

The Pomeranian Wolf Sable Pattern

A rare and sometimes coveted pattern in Pomeranian coats is known as 'Wolf Sable'. Dogs dominant at the Agouti locus for the (aw) allele will express a wolf sable phenotype. This pattern is perhaps the oldest among animals. It is still present today in wolves and coyotes in the wild and several breeds of dogs as well as some rabbits and other rodents.

A recent study (1) found that the allele is present in more than 18 breeds of dogs including: Eurasier, Border Collie, German Shepherd Dog, Dachshund, Golden Retriever, Vizsla, German Shorthaired Pointer, German Wirehaired Pointer, Brittany Spaniel, Akita, Shar Pei, Keeshond, Alaskan Malamute, Norwegian Elkhound, Siberian Husky, Swedish Vallhund, Standard Schnauzer, and Miniature Schnauzer.

Some of those breeds: Golden Retriever, Vizsla, German Shorthaired Pointer, German Wirehaired Pointer, Brittany Spaniel also have the (Kb) allele at the K locus which masks the presence of (aw). So those breeds can carry the (aw) allele, but don't express it. The remaining breeds, however, can express the wolf sable phenotype when the (aw) allele is present.

This list of breeds is not all inclusive. There are likely more breeds out there that were not included in this study. Due to testing availability at Canadian and American labs, the Pomeranian has more recently proven to carry the (aw) allele.

It should be noted that terms used vary between the breeds. Pomeranians with an (aw) dominant genotype, are known as 'wolf sables,' whereas the Dachshund is 'wild boar'. Standard Schnauzers are 'salt and pepper' and Shar Peis are known as 'patterned sables'. These dogs are all dominant for (aw) at Agouti but they have different names.

Among the breeds that have the (aw) allele and the resultant wolf sable pattern, the colors involved can also vary. It can produce a banding pattern to the hair of "black-cream-black", such as one would expect



CH Pondside Wings of an Angel (Annie) CD CGN RN RA RE RAE1 (W-FD/MF), DNA-verified true Wolf Sable. Owned and bred by Roberta Malott, Pondside Toys.

in a Keeshond or Siberian Husky, or "black-red-black", such is often present in German Shepherd Dogs or Dachshunds. Some speculate that other colour combinations are possible.

It should be noted that the "wolf sable" pattern has more to do with the banding pattern than with a specific pigment shade. However banded hairs do occasionally show up on (ay) fawn/sable dogs as well, with some (ay) dogs appearing very similar to their (aw) counterparts. So the mere presence of a banded hair cannot guarantee an (aw) genotype. Some say that the 'spectacle outline' around the eyes and even the 'grey/silver' colour are also visual cues but this may not be exclusive to (aw) dogs. This is the problem. Many purported 'wolf sable' Pomeranians have proven through genetic testing to be regular (ay) orange or cream sables. As long as breeders cannot visually identify the (aw) true wolf sable, we may be at risk of losing the pattern from our breed. As the (ay) red/orange/cream sable allele is dominant to the (aw) wolf sable allele (2), it may be selected for in error thus dominating the gene pool.

Breeders today are fortunate in that they have inexpensive DNA tools which can identify many patterns present in our dogs. By testing, breeders can eliminate the need for time consuming and sometimes costly test breedings and the unfortunate problem of misrepresenting a dog's colour/pattern in the official pedigree and to buyers.

A simple buccal mouth swab test at one of the commercial labs such as Healthgene (www.healthgene.com, Toronto, ON) can save the breeder time, money and the embarrassment of selling a wolf sable that isn't truly a wolf sable. The test offered by HealthGene is a direct modification of what was used in the study (1).

References:

1. Dreger D.L., Schmutz S.M., (2011) A SINE Insertion Causes the Black and-Tan and Saddle Tan Phenotypes in Domestic Dogs. *Journal of Heredity* 2011:102(S1):S11–S18 doi:10.1093/jhered/esr042
2. Eckford P.D.W., (2012) The Agouti Pattern Gene. Pomeranians In Canada. PCOC Publication. <http://www.tinybearpoms.com/Agouti%20Pattern%20Gene--final.pdf>