "dilute" colours but should be apparent, at least on the shoulders of all kittens by 14 weeks. Ear tips & tufts, facial markings, top and tip of the tail, and on the hocks are the same colour as the ticking. Darker shading along the spine and top of the tail is desirable.

EMS	Colour	Overall Impression	Ticking Base Colour
n	Usual -	Rich golden brown	ticked with black
o	Sorrel -	Lustrous copper	ticked with chocolate
b	Chocolate -	Rich copper brown	ticked with dark chocolate.
a	Blue -	Soft warm blue	ticked with deeper blue-grey
c	Lilac -	Warm dove grey	Lilac Oatmeal or Mushroom
p	Fawn -	Warm powdery fawn	Fawn Pale Oatmeal or Mushroom
d	Red -	Warm, glowing red	Bright Red Paler Red
e	Cream -	Soft, warm, powdery cream	Rich Cream Paler Cream
f	Usual Tortie -	Rich golden brown/red patches	Black/Red Rich Apricot/Paler Red
q	Sorrel Tortie -	Rich copper/red patches Sorrel/Red	Rich Apricot/Paler Red
h	Choc.Tortie -	Chestnut brown/red patches	Dark Chocolate/Red Rich Apricot/Paler Red
g	Blue Tortie-	Soft blue/cream patches	Blue/Rich Cream Mushroom/Paler Cream
j	Lilac Tortie -	Warm dove grey/cream patches	Lilac/Rich Cream Mushroom/Paler Cream
r	Fawn Tortie -	Warm fawn/cream patches	Fawn/Rich Cream Pale Mushroom/Paler Cream

Tortie Abyssinians

Colour distribution in tortie Abyssinians is random and immaterial although a solid foot is not permissible. Ticking, ears tips and tufts, facial markings, top and tip of the tail and heels to be a mingling of the standard ticking colour and shades of red or cream determined by the sex-linked gene. Chest, belly, under tail, inside of legs and breeches to be a mingling of

the standard base coat colour and shades of red or cream determined by the sex-linked gene. The presence or absence of a blaze is immaterial.

Silver Abyssinians

The addition of a lower case "s" to the standard breed colour code indicates a Silver Abyssinian. Tarnishing over a substantial portion of the designated silver area is a withholding fault", the overall impression should be silver.

Code	Colour	Overall Impression	Ticking Base Colour
ns	Usual Silver -	Clear silvery white ticked with black	Black Silvery White
os	Sorrel Silver -	Soft, silvery peach	Sorrel Silvery White
bs	Chocolate Silver -	Cool silvery brown	Chocolate Silvery White
as	Blue Silver -	Glacial, silvery blue	Blue Silvery White
cs	Lilac Silver-	Frosty, silvery dove grey	Lilac Silvery White
ps	Fawn Silver -	Cool, silvery fawn	Fawn Silvery White
ds	Red Silver -	Clear, silvery red	Red Silvery White
es	Cream Silver -	Powdery, silvery cream	Rich Cream Silvery White

Tribsa Silver Teasle ABYns

Tortie Silver Abyssinians

These use the tortie codes with the addition of s code for silver. The silvery white base hair should have two distributions of ticking; the standard colour and that expressing the sex-linked gene. The distribution of these two colours is immaterial but a solid foot is not permissible.

fs = Usual Tortie Silver; qs = Sorrel Tortie Silver; hs = Chocolate Tortie Silver; gs = Blue Tortie Silver; js = Lilac Tortie Silver; rs = Fawn Tortie Silver.

