

Wolf, Wolfdog, or Dog? Phenotyping Canines!

F L O R I D A L U P I N E A S S O C I A T I O N , I N C .

SPECIAL POINTS OF INTEREST:

- Dogs are domesticated wolves.
- Well-bred wolfdogs can appear to look like pure wolves to the untrained eye because they are often bred for their “wolfy” looks.
- Most wolfdogs are three to five generations removed from pure wolf, making them F3 to F5. (The F# is the filial number, indicating how far removed from wolf a canine is.)
- Most wolfdogs are the offspring of other wolfdogs, not the product of a pure captive wolf and domestic dog or wolfdog.
- The most common dog breeds in wolfdogs are Husky, Malamute, and German Shepherd.

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What is a Wolf? And How Do You Know?

By Kim Miles & Jody Haynes

In his seminal work on wolfdogs, N.A. Iljin (1944) found that “in many cases the wolf cannot be distinguished from the dog even at a short distance and vice versa.” He further contended that even though a list of characteristics specific to the wolf had been created by both Brehm (1922) and Taenzer (1923), “there are none essentially differentiating the wolf from the dog.” However, in the last 100 years or so, dog fanciers have developed strict standards each breed must adhere to, allowing one to more easily distinguish between traits or characteristics more consistent with wolves and those more commonly found in certain dog breeds (see table on pp. 6-7).

Wolfdog rescuers, various animal control personnel, and officers in the FL Fish & Wildlife Conservation Commission have often been called to a location and been faced with the questions, “Is this animal part wolf?” or “Is this

animal a wolf?” Sometimes, the answers are obvious; but quite often they are not.

FLA created this phenotyping pamphlet in response to the need for a clear and concise educational resource that we hope proves beneficial in addressing these questions. This pamphlet will not magically allow just anyone to correctly identify all canines. Instead, it should be utilized as a supplemental tool for those who already have some knowledge of wolf morphology (*i.e.*, looks) and behavior; taken as a whole, it should aid these individuals in making a more educated determination regarding the presence of wolf within a canine.

DNA TESTING

Even with knowledge of morphology and behavior, there is still no positively conclusive way to determine a living wolf from a

wolfdog from a dog except through genetic testing, and such tests are expensive and not readily available to the public.

It is important to note, however, that tests focused solely on mitochondrial DNA (mtDNA) are inherently biased. Because mitochondria are inherited maternally—with none of the crossing over or independent assortment that occurs in nuclear DNA (nDNA)—all animals in a given matriarchal line will have the same mtDNA. Thus, mtDNA tests can only show whether an animal’s matriarchal line is “wolf” or “dog”; they cannot determine if an animal is a wolfdog with both “wolf” and “dog” genes. The only sure way to accurately determine if an animal is a wolf, wolfdog, or dog through genetic testing is to examine both mtDNA and nDNA markers—and possibly even Y chromosomal

markers in males, because the Y chromosome is inherited paternally and is consistent along the patriarchal line just as mtDNA is to the matriarchal line.

MYTH VS. FACT

In an effort to be as factual and comprehensive as possible, FLA consulted the following wildlife biologists and organizations to dispel some common myths about wolves and wolfdogs: Nick Federoff and Ron Nowak, authors of numerous peer-reviewed wolf articles and creators of the current wolf taxonomic system in use today; Monty Sloan of Wolf Park; and David Mech, Senior Research Biologist for the Department of the Interior and board member of the International Wolf Center. The following are some of the common myths about wolves and their factual corrections:

1. **MYTH: If the animal barks, it is not a wolf.** FACT: Wolves can emit a variety of sounds. Although wolves can learn to bark (Iljin, 1944), it is uncommon; wolves will never emit the “incessant barking” of a dog; rather they typically produce a huffing sound.
2. **MYTH: Wolves can have curly tails.** FACT: Wolves’ tails can be held at almost *any* angle or position, but their tails will never be curled over their backs like a Malamute or Chow Chow carries its tail.
3. **MYTH: Wolves have retractable toes.** FACT: Wolves’ toes are not retractable. However, wolves typically have larger paws and toes than dogs for more ease in navigating snow. In addition, wolves’ toes are much more pronounced (raised)
4. **MYTH: The wolf has a precaudal scent gland on the top of the tail near the base, identified by a dark patch of fur. The dog has no such gland.** FACT: Both wolves AND dogs have a precaudal scent gland (or residual mark) with coarser hair marking the spot a few inches from the base of the tail. Michael Fox (1971) claims that it is “demarked by [a] dark patch of hairs.” An article appearing in *Dog World* magazine had this to say: “There will be a precaudal gland, marked by a black spot of fur, on the top of the tail [in wolves], several inches from the body, but this is also present in dogs. Many people erroneously identify this scent gland as a major difference between wolves and dogs” (Marar, 1993).
5. **MYTH: If the ears are rounded and furred, it’s a wolf.** FACT: Wolves’ ears are rounded and furred, but they are not more rounded and/or more furred than all dogs’ ears. The ears of a Malamute or a Chow, for example, are more rounded than those of a wolf.
6. **MYTH: Wolves have a shallow chest in relation to a dog of the same size.** FACT: Wolves have deep, narrow, “keel-shaped” chests—not shallow chests—which allow them to more easily ‘plow’ through snow (Mech, 1971).
7. **MYTH: While dogs are either aggressive or friendly toward human strangers, wolves, by contrast, are either very shy or afraid when approached by strangers.** FACT: There is no way to differentiate
8. **MYTH: Wolves howl at the full moon.** FACT: Wolves use vocal sounds to communicate, and the moon has nothing to do with these vocalizations. Emergency sirens, on the other hand, can trigger howl sessions—in wolves, wolfdogs, and dogs.



