COAT COLOURS DESCRIPTION

There are several thousands of coat colours among the cats.

This nomenclature is a compromise between logic, which allows some systematic, and tradition, which allows to be understood by the majority.

Logic has been introduced at several levels:

- The terminology for a colour is the same for any breed. In French, "exotic" names such as ebony or foreign blue, for Orientals, for instance, have been suppressed because they have become obsolete. However, there still are some rare cases where specific names are often used ("lièvre" (ruddy) for brown ticked tabby and "sorrel" for cinnamon in the Abyssinian and the Somali breeds, bronze in the Egyptian Mau breed, "zibeline" (sable) in the English or American Burmese breeds). It is then recommend to write the normal colour followed by the usual term.

- The order of the different terms describing a coat is always the same. The order is as follows:

  - the "basic" colour (see "colour" section below) including the tortie varieties;

  - the optional "amber" mention;

  - the optional "charcoal" mention;

  - the optional "carnelian/copal" mention;

  - the optional "sunshine" mention;

  - the optional "golden" mention;

  - the optional "copper" mention;

  - the optional "silver" or "smoke" mention;

  - the optional tabby pattern;

  - the optional pattern for the sepia, mink and point categories;

  - the optional presence of white.

  For instance, one could read "blue tortie [amber] [silver] [blotched tabby] [sepia] [and white]"

The usual rules have generally been kept. For example, "black" becomes "brown" if the cat is agouti ("tabby") and "seal" if the cat is sepia, mink or point! Tradition that distinguishes between "shaded" and "chinchilla" was also kept, despite the continuum in tipping length.

In some cases, it is useful to include eye colour in coat name so that it is mentioned on the cat's descendants' pedigree. It is systematically done for white cats (example: blue eyed white, odd eyed white, gold eyed white), but also for gold eyed silver tipped cats.

Next to the current name, the genetic formula is given. Even if cat coats are extremely varied, they are actually the result of a combination between a small number of independent genetic factors, like dilution, tabby patterns, etc. Some of those factors are identified at the molecular level and we have DNA tests at our disposal to know for sure the cat's genotype. Some others are not available yet. When the genetic model is established or strongly presumed, it will be indicated in the following explanation.

The following tables are meant to present a synthetic view of all those colours by grouping them together in order to describe them more easily without listing them all. Coats are commonly classified by "categories", "divisions" and "colours", the three groups combining with each other: each coat belongs to a category, to a division and to a colour.

The category

Category distinguishes cats with full colour expression from those with thermosensible pattern, i.e. those whose pigments fully express only in the colder areas of the body (muzzle, ears, legs, tail…): there are then 4 categories, each of which corresponds to alleles combinations on "C" locus (that of tyrosinase enzyme). From the more homogenous to the more contrasted, we get the following categories:

- Full colour (C- genotype), also called « **traditional** »;
- **Sepia** ($c^b c^b$ genotype), like in the English or American Burmese;
- **Mink** ($c^b c^s$ genotype), intermediate between sepia and point;
- **Point** ($c^s c^s$ genotype), like in the Siamese or Birman.

The division

Division distinguishes cats according to several independent factors: presence of white spotting or not, presence of inhibitor gene giving silver or smoke colours, self-coloured (non agouti) cat or presence of a tabby pattern… As those factors are independent from one another and combine with one another, grouping them together by division includes some arbitrary choices. For instance, silver AND tabby cats are in "silver" division, not in "tabby" division. These grouping choices have often been dictated by tradition and conformity with other feline federations' uses. Inside each category, one will find the 9 following divisions:

- **Solid**: non particolor, without inhibitor allele (i/i), non amber (E/-) and non agouti (a/a) cats. All-white cats (W/-) are included in this group.
- **Tabby**: non particolor, without inhibitor allele (i/i), non amber (E/-) but agouti (A/-) cats. In this division, one distinguishes several sub-divisions according to the tabby pattern (for ticked-hair cats) or the length of colored tip (for tipped-hair cats):
  - Ticked tabby
  - Mackerel tabby

- o Spotted tabby

- o Blotched tabby

- o Shell

- o Shaded

- **Silver/smoke**: non particolor, non amber (E/-) cats, but with inhibitor allele (I/-), whether they are agouti or not (A/A, A/a, or a/a).