Highlight Matilda (Aby fs)

BREEDING SYSTEM

In order to ensure the maintenance of the good Abyssinian breed type already achieved, while allowing scope to improve certain aspects of type, coat, pattern and colour further and to meet the ideals described in the Standard of Points, breeders need to have a clear, definite and well understood Breeding System. This means the development & management of a breeding programme in which certain cats are affirmatively selected to be bred to others for

predetermined reasons. Equally important, it also means that breeders allow no matings until they have given careful consideration to the outcome. In particular three key rules must be followed Health must be the overriding concern in any Abyssinian breeding programme The good and bad features of the individual cats should be assessed and weighed against each other before any mating. When planning a breeding programme, breeders must realise that

doubling the good traits in a cat could also result in doubling the defects; the breeding of cats with similar faults should be avoided at all costs, otherwise there is a danger of fixation (homozygosity). The prime motive in this Breeding Plan is to perpetuate the Abyssinian as a recognisable breed; to improve the quality of the breed as measured against the Standard of Points and to maintain success on the show bench. The skill in breeding lies in the choice of the individual cats and how these cats may be mated with each other. These two acts should be regarded as completely separate, although interconnected. The phenotype (appearance) of the individual cat is made up of a large number of genetic characteristics of varying expression. The ideal Abyssinian is one in which the expression of these characteristics is just right according to the Standard of Points. This expression is controlled by selective breeding.

EVALUATING KITTENS FOR BREEDING

Breeders should make rational decisions on which kittens to retain for future breeding, or allow to be placed on the Active Register, based on a range of different factors. Animal breeding scientists use evaluation systems to calculate Estimated Breeding Values, or EBVs for animals. Cat breeders can use similar methods in a less formal way in order to evaluate kittens and make comparisons which can help to inform decisions. There is a risk that breeders will make selections based on too limited a range of factors. The following should be taken into consideration;

Closeness to the Standard of Points

Number and severity of faults

Temperament

Health

Development

Co-efficient of Inbreeding

Generational Level

Parental/familial breeding history

Fit with breeder's breeding goals

Breeder's intuition

INBREEDING

Inbreeding is an inclusive term covering many different breeding combinations and degrees of relationship – including the more distant, less intense. It is consistently more efficient in eliminating heterozygous (varying and diverse) genotypes and increasing homozygous (similar) genotype, thereby ensuring a greater likelihood that kittens will closely resemble their parents. Used here, the term does not mean close, purposeful, inbreeding of closely related cats (brother/sister, father daughter), but rather the moderate form that results from

the mating of not too distantly related (but not directly related) cats (first cousins, half brother/half sister, second cousins, etc.). Some in-breeding is essential to stabilise conformation around a definite type. In-breeding is the act of mating individuals of various degrees of kinship, and if continued it produces ever increasing homogeneity in the offspring.

It is important to monitor the percentage intensity of inbreeding for any mating – use this consideration as a key part of the decision making process when considering any mating, and remember:

"The more intense the in-breeding, the more careful must be the selection". "Loss of innate genetic variability must not be too great".

The overall approach should be one of balance and moderation in the degree of inbreeding coupled with consistent selective breeding with a clear objective in mind – i.e improvement of key aspect and/or the elimination of weak traits or defective genes. Breeding systems and practices need to operate so as to ensure the Abyssinian gene pool contains enough variation to give scope to continue improving the breed and avoid the danger of either fixing type too quickly (before the ideal of the standard is reached) or deleterious genes being expressed and fixed in the breed. Breeders need to use acceptable levels of inbreeding to gain sufficient homogeneity to fix recognisable Abyssinian type, but with sufficient variation to both enable improvement, and maintain health and vigour, avoiding fixation of defective genes or unwanted traits (and to ensure the elimination of anomalies). The golden rule is that health is paramount and must be constantly and consistently monitored; any evidence of weakness or the emergence of lack of vigour must be dealt with immediately through modification of the breeding system. No cat with any evidence of health problems or lack of vigour should be used for breeding. Breeders should also be aware that research has shown that highly inbred

animals are less likely to be show winners. Although a certain level of acceptable inbreeding can help to fix desirable traits, inbreeding depression can cause asymmetries and weaknesses that can be damaging to a cat's potential show success.

In addition to specialist software, several simple systems for determination are available on line.

ACCEPTABLE LEVELS FOR INBREEDING CO-EFFICIENTS

0 to 10 % = Low

10 to 20 % = Fair

20 to 25% = Acceptable

25 to 40% = High. Only to be undertaken by experienced breeders for specific reasons.