Because dogs are domesticated wolves, their behavior is “watered down” wolf behavior.

between wolf and dog behavior in absolutes because all dog behavior is derived from the wolf. While all wolf behaviors may not be found in any given type of dog, all dogs can display various aspects of all wolf behaviors to some degree. The degree will vary depending upon the breed and the individual animal. In general, dogs have “watered down” wolf behaviors. Dogs are not only either friendly or aggressive; poorly socialized, abused, and neglected dogs can also be shy and/or fearful. According to an article in *Dog World* magazine, Akita Rescue Society of America evaluated 64 Akitas in rescue and found that all of “[t]he young dogs that were born and raised at [a] puppy mill were extremely fearful, shy and needed a great deal of

work” (Bouyet, 1992). In addition, wolves are extremely curious animals (Mech, 1971; Fox, 1971) and may show no fear of man through a deliberate socialization process, through a process called habituation, or through selective breeding for friendliness toward people (Ness, 2002). In other words, “the basics of behavior are the same for both animals” (Mech, 1991).

8. **MYTH: Wolves howl at the full moon.** FACT: Wolves use vocal sounds to communicate, and the moon has nothing to do with these vocalizations. Emergency sirens, on the other hand, can trigger howl sessions—in wolves, wolfdogs, and dogs.

WOLF IDENTIFICATION CRITERIA

The easiest way to organize criteria for identifying wolves is to isolate those characteristics specific to wolves from those that never occur in wolves. Because there are so many similarities between wolves and dogs, an evaluator attempting to identify a wolf must apply the identification criteria collectively; in other words, for an animal to be “identified” as a wolf using the following criteria, the animal **must exhibit each and every** trait in the Always category and it **must not exhibit any** of the traits in the Never category. (*Disclaimer: Although the criteria provided below are as comprehensive as possible, an animal that is NOT a pure wolf might also exhibit every trait listed in the Always category and might not exhibit any of the traits listed in the Never category. FLA assumes no liability for animals misidentified as wolves by anyone adopting the criteria set forth in this document.*)

ALWAYS

1. **HEAD:** Wolves have large, wedge-shaped heads, averaging 9”-11” long and 5”-6” wide (Mech, 1971) with no pronounced stop (the forehead area that slopes down to the nose) as in many dog breeds.
2. **EYES:** Wolves’ eyes are green, yellow or any shade of brown (though not dark brown).
3. **EARS:** Wolves’ ears are well-furred, nicely rounded and are set high atop the head. *Note: see comments in the myth section (p. 2).*
4. **CHEST:** Wolves have a very deep and narrow, keel-shaped chest like the deep but narrow hull of a sailboat (Mech, 1971). This is part of the reason their legs are so close together when looking at them from the front. The purpose of such a chest is ease in maneuvering/pushing through snow.
5. **LEGS:** Wolves’ legs are longer in relation to their bodies than those of a dog. In addition, the “forelimbs seem pressed into the chest, with elbows turned inward and paws turned outward,” allowing both the “fore and hind legs on the same side to swing in the same line” (Iljin, 1944; Mech 1971).
6. **FEET:** Wolves’ feet are generally larger than dogs’ and are shaped like a pentagon, leaving a pentagonal print averaging 4½”-5” in length and width (Fig. 1).
7. **TOES:** Wolves have five toes on the front legs (one toe being the dew claw further up the inside of the foreleg) and four toes on the rear (no dew claws are present on the rear legs—a trait found in some dog breeds). Wolves’ toes are bigger and more pronounced than most dogs’. With the exception of Arctic wolves, which can have opaque nails, all wolves have black toe nails. (Contrary to many claims, Arctics are uncommon in captivity.)
8. **GAIT:** When trotting or walking, wolves usually place each hind print in their front prints, leaving a set of prints that are linear, while the dog, on the other hand, generally places its “hindlegs between its forelegs and leave[s] an undulating sinusoid-like trail” (Iljin, 1944; Mech 1971); however, Iljin (1944) clarifies that he has “observed some working dogs ... with an almost typical wolf-gait as a consequence of a wrong development of the leg set” (*i.e.*, cow hock) (Fig. 2).
9. **TAIL:** All wolves have a precaudal scent gland, identified by very coarse (darker or lighter) hairs; this is NOT something found only in wolves, however. All dogs have a precaudal scent gland or mark. Wolves’ tails are set low on the rump. *Note: see comments in the myth section (p. 2).*
10. **COAT:** Wolves’ coats are coarse and fairly long, being thinner in the summer and thicker in the winter because of the dense undercoat and longer guard hairs.
11. **AT BIRTH:** ALL wolves are born dark, even the Arctic wolves. They lighten gradually and show no distinguishing coloration for a couple of weeks.
12. **BREEDING SEASON:** Wolves enter breeding season between January and April, giving birth between late March and June, “depending upon the latitude, with the animals in the highest latitudes generally having the latest season” (Mech, 1971).