- **Amber (Norwegian only)**: cats that are non particolor, homozygous for amber mutation on the extension locus (e/e), with or without inhibitor gene (I/- or i/i), agouti or not (A/A, A/a or a/a). For the moment, this division has only been introduced in the traditional category.

- **Charcoal (Bengal only)**: cats that are non particolor, non amber (E/-), with or without inhibitor gene (I/- or i/i) but heterozygous for the wild gene and non agouti carrier (A^{PB}/a). Recognized only in the Bengal breed, this division is only introduced in the non particolor division.

- **Carnelian/copal (Kurilian bobtail only)**:

  - o **Carnelian**: cats that are non particolor, non amber (E/-) with or without inhibitor gene (I/- or i/i), agouti or not (A/A, A/a or a/a), homozygous for e^c carnelian mutation (e^c/e^c).

  - o **Copal**: cats that are non particolor, non amber (E/-) with or without inhibitor gene (I/- or i/i), agouti (A/A or A/a), heterozygous for e^c mutation (E/e^c).

- **Sunshine/extreme sunshine (Siberian only)**:

  - o **Sunshine**: cats that are non particolor, non amber (E/-) with or without inhibitor gene (I/- or i/i), agouti (A/A or A/a), homozygous for the sunshine mutation (sun/sun or wb^{SIB}/wb^{SIB}).

  - o **Extreme sunshine**: cats that are non particolor, non amber (E/-) with or without inhibitor gene (I/- or i/i), agouti (A/A or A/a), homozygous for the extreme sunshine mutation (esun/esun or wb^{eSIB}/wb^{eSIB}).

- **Golden**: cats that are non particolor, non amber (E/-), without inhibitor gene (i/i), but agouti (A/A or A/a), whose ground colour is yellow to golden.

- **Copper**: cats that are non particolor, non amber (E/-), with or without inhibitor gene (I/- or i/i), agouti (A/A or A/a) and homozygous for the copper mutation (cop/cop or wb^{BSH}/ wb^{BSH}).

And the 8 similar divisions but for cats with white:

- **Solid and white**: particolor, without inhibitor allele (ii), non amber (E-) and non agouti (aa) cats.

- **Tabby and white**: particolor, without inhibitor allele (ii), non amber (E-) but agouti (A-) cats. One finds the same distinctions as in tabby division

(ticked tabby, mackerel tabby, spotted tabby, blotched tabby, shell, shaded).

- **Silver/smoke and white**: particolor, non amber (E-) cats, but with inhibitor allele (I-), whether they are agouti or not.

- **Amber and white**: particolor cats, homozygous for amber mutation on extension locus (ee), with or without inhibitor gene, agouti or not. For the moment, this division has only been introduced in the traditional category.

- **Carnelian/copal and white (Kurilian bobtail only)**:
  - o **Carnelian and white**: cats that are particolor, non amber (E/-) with or without inhibitor gene (I/- or i/i), agouti or not (A/A, A/a or a/a), homozygous for e^c carnelian mutation (e^c/e^c).
  - o **Copal and white**: cats that are particolor, non amber (E/-) with or without inhibitor gene (I/- or i/i), agouti (A/A or A/a), heterozygous for e^c mutation (E/e^c).

- **Sunshine/extreme sunshine and white (Siberian only)**:
  - o **Sunshine and white**: cats that are particolor, non amber (E/-) with or without inhibitor gene (I/- or i/i), agouti (A/A or A/a), homozygous for the sunshine mutation (sun/sun or wb^{SIB}/wb^{SIB}).
  - o **Extreme sunshine and white**: cats that are particolor, non amber (E/-) with or without inhibitor gene (I/- or i/i), agouti (A/A or A/a), homozygous for the extreme sunshine mutation (esun/esun or wb^{eSIB}/wb^{eSIB}).

