

Wolf Behavior Pictorial Guide



By Tammy Stewart

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For copies, contact the Volunteer Coordinator at the Houston Zoo (713/284-1327) or Dr. Jane Packard at Texas A&M University (409/845-5777 or jpackard@unix.tamu.edu).

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Introduction

Wolf behavior is a very interesting thing to study. Wolves are pack animals, that is, they are family oriented like humans. They interact with each other, they have rules, and parents are most often the leaders. Watching the dual nature of caring and competition within wolf families stimulates us to think about our relations with the dogs we adopt into human families.

The communication between the pack members is in some ways similar to the communication in a human family. Because of the observations and studies of ecologists, biologists, animal behaviorists, and other interested individuals, we now have a better understanding of how to read the actions of wolves and translate these into a language we can understand. As our understanding of wolves grows, our fear begins to diminish, and we begin to respect them and their right to be here. We also learn what is similar and what is different between dogs and wolves. We can better appreciate why dogs can live within human families but it is highly problematic to expect wolves to make good pets.

The key to understanding wolves is observation, and it is nice to have some insight into what it is you are observing. I hope that this pictorial guide will give some aid in understanding what a wolf is saying without words.

Wolf behavior can be broken down into seven general categories, each of those having several subcategories. Below is a table of behavioral categories. The purpose of this guide is to give you, the observer, pictures to put with the words while you are observing the action, and then be able to translate what you have seen into a communicable language.

<u>Activity Category</u>	<u>Code for Intensity</u>	<u>Word to Describe Typical Actions</u>
Activity	A1 (Low)	Frozen inactivity: lying, sitting or standing w/o changes in angle of neck
	A2 (Med)	Neck movement: moderate activity with changes in neck; walking
	A3 (High)	Directional rapid movement with cardiovascular activity, such as trotting galloping, running
Wellness	W-	Negative wellness: apathetic, disgust-mouth, ears droop, glazed eyes, flinch, foot dragging, head hanging, limp leg, lying growl, disheveled, stiff, stumble , lick wound, lie in shelter, vomit
	W	Neutral wellness: absence of W- and W+ indicators
	W+	Positive wellness: ears-pricked, bounce, grin, play, trot , tail wag
Humble-ness	H1	Cocky, high posture: low humbleness is indicated by: pricked ears , running the fence, flexed-leg-urination , horizontal tail , high tail, pursed lips, raised-leg urination , scrape-back
	H2	Neutral is indicated by: ears to side , hanging tail , shoulder to ground, squat-urinate, stand-urinate, wait
	H3	High humbleness is indicated by: brows-together, ears back , long-mouth-line, tuck tail
Proximity	P1	Brief friendly behaviors as wolves come together: approach , greet , lick, lie near , pass
	P2	Prolonged friendly behaviors that keep wolves in contact without the bounciness of play: chorus howl , rally , stand near
	P3	Play: bounce, bow, carry-object, bounce-follow, gallop, look-over-shoulder, tail-wag, tug, wrestle-play

Sexual	S1	Bonding throughout the year is indicated by: follow, mark-over or double-mark, nuzzle, parallel walk
	S2	Courtship prior to full receptivity: chin rest, dance, dart, ears together , head flick, hug, sniff rear, paw, pose, reject, solicit, T-formation, wrestle
	S3	Copulatory interest near ovulation is indicated by: dismount, escorting, ejaculatory contraction, mount rear , mount front, mount side, tail avert , thrust, tie
Flight/ Fight	F1	Flight (escape) includes actions that cut of action, or distance the wolf from another: avert-gaze, avoid, crawl, head down, high-posture-retreat, ignore, leave, run, slink, refuge
	F2	Defensive behaviors indicative of conflict between flight/fight include: cry, crouch, gape, growl, grimace, hackles, refuge, run, snap, snarl , tuck tail, whimper, whirl
	F3	Assertive attack includes: assault, high-posture-approach, bark, circle, chase, face-off, fence, fight, growl, holding bite, interrupt, knock-down, lunge, jaw-spar, nip, pin, pursue, sidle, stand high, wrestle fight
Care	C1	Soliciting care: whimper, beg, lick-up , paw
	C2	Ritualized actions of care-givers and care-receivers, which have a function of setting boundaries and appeasement: groveling, over-the-muzzle bite, roll
	C3	Giving care: carry, regurgitate, lick inguinal

Activity:

The activity category is broken down into three subcategories: A1 (low), A2 (med), or A3 (high).