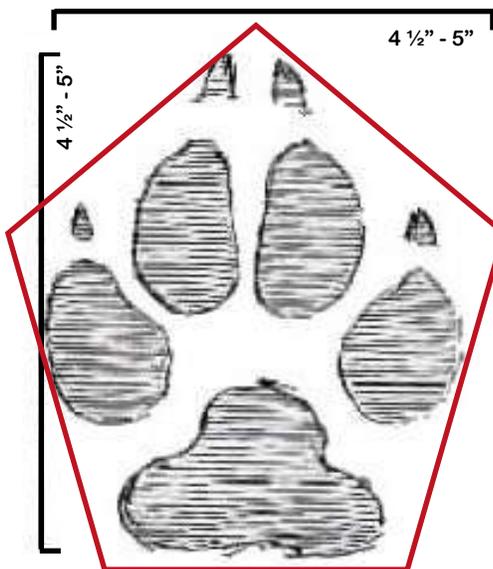


FIGURE 1: Size of typical pentagonal wolf print (to scale but smaller than actual size.)

NEVER

1. Wolves will NEVER have a pronounced stop or a blocky (or squared) head.
2. Wolves will NEVER have large, German-Shepherd-type or unfurred ears.
3. Wolves will NEVER be barrel-chested.
4. Wolves will NEVER have short limbs in relation to their bodies or elbows that angle out, away from the chest.
5. Wolves will NEVER have small or pointed feet.
6. Wolves will NEVER have rear dew claws or white, pink or opaque (except for Arctics) nails.
7. Wolves will NEVER produce the same sort of tracks as a dog while trotting or walking. (NOTE: The tracks produced while running are similar in both animals.)
8. Wolves will NEVER have a tail that touches the ground or one that curls over the back like a Malamute or Chow Chow.
9. Wolves will NEVER have a single (*i.e.*, no underfur), short, spotted, or long and silky coat.
10. Wolves will NEVER be born light or with distinct, marked coloration/patterns.
11. Wolves will NEVER show sharp delineation in color or pattern at any time in their lives (*i.e.*, the colors BLEND into each other).
12. Wolves will NEVER come into season or be born in the summer or the fall.
13. Wolves will NEVER have a pink or liver-colored nose.
14. Wolves will NEVER have blue or black eyes.



FIGURE 2: Typical wolf gait (left) & dog gait (right) while walking and/or trotting. Figure is adapted from Iljin (1944) and Taenzer (1923).

characteristics as wolves, especially higher content wolfdogs¹ and those with recent wolf inheritance (as designated by the filial or “F” number²).

As mentioned previously, the ONLY conclusive way to distinguish a living *wolf* from a *dog* is through genetic testing of the animal’s mtDNA and nDNA (because of the reasons discussed on p. 1). Skull morphometric analysis—taking measurements of the skull of the animal to distinguish the orbital angle, the size and shape of the tympanic bullae, the size and length of the skull, the volume of the cranial capsule, and the border line of the palate (Iljin, 1944; Mech, 1971; Federoff, 2002)—can also be done but it requires the death of the animal. Both of these methods also require time and money. Phenotyp-

ing can be done quickly in the field and can yield fairly accurate results when performed by an experienced and knowledgeable individual.