- **Golden and white**: cats that are particolor, non amber (E/-), without inhibitor gene (i/i), but agouti (A/A or A/a), whose ground colour is yellow to golden.

- **Copper and white**: cats that are particolor, non amber (E/-), with or without inhibitor gene (I/- or i/i), agouti (A/A or A/a) and homozygous for the copper mutation (cop/cop or wb^{BSH}/wb^{BSH}).

The tables I to III show those different groupings for each of the categories.

Note: cats with a locket are not considered as particolor cats; their coat colour is written without "& white" and they are judged in the same class as the cats without a locket.

The colour

Colour distinguishes cats according to the « basic » colour of their hair, which is controlled by several genes among which the main ones are B gene (« brown », that of a protein linked to tyrosinase, TYRP1), D gene (« dilution », that of melanophilin MLPH) and O gene (« orange ») carried by X chromosome.

Thus, we obtain the 6 basic colours resulting from the combinations of B and D genes without O allele:

- **black** (also called brown, seal, …): B- D- o(o)
- **chocolate**: bb (or bb^l) D- o(o)
- **cinnamon**: b^{l}b^l D- o(o)
- **blue**: B- dd o(o)
- **lilac**: bb (or bb^l) dd o(o)
- **fawn** : b^{l}b^l dd o(o)

two colours resulting from the action of O gene carried by the X chromosome:

- **red**: D- O(O)
- **cream**: dd O(O)

and all torties corresponding to red combination (resp. cream) with solid basic colours: black, chocolate, cinnamon (resp. dilutes: blue, lilac, fawn):

- **black tortie**: B- D- Oo
- **chocolate tortie**: bb (or bb^l) D- Oo
- **cinnamon tortie**: b^{l}b^l D- Oo
- **blue tortie**: B- dd Oo
- **lilac tortie**: bb (ou bb^l) dd Oo
- **fawn tortie**: b^{l}b^l dd Oo

All those 14 colours are found in each cell of tables I, II and III.

However, amber colours being only identified in Norwegian cats where chocolate/lilac, cinnamon/fawn colours do not exist, and having as far as we know no action on red/cream colours, only black, blue, black tortie and blue tortie 4 colours are represented in the cells for amber and amber and white divisions.

All-white coloured cats are traditionally gathered with cats from solid division in traditional category only (red cell in table I).

The table IV shows the different divisions and categories recognized by breed.

Table I
Divisions for traditional categories

		Without white				particolor												
		E-		ee		E-						ee						
		ii	I-	ii	I-	ii			I-			ii			I-			
						& white	van	mitted	& white	van	mitted	& white	van	mitted	& white	van	mitted
	non agouti	Solid	Silver/smoke	Amber	Amber	Solid and white	Solid and white	Solid and white	Silver/smoke and white	Silver/smoke and white	Silver/smoke and white	Amber and white	Amber and white	Amber and white	Amber and white	Amber and white	Amber and white
a g o u t i	ticked tabby	Tabby	Silver/smoke	Amber	Amber	Tabby and white	Tabby and white	Tabby and white	Silver/smoke and white	Silver/smoke and white	Silver/smoke and white	Amber and white	Amber and white	Amber and white	Amber and white	Amber and white	
	mackerel tabby	Tabby	Silver/smoke	Amber	Amber	Tabby and white	Tabby and white	Tabby and white	Silver/smoke and white	Silver/smoke and white	Silver/smoke and white	Amber and white	Amber and white	Amber and white	Amber and white	Amber and white	
	spotted tabby	Tabby	Silver/smoke	Amber	Amber	Tabby and white	Tabby and white	Tabby and white	Silver/smoke and white	Silver/smoke and white	Silver/smoke and white	Amber and white	Amber and white	Amber and white	Amber and white	Amber and white	
	blotched tabby	Tabby	Silver/smoke	Amber	Amber	Tabby and white	Tabby and white	Tabby and white	Silver/smoke and white	Silver/smoke and white	Silver/smoke and white	Amber and white	Amber and white	Amber and white	Amber and white	Amber and white	
	shaded	Tabby	Silver/smoke	Amber	Amber	Tabby and white	Tabby and white	Tabby and white	Silver/smoke and white	Silver/smoke and white	Silver/smoke and white	Amber and white	Amber and white	Amber and white	Amber and white	Amber and white	
	shell	Tabby	Silver/smoke	Amber	Amber	Tabby and white	Tabby and white	Tabby and white	Silver/smoke and white	Silver/smoke and white	Silver/smoke and white	Amber and white	Amber and white	Amber and white	Amber and white	Amber and white	