40%+ = Not advised

GCCF President Mrs Shirley Bullock and Mrs Carole Jones discussing the merits of a Sorrel Abyssinian at an Abyssinian BAC Seminar

GENETIC ANOMALIES

The problems of genetic anomalies are something of which all breeders should be aware; this is not to suggest they are necessarily common, but cats will have a quota of defects just as are found in other species. Below is a list of better known genetic disorders that can affect Abyssinians. The GCCF and the Abyssinian Breed Advisory Committee recommends breeders use genetic screening where available to manage and eliminate detrimental genes.

Erythrocyte Pyruvate Kinase Deficiency (PK Def)

This is an inherited haemolytic anaemia that occurs in Abyssinians, Abyssinians among other breeds and also some domestic shorthair cats. The deficiency of this regulatory enzyme causes an instability of red blood cells which leads to anaemia. The anaemia is intermittent, the age of onset is variable and clinical signs are also variable. Symptoms of this anaemia can include: severe lethargy, weakness, weight loss, jaundice, and abdominal enlargement. This

condition is inherited as an autosomal recessive.

Progressive Retinal Atrophy (PRA)

A hereditary form of late-onset blindness has been identified in Abyssinians and is characterized by progressive degeneration of the photoreceptors (rods and cones) in the retina. This disease has been designated "rdAc". Affected cats have normal vision at birth, with loss of vision first detectable at about seven months of age. This progresses slowly and is variable, with most cats becoming blind by usually 3-5 years of age. There is no treatment available for the condition. This is a recessive condition, meaning that two copies of the mutation are required for the cats to be affected. Carriers have one copy of the mutation and are not affected, having normal vision. A different form of blindness called “rod cone dysplasia”, or “Rdy” has also been identified in Abyssinians. This is a dominant mutation which leads to early-onset blindness by 7 weeks of age and is thankfully rare. Although PRA has been found to be present in Abyssinians in certain countries, the Abyssinian Breed Advisory Committee has not been made aware of any recent cases (post 1985) in UK-bred Abyssinians at the time of publication of this document. Further research is needed to refine the DNA test available for the two identified forms of PRA as there have been concerns about the potential for false positives. Recent studies suggest not all cats carrying two copies of the mutation will become affected and has shown, in some breeds of dogs, that an identifiable “modifier” in addition to the two copies of the gene is the “trigger” that causes the disease to be expressed.

Nevertheless, breeders who are concerned about the potential for PRA in their lines can use the test and it would be advisable for any imported cats to be tested. A full list of genetic anomalies is given in the GCCF Standard List of Withholding Faults for All Breeds. Breeders and exhibitors should familiarise themselves with these and be aware of the implications of breeding with or showing any cats with any of these defects. Other physical defects, behavioural problems and health problems may have a genetic component and should not knowingly be perpetuated in the breeds. Within the Abyssinian breed no such defects are

especially common, but breeders can find a comprehensive list of anomalies known in various breeds in the GCCF Breeding Policy which may be obtained from the GCCF Office.

The golden rule for all Abyssinian breeders is that health is paramount and must be constantly and consistently monitored. Abyssinians used in breeding programmes should be of show quality with pleasing type, correct colour and well defined ticking.

They should be of good temperament and respond to their owners with affection. A healthy, happy Abyssinian is an absolute joy to own. Breeders should register all of their kittens to ensure those not suitable for breeding are placed on the non-active register and cannot be bred from by the new owner. Novice owners of breeding females will find the Abyssinian Breed Advisory Committee, through the Abyssinian Breed Clubs, has committee members only too willing to support and advise regarding Abyssinian studs that will be a suitable choice for their female with regard to health, type, colour and quality.

BLOOD TYPING

Both blood type A and blood type B are present in the Abyssinian breed. The recommended method for blood type testing is the DNA test and the blood test for blood type should not normally be used, except for confirmation. DNA testing is less intrusive for the cat and provides more detailed information as it can give the following results:

Type A (homozygous for dominant A)

Type A (heterozygous, i.e. carrying the gene for B)

Type B (homozygous for recessive B)

Type AB (Rare third blood group)

Because it is more intrusive for the cat and it cannot differentiate between the homozygous and heterozygous forms of Type A blood. Only the DNA test can show if an A type cat carries B or not.