FOOTNOTES

- 1 Because of the problems inherent in ascertaining the correct percentage of “wolf genes” in wolfdogs, many wolfdog owners have begun to refer to their animals in general terms as being low content (5%-39%), mid content (40%-79%) or high content (80%-99%). These content ranges allow for more leeway in determining the “wolfiness” or “dogginess” of an animal.
- 2 The filial number refers to the number of generations a wolfdog is removed from a pure wolf. For example, an F1 wolfdog has one parent who is a pure wolf, while an F2 refers to an animal that has at least one grandparent who is a pure wolf.

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Again, while the above items may help in identifying pure wolves, they MUST be applied collectively and the evaluator MUST take into consideration that some dogs and wolfdogs may exhibit some of the same physical

Phenotyping: Physical Characteristics of Wolves & Dogs

By Kim Miles

As mentioned earlier, phenotyping canines is the science (or art) of determining the breed or type of canine based on both its behavior and its looks. Because phenotyping is not an exact science, it can sometimes be difficult to perform with accuracy. However, if you read through this pamphlet, paying particular attention to both wolf morphology (looks) and behavior, you will hopefully become more knowledgeable of wolves (as opposed to dogs) and their physical attributes.

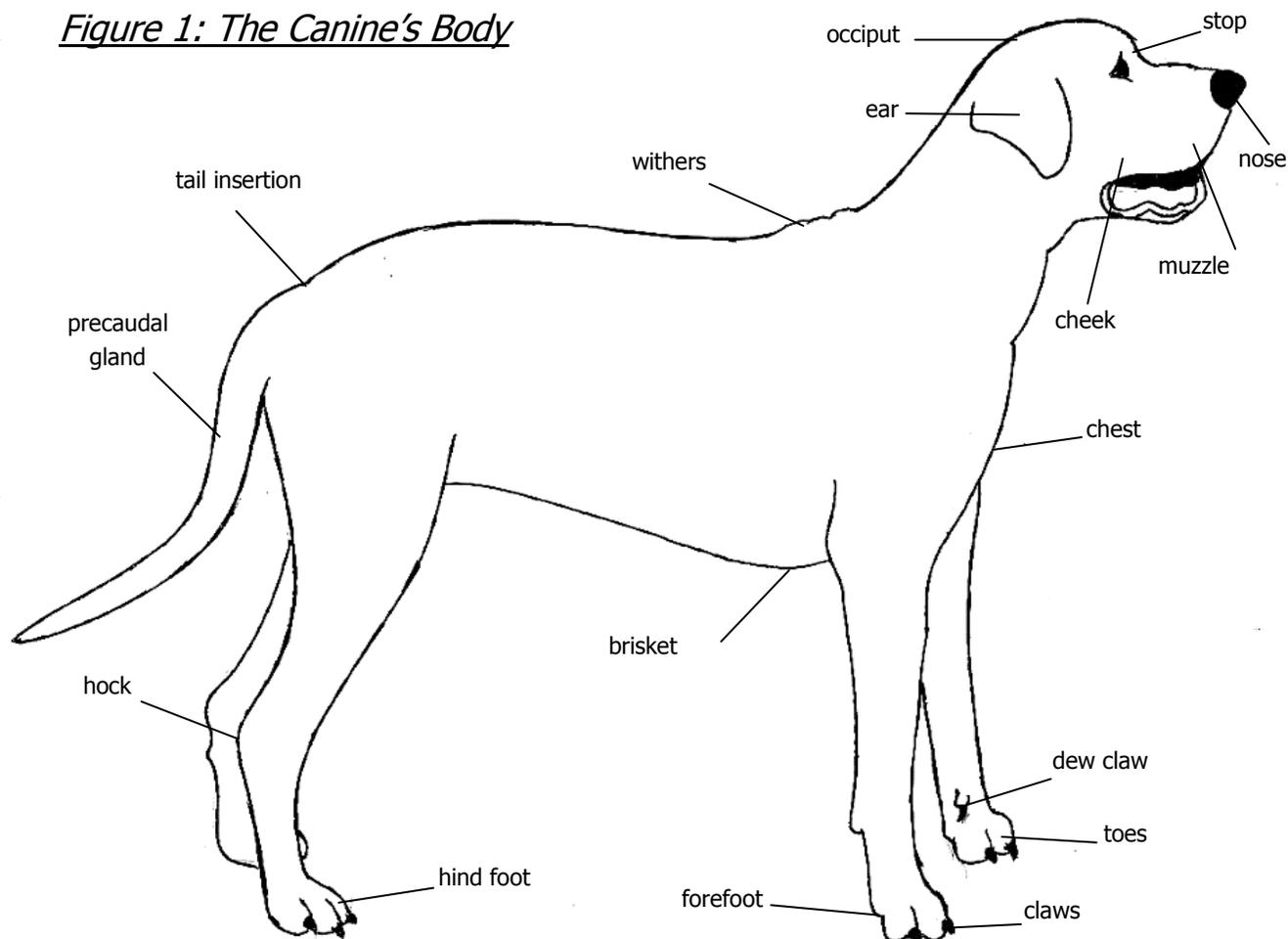
On the following two pages is a table identifying the morphological traits or characteristics of wolves, Malamutes, German Shepherds, and Siberian Huskies—the three most common dog breeds in wolfdogs. Figure 1 below identifies important parts of a canine that should prove helpful when reviewing the table.