Legend:

- ■ Solid (red)
- ■ Tabby (blue)
- ■ Silver/smoke (green)
- ■ Amber (orange)
- ■ Solid and white (brown)
- ■ Tabby and white (light purple)
- ■ Silver/smoke and white (light green)
- ■ Amber and white (light yellow)

Note: the merging of the cells corresponding to the different tabby patterns, for « & white van » cats, means that in this case, the type of tabby pattern is not needed.
The columns « & white » gather « & white bicolors », « & white arlequin » and « & white » (with no precise proportion).
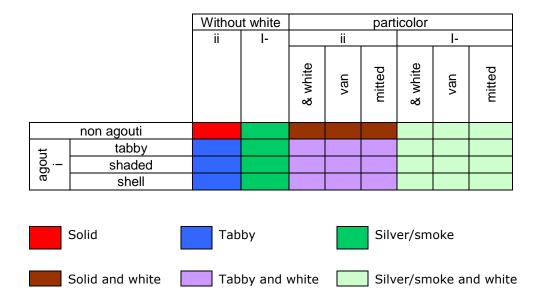
Table II
Divisions for sepia and mink categories

		Without white		particolor					
		ii	I-	ii			I-		
				& white	van	mitted	& white	van	mitted
	non agouti	Solid	Silver/smoke	Solid and white	Solid and white	Solid and white			
a g o u t i	ticked tabby	Tabby	Silver/smoke	Tabby and white	Tabby and white	Tabby and white			
	mackerel tabby	Tabby	Silver/smoke	Tabby and white	Tabby and white	Tabby and white			
	spotted tabby	Tabby	Silver/smoke	Tabby and white	Tabby and white	Tabby and white			
	blotched tabby	Tabby	Silver/smoke	Tabby and white	Tabby and white	Tabby and white			
	shaded	Tabby	Silver/smoke	Tabby and white	Tabby and white	Tabby and white			
	shell	Tabby	Silver/smoke	Tabby and white	Tabby and white	Tabby and white			

Legend:

- Solid (red)
- Tabby (blue)
- Silver/smoke (green)
- Solid and white (brown)
- Tabby and white (purple)
- Silver/smoke and white (light green)

Note: the only difference between tables I and II is the non-inclusion of amber division and amber & white division in sepia and mink categories.
The columns « & white » gather « & white bicolors », « & white arlequin » and « & white » (with no precise proportion).

Table III
Divisions for point category

		Without white		particolor					
		ii	I-	ii			I-		
				& white	van	mitted	& white	van	mitted
	non agouti	Solid	Silver/smoke	Solid and white	Solid and white	Solid and white	Silver/smoke and white	Silver/smoke and white	Silver/smoke and white
agout	tabby	Tabby	Silver/smoke	Tabby and white	Tabby and white	Tabby and white	Silver/smoke and white	Silver/smoke and white	Silver/smoke and white
	shaded	Tabby	Silver/smoke	Tabby and white	Tabby and white	Tabby and white	Silver/smoke and white	Silver/smoke and white	Silver/smoke and white
	shell	Tabby	Silver/smoke	Tabby and white	Tabby and white	Tabby and white	Silver/smoke and white	Silver/smoke and white	Silver/smoke and white

Legend:

- ■ (red) Solid
- ■ (blue) Tabby
- ■ (green) Silver/smoke
- ■ (brown) Solid and white
- ■ (purple) Tabby and white
- ■ (light green) Silver/smoke and white

Note: the only difference between tables II and III is the merging of the lines concerning the different tabby patterns in point cats.
The columns « & white » gather « & white bicolors », « & white arlequin » and « & white » (with no precise proportion).