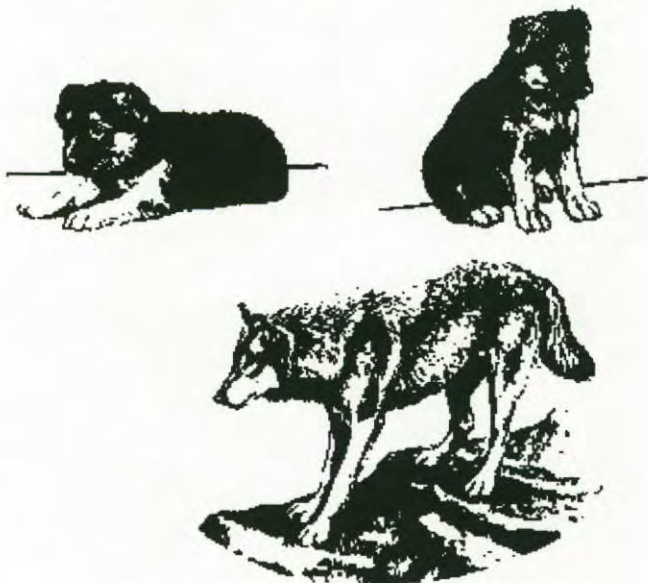
A1 is frozen inactivity. There is no movement of the neck. If the wolf had a radio collar, for tracking in the wild, then there would be no fluctuation in the signal. Field researchers use the fluctuating signal caused by movements of the neck and radio antenna as an indication of activity of wild wolves.

A2 is neck movement. There is moderate movement as in walking and low playing. Just general moving of only the head falls into this category as well.

A3 is directional rapid movement. This category includes a fast trot, running, heavy play, etc. This type of activity would suggest good cardiovascular conditioning.

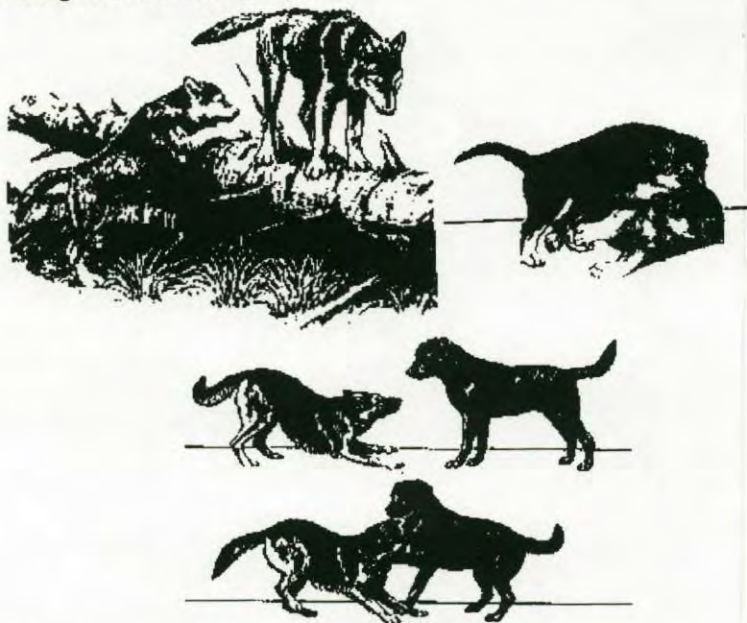
A1: Low Activity

No change in angle of neck; steady signal on radio collar; posture may be lying, sitting or standing.



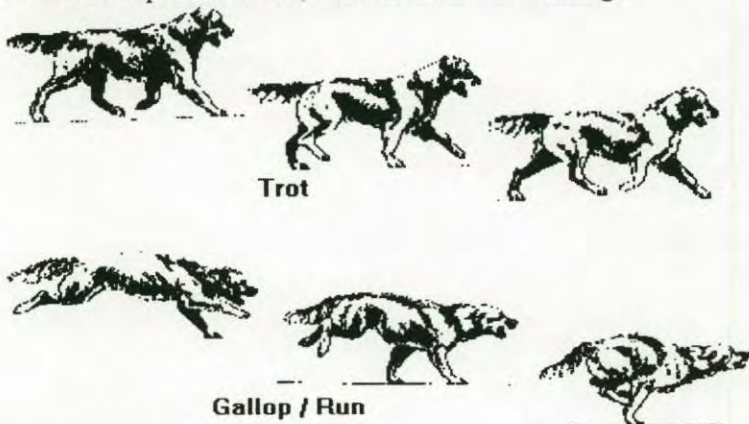
A2: Moderate Intensity Activity

Changing orientation of neck; fluctuating signal from radio collar; doesn't matter whether the wolf is exploring, socializing or foraging, all may occur during intermediate activity.



A3: High Intensity Activity

Directional rapid movement; cardiovascular conditioning.



Wellness:

The wellness category cannot really be demonstrated through pictures. Wellness means that the animal seems in overall good health. This is a judgment call on the part of the observer. The W- is usually an animal that obviously looks ill. The eyes are glazed, the tail hangs, the ears are limp at the side. The animal may be stiff or lethargic and usually wants to remain undisturbed. W indicates an animal that looks to be in overall good health. The animal is active, eating, and seems to be feeling fine. W+ animals are, as the saying goes, "bright eyed and bushy tailed". That is, they are bouncy, playful, ears pricked forward, tail wagging, etc.