Following the table are photos of the three predom-

inate dog breeds found in wolfdogs along with a couple photos of black Belgian Tervurens—a breed not commonly found in wolfdogs, but one that is often confused with wolfdogs. An additional page of photos shows the most common wolf colors: black phase and agouti. An interesting note about black phase wolves (and some wolfdogs) is that they do not stay black. Instead, they typically phase out to a mottled gray and then white with age. Canines that remain black as they age are not pure wolves.

Note: We recommend that you study the chart on pp. 6-7 and the photos on pp. 8-10 and then test your skills by guessing the contents of the animals in the "Guessing Game." The answers and a clarification of a few dog or wolf phenotypic traits of each animal are provided on p. 11.

Figure 1: The Canine's Body



TRAITS	WOLF	WOLFDOG
WEIGHT	Males 95-100#, rarely exceeding 120#. Females 80-85#, rarely exceeding 100#. Largest male on record was 175# from southeastern Alaska.	Males 80-120#. Females 60-100#. As little as 50# and much as 150# possible, depending mostly on dog type & some on wolf type: smaller Eastern Timber or larger Tundra wolves.
HEIGHT	Average 26" - 32" at the shoulder.	Between 24" - 34", with most averaging 27" - 31".
LENGTH	From nose to tip of tail: male 5'-6.5'; female 4.5'-6'.	Usually the same as the wolf.
COAT COLOR	White, through cream-colored, buff, tawny, reddish, brownish, and gray to black. No sharp contrasts. The agouti grays tend to dominate, with other colors tending to increase the higher the latitude. Wolves are never born white and tend to lighten with age.	Same as the wolf—from white to black. However, most are usually a grizzled sable or gray, called agouti, which can be softly blended (wolfier) or starkly contrasting, with markings similar to Sibes, Mals or GSDs, depending upon which and how much dog is in the mix. Coat usually lightens with age.
COAT LENGTH & TEXTURE	Fine yet dense, light undercoat in winter; guard hair is stiff and coarse. Little to no undercoat in summer.	Double coat. Fine yet dense, light undercoat in winter; guard hair is usually stiff and coarse. Silky fur is uncommon.
SHEDDING (MOLT)	Annually (late spring). New coat is usually lighter.	Annually (late spring) or biannually (late spring and late summer/early fall). New coat may be lighter.
FACE/MASK	Blended; neither sharply contrasted nor white. Never a widow's peak.	Blended (wolf) or sharply contrasting mask (dog) or, less common, no mask; the widow's peak is a dog trait.
EYES	Pupils distinguished from iris. Eyes are almond shaped, ringed in black and obliquely set, with the corner lines intersecting toward the nose. They are any shade of brown (not dark brown/black), amber, yellow, or green. Never blue.	Pupils distinguished from iris. Eyes usually almond-shaped and obliquely set, with the corner lines intersecting toward the nose. Round, droopy, black or dark brown eyes are uncommon and indicate dog. Amber/yellow indicate of wolf or Mal; blue indicate Husky.
EARS	Small to medium. Moderately set. Pricked, slightly rounded & heavily furred inside. Tips are not pointed.	Small to medium usually. Pricked (rounded like a wolf or pointed like a dog) & slightly to heavily furred inside.
SKULL	Wedge-shaped. (1) Orbital angle—angle between a line drawn through the upper and lower edges of eye socket and the zygomatic bullae—two domelike protrusions on base of skull just behind sockets of lower jaw—are large, convex & spherical; <u>herd</u> —wedge shaped. Wolves have a MUCH larger, literally pie-shaped or wedge-shaped head than dogs, reaching 10.5"	
STOP	Not pronounced, in part because of acute orbital angle.	Usually not pronounced because of orbital angle.
NOSE	Black, with longer & wider snout than most dogs.	Usually black. Pink usually indicates Husky or white GSD.
TEETH	Scissor bite; 42 teeth. Larger canines than dogs, reaching 2 1/4" (including the portion embedded in the jaw).	Scissor bite; 42 teeth (same as a wolf and a dog). Tooth size can be as large as a wolf or smaller, like a dog.
TAIL	Hangs straight; never curls over back. Used extensively in various positions to communicate. Low set off rump.	Hangs straight; never curls over and onto the back. Used extensively in varying positions to communicate. Low set.
PRECAUDAL GLAND	Located about 3" below the start of the tail and surrounded by stiff, coarse hairs that are usually tipped with black in the wolf and with either white or black in the wolfdog. Noticeable in both wolves and wolfdogs.	
PAWS/FOOT	Front paws angle out and are 4"x4" to 5"x5". Four very pronounced toes in back and five in front (one, a dew claw). No rear dew claws. Well furred between toes.	Five toes on the front (one being a dew claw). Should have four toes on back, with no rear dew claws, but much depends on the dog breed in the wolfdog. Well furred between toes.
NAILS	Non-retracting (not cat-like) and black.	Non-retracting; medium to long; black or opaque usually.
CHEST (Brisket)	Very deep, very narrow, and keel-shaped. Extends slightly forward of the shoulder.	Usually deep, moderate to narrow, and keel-shaped. May or may not extend forward. Broader with age and weight gain.
SHOULDERS, LEGS, ELBOWS & GAIT	Shoulders close together. Elbows angled into chest, with paws turned out, allowing both fore and hind legs on the same side to swing in the same line (i.e., the rear paw is placed in track of front paw). Front legs closely set. Rear usually cow hocked; slight bend at hock.	Shoulders close together. Elbows usually pressed into the chest, with paws turned out. From front, legs closely to moderately spaced; not widely spaced. Rear legs can be cow hocked; usually slight bend at hock.
ESTRUS	Annually in the spring; begins at around 2-3 years old.	Usually annual (spring or fall); biannual if low wolf content.