Table IV
Recognized divisions by breed

BREED	CATEGORIES				DIVISIONS									PARTICOLOR
	Traditional	Sepia	Mink	Point	Solid	Tabby	Silver/smoke	Amber	Charcoal	Carnelian/Copal	Sunshine/Extreme sunshine	Golden	Copper	& white
Abyssinian/Somali	✔					✔	✔							
American Bobtail SH/LH	✔	✔	✔	✔	✔	✔	✔							✔
American Curl SH/LH	✔	✔	✔	✔	✔	✔	✔							✔
American Shorthair/Wirehair	✔				✔	✔	✔							✔
Turkish Angora	✔				✔	✔	✔							✔
Asian SH/LH	✔	✔			✔	✔	✔					✔(LH)		
Bengal	✔	✔	✔	✔	✔	✔	✔		✔					
Bombay	✔				✔									
British SH/LH	✔	✔	✔	✔	✔	✔	✔					✔	✔	✔
American Burmese		✔			✔									
English Burmese		✔			✔									
Burmilla	✔	✔				✔	✔					✔ *		
Celeste SH/LH	✔				✔	✔	✔							
Ceylon	✔					✔								
Chartreux	✔				✔									
Chausie	✔				✔	✔								
Cornish/Californian Rex	✔	✔	✔	✔	✔	✔	✔							✔
Devon rex	✔	✔	✔	✔	✔	✔	✔							✔

*tipped only

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	Traditional	Sepia	Mink	Point	Solid	Tabby	Silver/ smoke	Amber	Charcoal	Carnelian/ Copal	Sunshine/ Extreme sunshine	Golden	Copper	& white
Donskoy	✔			✔	✔	✔	✔							✔
European Shorthair	✔				✔	✔	✔							✔
German Rex	✔				✔	✔	✔							✔
Havana Brown	✔				✔									
Japanese Bobtail SH/LH	✔	✔	✔	✔	✔	✔	✔							✔
Korat	✔				✔									
Kurilian Bobtail SH/LH	✔				✔	✔	✔			✔				✔
Laperm SH/LH	✔	✔	✔	✔	✔	✔	✔							✔
Lykoi	✔				✔									
Maine Coon	✔				✔	✔	✔							✔
Manx/Cymric	✔	✔	✔	✔	✔	✔	✔							✔
Egyptian Mau	✔				✔	✔	✔							
Munchkin SH/LH	✔	✔	✔	✔	✔	✔	✔							✔
Norwegian	✔				✔	✔	✔	✔						✔
Ocicat	✔				✔	✔	✔							
Oriental/Mandarin	✔				✔	✔	✔							✔
Persian/Exotic SH	✔	✔	✔	✔	✔	✔	✔					✔		✔
Peterbald	✔			✔	✔	✔	✔							✔
Pixie Bob SH/LH	✔					✔								

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	Traditional	Sepia	Mink	Point	Solid	Tabby	Silver/smoke	Amber	Charcoal	Carnelian/Copal	Sunshine/Extreme sunshine	Golden	Copper	& white
Ragdoll				✓	✓	✓	✓							✓
Russe/Nebelung	✓				✓									
Birman				✓	✓	✓	✓							✓
Savannah	✓				✓	✓	✓							
Scottish/Highland Fold/Straight	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓
Selkirk Rex/Straight SH/LH	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓
Siamese/Balinese					✓	✓	✓							✓
Siberian	✓			✓	✓	✓	✓				✓			✓
Singapura		✓				✓								
Snowshoe				✓	✓	✓	✓							✓
Sokoke	✓					✓								
Sphynx	✓	✓	✓	✓	✓	✓	✓							✓
Thai					✓	✓	✓							
Tonkinese SH/LH		✓	✓	✓	✓	✓	✓							
Toyger	✓					✓								
Tukish Van	✓				✓	✓								✓
York Chocolate	✓				✓									✓
Household pet	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