Blood type incompatibility can result in kittens that fade within 48 hours of birth. This condition has not been known in Abyssinians in the UK.

International Cat Care has helpful advice on this subject.

https://icatcare.org/advice/cat-breeds/inherited-disorders-cats

Outcrossing

In the event that it becomes vital to the long term viability of the breed, the option of outcrossing to another breed may have to be considered

It must be stressed that an outcross programme **will require FIVE generations** before it is an Abyssinian and therefore take **FIVE years** to achieve and produce a large number of extra kittens to be raised, vaccinated and homed. It will also cost a lot of money, including testing for unwanted genes.

For this reason, such an undertaking should not be considered lightly.

The only permitted options for such an outcross with the Abyssinian is:

Somali:

Advantages: Type, Only Abyssinian colours. Homozygous for ticked tabby. If using a Longhair Somali 1st generation may be sold as Shorthaired Somalis. (Abyssinian to Shorthaired Somali does not conform to the Somali breeding policy and would be registered as "Abyssinian Type"

The Abyssinian BAC is there to help any breeder who has concerns about their need to outcross and their reasons for contemplating such a programme.

Outcrossing Programme

The first cross is an Abyssinian to an approved outcross breed (as above), each of the progeny will be registered as a Cat of Abyssinian Type with the appropriate colour, pattern and hair length description.

his 1st generation to be mated to an Abyssinian **on the Full Register**, the second generation to be registered as a Cat of Abyssinian Type.

The next three generations to be **mated only to an Abyssinian on the Full Register** to eventually produce the fifth generation which will be registered as an Abyssinian.

Permitted outcross breed mated to an Abyssinian = 1st Generation (Abyssinian Type on Reference Register)

|

1st Generation mated to Abyssinian = 2nd Generation (Abyssinian Type on Reference Register)

|

2nd Generation mated to Abyssinian = 3rd Generation (Abyssinian Type on Reference Register)

|

3rd Generation mated to Abyssinian = 4th Generation (Abyssinian Type on Reference Register)

|

4th Generation mated to Abyssinian = 5th Generation (Abyssinian Supplementary Register)

Subsequent Generations of matings to Full register Abyssinians (Full Resister)

There is a reason why having a five generation programme for any outcross to Somali. This is due to the presence of outcrosses to other breeds in some European, American and New Zealand lines.

Outcrossing with the intention of introducing a new colour to the breed **is not** outcrossing to secure the future of the breed. Such a programme would need the support and approval of the Abyssinian BAC. It would be the Abyssinian BAC that would present it to The GCCF Boad and Council.

Importing and Exporting an Abyssinian

Breeders may decide to import an Abyssinian if they wish to improve quality of the cats in their breeding programme or if they are concerned that they are losing genetic diversity. This does raise several issues that a prospective importer should be aware of.

The GCCF has information on importing cats into the UK.

https://www.gccfcats.org/Breeding-Information/Importing-Exporting.

This sets out exactly what the Law and the GCCF require to import into the UK.

When importing an Abyssinian into the UK it may well have cats in the pedigree from several different countries and registering bodies. An importer must check that the pedigree conforms to the GCCF registration policy for the breed. The GCCF Abyssinian Registration Policy requires **FIVE** generations of Abyssinians in recognised colours with only Abyssinian cats present on the pedigree. To ensure the integrity of the fifth generation, the GCCF Registrar may well also need to investigate the sixth or further generations.

When choosing a cat to import it is important to check that cats with similar pedigrees are not in the pedigree of their own cats or those of other breeders that they wish to collaborate with.

It is important to check that when exporting a cat, some overseas registering bodies have different pedigree requirements before the will accept a cat.

The Abyssinian BAC is happy to help any breeder who is considering exporting or importing an Abyssinian. They can put you in contact with other breeders who have already done so, for their recommendations and advice.