ALASKAN MALAMUTE	SIBERIAN HUSKY	GERMAN SHEPHERD
Males 85-125#. Females 75-115#.	Males 45-60#. Females 35-50#.	Males 80-95#. Females 75-90#.
Males 25-28". Females 23-26".	Males 21-23.5". Females 20-22".	Males 24-26". Females 22-24".
Similar to wolves.	Shorter than the wolf.	Longer tail length than wolves.
White always on underbody, parts of legs, feet and masked markings. Pronounced widow's peak. Light gray through intermediate shadings, to black; gold through shades of red to liver.	White, white with saddle, silver and white, sable, agouti (banded coat), gray, wolf gray, black, mostly black, light red, and copper. Commonly has variety of masks.	Solid black or gray, tan/gold with black saddle, sable are most common. Blues, livers, albinos and whites are uncommon or usually considered disqualifications.
Short to medium length. Thick, coarse guard coat; dense, oily, & wooly undercoat.	Medium length. Outer coat straight and smooth against body. Undercoat soft and dense.	Medium length; longer & denser on neck. Straight and hard with dense, thick undercoat.
Annually (summer).	Annually (summer).	No shedding season.
Slight furrow between the eyes. Distinct widow's peak. Large, bulky muzzle.	Markings on head/face are common: widow's peaks to a variety of masks. Some masks are very striking and not found in any other breed.	Muzzle and ears tend to be darker than the face, but no obvious mask.
Eyes are obliquely set and are yellow to brown, ringed in black in all but the reds. Reds tend to have brown pigmentation around the eyes No blue eyes.	Almond shaped. Brown, blue, bi-eyed or parti-colored.	Almond shaped. Somewhat obliquely set. Eyes are as dark as possible.
Small to medium. Triangular, slightly rounded tips. Offset (i.e., they're far apart on the head).	Medium. Triangular and pointed. High set (i.e., close together on the head).	Medium to large. Moderately pointed to rounded tips. Not furred. Offset.
line drawn across top of skull. Wolves have more acute orbital angle: 40-45 degrees. Dogs have wider angle: 53-60 degrees. (2) In wolves, the tym- in dogs, smaller, more compressed and slightly crumpled. (<u>Malamute</u> —broad skull; round to flat cheeks. <u>Husky</u> —slightly rounded. <u>German Shep-</u> in length on average.)		
Slightly to moderately pronounced stop.	Well defined stop.	Slightly to moderately pronounced; not abrupt.
Black in all but the reds, which can be brown.	Black nose in grays, tans, & blacks. Liver nose in copper dogs to pink in white dogs.	Predominately black.
Scissor bite; 42 teeth. Broad upper and lower jaws with large teeth for a dog.	Scissor bite; 42 teeth. Moderate sized teeth (smaller than a Malamute or Shepherd).	Scissor bite; 42 teeth. Large teeth for a dog (but nowhere near as large as a wolf).
Well furred and plume shaped. Is NOT fox brush. Moderately high set. Carried over back.	Well furred and fox-brush shape. Set somewhat low and carried over back in a sickle curve.	Bushy and long. Set somewhat low. Slight saber curve. Never plumed or curled forward.
Somewhat noticeable, with coarse hairs tipped in black or white.	Somewhat noticeable, with coarse hairs tipped in black or white.	Somewhat noticeable, with coarse hairs usual-ly tipped in black.
Like snowshoes; large and compact. Well furred between toes. No rear dew claws.	Oval in shape; medium & compact in size. Well furred between toes. Paws not long, splayed, or large; not turned in or out. No rear dew claws.	Short & compact. Rear dew claws possible but uncommon.
Short; black, white or opaque.	Short; black, white or opaque.	Short and black.
Broad, deep and keel-shaped. Extends well forward of the shoulder, bulging.	Deep, moderately narrow and keel-shaped. Does not extend forward of shoulder.	Deep, moderately wide, and keel-shaped. Ex-tends forward of the shoulder.
Shoulders moderately sloping, heavily boned, and not straight. Front legs widely spaced apart. Rear legs track movement of front legs and have dew claws. Moderate bend in hock.	Shoulders set tight to body; not straight or loose. Elbows not out. Paws neither in nor out. Front legs slightly to moderately spaced. Rear dew claws possible but uncommon. Moderate bend in hock.	Shoulder blades set moderately tight to body & obliquely angled. Forelegs straight. Broad thigh. Front legs moderately spaced. Very pronounced bend at hock. Rear dew claws possible but uncommon.
Estrus occurs within the first year, with two estrus periods occurring annually.		

German Shepherd



Alaskan Malamute



Belgian Tervuren (Black)



Siberian Husky



Gray Wolves (Black Phase)



Notice (A) wedge-shaped head approx. 11" long & blowing coat; (B) large feet, pronounced toes & cow-hock rear; (C) lack of stop, oblique angle of eyes (D) tracking pattern of wolf (see p. 4, Fig. 2); (E-G) older black phase wolves phasing out (*i.e.*, turning white); & (F) black claws & furred ears.



Gray Wolves (Agouti)



Guessing Game

A collage of photos of various types of canines are provided below. Armed with the information provided in this phenotyping pamphlet, try to guess whether the animal is a dog, wolfdog or wolf. If you think the animal is a wolfdog, try to determine the content (filial number, percentage, breed, etc.). (Answers are on p. 11.)



Phenotyping: How Well Did You Do?

By Kim Miles

Earlier pages of this pamphlet established which traits/characteristics are more common to wolves, and which are more consistent with Malamutes, German Shepherds, and Siberian Huskies. In addition, photos were provided to better identify the characteristics in the chart on pp. 6-7. The previous page, in particular, should have tested your skills in phenotyping or distinguishing between all four types of canines based upon nothing more than their physical characteristics.

Below are the answers to the “Guessing Game” featured on the previous page. Actual percentages are included only for legitimately registered animals (*i.e.*, registered with one of the three reputable wolfdog registries: Iowolfer; United States of America Wolfdog Association (USAWA); or Lupine AWAREness. Only the latter registry—Lupine AWAREness—is still operational, but older animals may also have registry papers from Iowolfer or USAWA.

With all of the dogs that are passed off as “wolf hybrids,” many people unaccustomed to dealing with wolfdogs on a regular basis may erroneously determine that an animal is a wolfdog simply because it may look “wolfy” in their rather limited experience or contact with actual wolves and wolfdogs. Many of these people forget or do not know that agouti Huskies, Inuit dogs, and a host of other dogs breeds (especially northern-breed dogs) and mixes that can often yield a

(Continued on page 12)

Answers to “Guessing Game”