Abydreames Khaleesi ABY p exported to Holland

MENTORING

All new Abyssinian breeders should start under the guidance of a mentor; an experienced breeder who has already bred a number of Abyssinian litters. This is especially important for novice breeders with little or no prior experience of cat breeding, but support is, of course, also available to breeders who may have experience of other breeds but are new to the Abyssinian breed. If a new breeder does not have a mentoring relationship with the breeder of their cat, a mentor can be identified by contacting the Secretaries of the Abyssinian Breed clubs, contactable via the GCCF Website.

Olympian Gold Imperial Grand Champion LINCZOZO CAT'S PYJAMAS, (ABY n)

ABYSSINIAN BAC RECOMMENDATIONS

The Abyssinian BAC recommends that breeders re-read this Breeding Policy, as well as the general GCCF Breeding Policy and the Standard List of Withholding Faults –All Breeds.

https://www.gccfcats.org/Cat-Breeds

These in addition to the Abyssinian Registration Policy and the Abyssinian Standard of Points at least once a year. Copies of these policies should be given to all prospective owners of Abyssinians to be used for breeding on the Active Register.

All Abyssinian breeders are encouraged to take advantage of any relevant official scheme, which may be devised by the BAC to test the soundness of the Abyssinian breed. Breeders should have breeding cats tested for PK Deficiency where they believe there may be any chance of the gene being present. People purchasing kittens should ask breeders for the status of the parents before purchase. Cats with the affected form of PK Deficiency should not be used for breeding. Cats which are carriers of PK Deficiency should only be used for limited breeding in circumstances where a breeder wishes to retain a specific breeding line although this should only be undertaken by experienced breeders. Cats that are carriers should only be mated to certified non-carriers and offspring tested to ensure that only normal (PK Def. Negative) offspring are retained for future breeding.

The Abyssinian Breed Advisory Committee having encouraged openness about carriers of genetic diseases and testing has resulted in diseases being virtually eradicated in our breed.

Any Abyssinians that are imported from other registries should be independently DNA tested by an approved laboratory before purchase. Abyssinian breeders are encouraged to work closely with other like-minded breeders to improve the breed and realise shared objectives whilst maintaining a diverse gene pool. Breeders are urged to observe the GCCF Code of Ethics, the recommendations of the GCCF, the advice of their mentor and their own veterinary surgeons regarding cat welfare, the importance of neutering, health, inoculations etc.

Whilst the Abyssinian BAC wishes to encourage responsible new breeders, it recommends that breeders should think carefully before selling any Abyssinian cats on the Active Register, taking into consideration the purchaser's experience and that no kitten should be sold on the Active Register to a breeder new to the breed without ensuring that a mentoring relationship is in place, either with the breeder of the kitten or another suitably experienced breeder.

USEFUL REFERENCES

“Robinson’s Genetics for Cat Breeders & Veterinarians” by Vella,

Shelton, McGonagle and Stanglein, published byButterworth & Heinemann.

"The Cat in Ancient Egypt" by Jaromir Malek, published by British Museum Press.

Abyssinian Cat Association Website

Abyssinian Cat Club Website

GCCF Website - http://www.gccfcats.org/

International Cat Care (formerly Feline Advisory Bureau) – www.icatcare.org

Abyworld Website http://www.abyworld.com/

Grand Champion Saladin Starwind ABY n

GALLERY OF ABYSSINIAN COLOURS

These photographs illustrate a selection of the many colours found in the Abyssinian breed. It should be noted that some of the cats photographed are much loved pets rather than show quality Abyssinians.

Imperial Grand Premier Abychat Equinox ABY o

Flamestone Caractacus (Aby es)

Pr Abydreames Moonlight Shadow ABY p

Lilac Abyssinian ABY c

Sorrel Silver Abyssinian ABY os

The Abyssinian Breed Advisory Committee acknowledges with grateful thanks all those who have contributed to this Breeding Policy.

©Abyssinian Breed Advisory Committee 2024