1. Mid-content wolfdog—line bred 47% F6 with German Shepherd as predominant dog breed. *Notice the close-set front legs because elbows are tucked in (wolf), but the small head and unfurred, large ears (dog).*
2. Mid-content wolfdog—62% F2 with German Shepherd as predominant dog breed. *Notice the coloring (German Shepherd) and curled tail (Malamute), but the light eyes (wolf) minus the oblique angle (dog).*
3. Mid-content wolfdog—F2 with Siberian Husky as predominant dog breed. *Notice the slightly oblique angle to the eyes (wolf) but the unfurred, high set, prick ears (Husky) and wider front leg set (dog).*
4. High-content wolfdog—Great Pyrenees is the dog breed. *Notice the wolf conformation—tight set front legs with elbows tucked and cow-hocked rear legs—along with obliquely set, light eyes (wolf). Dog traits are found in the coloration of this young animal (solid white in a young animal is a dog trait), the offset, unfurred, prick ears and rear dew claws (though you may see them in the photo).*
5. AKC-registered Siberian Husky (agouti type). *Notice the high set prick ears, the short/blunt nose, the lack of an oblique angle to the eyes, the sharp delineation of color, and the pronounced stop.*
6. AKC-registered Siberian Husky. *Notice the high set prick ears, the sharp delineation of color (no smooth blending of colors from one to another), and pronounced mask.*
7. High-content wolfdog—92% F1. *Notice the wolfy conformation—tight set front legs, cow hocked rear legs, wedge-shaped head—along with the light, obliquely angled eyes and the smooth blending of colors. The ears are large, somewhat offset, and unfurred (dog).*
8. Mid-content wolfdog—F3 with Malamute & Siberian Husky predominately (daughter to #3 & 14). *Notice sharper delineation of coat color than wolf, smaller head, unfurred ears, shorter and smaller bone structure (dog).*
9. Pure wolf, from Monty Sloan at Wolf Park. *Notice the wedge-shaped head, the oblique eye angle, the yellow eyes, no stop, and moderately set, slightly rounded, but heavily furred ears. Smooth blending of colors.*
10. Mid-content wolfdog—true F1 50% wolf/50% Malamute (son to #15). *Notice the smooth blending of colors, the lack of a stop, and the somewhat oblique angle of the eye (wolf) but offset ears and gray/white coat (dog).*
11. Pure wolf. *Notice black is phasing out to white (not a dog trait), moderately set, rounded ears, oblique angle of the light-colored eyes, and close-set front legs.*
12. AKC-registered Malamute *Notice sharp delineation of coat color, pronounced mask, round eyes, and offset ears.*
13. AKC-registered (black) German Shepherd. *Notice large, unfurred ears, slope of the back, blocky head/snout.*
14. Mid-content wolfdog—72% F3 with Siberian Husky, Malamute, and German Shepherd (son to #2). *Notice the lightly furred prick ears and curl of tail (dog) but wedge-shaped head and oblique angle of light-colored eyes (wolf).*
15. Pure wolf (Arctic) *Notice the more heavily furred body but skinny, unfurred legs, lack of stop, and furred ears.*
16. AKC registered Siberian Husky. *Notice sharp delineation of color, defined facial mask, and unfurred, prick ears.*



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Florida's Responsible Voice for the Wolfdog

Florida Lupine Association, Inc. (FLA), was created in 1999 as a result of the rising influx of wolfdogs into rescue. A few Florida residents specializing in wolf/wolfdog rescue realized that most of these owners were relinquishing their animals because they were not properly educated about them or their needs. Therefore, we created FLA to educate owners in the hopes that they could successfully home the animals in their care. In addition to working with current wolfdog owners, we try educating those interested in purchasing wolfdogs and networking with various animal agencies. Some of the FLA directors have been working with wolves and wolfdogs of various backgrounds for over 15 years.

pseudo-wolffy-looking animal and, yet, still be nothing more than a 100% bona fide dog. The problem of inaccurately identifying dogs as wolves and wolfdogs is not isolated to any group or locale. It is a problem encompassing all of North America. In 2001, animal control officers in Texas confiscated and destroyed a man's champion Malamute because a neighbor had complained about the "wolf" next door (wolfdogs were illegal to own in his county). The case was settled out of court.

Approximately one year after the "Wolf-dog Cross Act" banning wolfdogs was enacted in Michigan in 2000, an overzealous animal control officer in Oakland County confiscated an owner's mixed breed dog. The case went to court and was thrown out. The dog was eventually returned to its owner. The misidentification cost Oakland County an extensive amount of money because, in addition to being responsible for its own court fees, the judge ordered the county

to reimburse the owner's expenses.

In August of 2002, Dwayne Gauthier lost his pet Siberian Husky due to a similar erroneous determination. Three weeks after his dog, Kiley, had escaped from his yard, Gauthier received word that someone had found her a week earlier and had turned her over to the town's animal control. When Gauthier tried claiming his dog, he learned that animal control had declared it a wolf and had contacted Alberta Environment officers. After searching Kiley for a tag or tattoo and finding none, the environment officers concurred with animal control and decided that, as a wolf, she should be 'released' back into the wild. Alberta Natural Resource Ser-

vices Officer Stuart Polege explained in a statement to the press that Kiley was mistakenly released into the wild approximately 15 miles from Edson, Alberta, Canada. Gauthier was still looking for Kiley a month later.

Fewer mistakes might be made pertaining to the misidentification of wolves and wolfdogs if those who specialize in these animals—*experienced* wolfdog owners, fish and wildlife personnel, wolf sanctuary owners, and staff of wolf and wolfdog organizations—are contacted to determine if, in their expert opinion, they think that an animal is or is not a wolf or wolfdog.

(NOTE: Not all sanctuary owners have the ability to phenotype accurately, so it is important to be selective, choosing someone who has vast experience with both wolves and wolfdogs consisting of a variety of various dog breeds.)



Wildlife officers "returned" Kiley to the wild, thinking that she was a wolf; she was a pet Siberian Husky.