Humbleness:

Humbleness is a good indicator of self-esteem and stature in the pack. It could also be called a "cockiness" scale. An alpha (leader) would be more likely to be less humble, therefore H1. While, a more submissive dog would be more humble, H3. More self-secure, confident animals are less humble and display this through their actions and appearance.

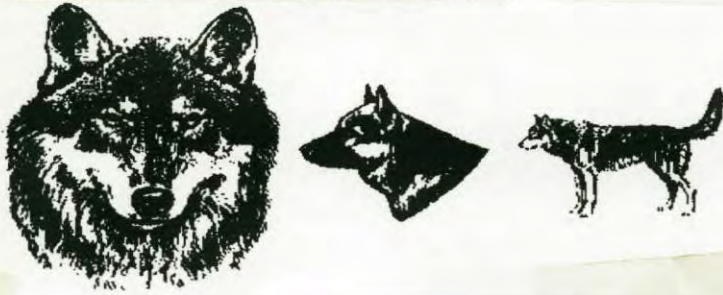
The ears are the main indicator, but the tail must also be observed in order to make an accurate assessment.

H1, low humbleness, the ears are pricked forward. The tail is also an indicator, and it is usually raised above the horizontal.

H2, moderate humbleness, the ears are to the side, and the tail is below horizontal, but not tucked.

H3, high humbleness, the ears are laid back and the tail is tucked between the legs. If the ears and tail contradict each other, then the ears are the predominant indicator.

H1: Low Humbleness "Cocky"



H2: Moderate Humbleness



H3: High Humbleness



Proximity:

Proximity is interaction between wolves. The interaction can be brief as in the P1 category, prolonged as in P2, or extended, such as play in P3.

P1 interaction consists of many possibilities. One wolf approaching another, brief nose touches, inguinal sniffing, greeting and smelling around the head area of another wolf, are all possible low intensity proximity interactions.

P2 interactions are more prolonged with moderate intensity. There is, however, no role switching as is seen in play. Howling, or coming together as a group (rallying) are examples of P2.

P3 is usually play activities; these are extended interactions often with role switching; for example, one wolf may turn and invite a chase from another. Bouncing, stalking, play biting, grabbing, etc. are included in this category.

The pictures below and the following pages illustrate examples of the three levels of intensity for proximity interactions.

P1: Low Intensity Proximity

Brief; come closer tentatively as between strangers



Nose Touch



Sniff-Inguinal



Stand



Approach



Greet



Stand



Greet

Stand

P2: Moderate Intensity Proximity

Prolonged interaction of moderate intensity; no role switching



Chorus Howl



Rally

P3: High Intensity Proximity

Play; high intensity; seek to maintain interaction; switch roles; tail wagging, grinning



Grab

Block

Ride-up



Bow



Stalk



Bounce-Gallop



Bounce-Follow



Roll

Mouth

Sexual:

The sexual interactions change and progress with the breeding season in February and March. S1, low sexual behavior, indicates bonding throughout the year. The pair has bonded and their actions indicate this to the observer. Indicators of S1 include, the male closely following the female around, walking together, and nuzzling. Perhaps the most important and most interesting is the double-mark or mark-over. This is not indicated well in the picture, but I was unable to locate a better illustration. The mark-over is when one of the pair urinates in an area and the mate goes over and marks or urinates over the spot where the first one had gone. This is a message to other wolves and to us that these two are a pair. In many ways, the double-mark or mark-over is much like a wedding band between a male and female wolf. The mark-over tells rivals that the other wolf belongs to him/her and to stay away.

S2 is courtship; this takes place just before the female is actually ready to breed. They are showing great interest in each other without actually following through with their interest. The T-formation is where one of the pair is facing one direction and its mate approaches at a 90° angle to form a "T". Quite often he/she will rest his/her chin on the other's back. At this time, the hormones are preparing the females body for ovulation. Other indicators of S2 are illustrated on the next page.

S3 is the actual sexual interaction. Copulation takes place near the time of ovulation. The male approaches the rear of the female, sniffs, and if the female is ready she will avert her tail to one side to give the male easier access. The male may try to mount at her side or from other directions before actually getting it right and the two becoming tied.

S1: Low Intensity Sexual

Bonding throughout the year



Follow



Parallel Walk



Nuzzle



Double-mark

S2: Moderate Intensity Sexual

Courtship prior to full receptivity



T-Formation



Ears Together Pose
High Stance



Ears Together Reject



Ears Together Rub Head



Wrestle



Bounce-follow Dart



Bow



Dance

S3: High Intensity Sexual

Copulation near the time of ovulation



Sniff Rear Tail Avert



Side Mount Tail Avert



**Mount-rear Pelvic Thrust
Lordosis Stance**



Tie

Flight / Fight:

The flight / fight category varies from F1 being flight to F2 being a combination of fighting and fleeing conflict, then F3 being actual fighting. For the flight / fight category, think of a gradient with more flight (F1) on one end to more fight (F3) on the other end. In between may be a rich variety of mixed signals (F2).

These behaviors are all an indication of activity of the adrenal system (alarm). Raised hackles are a good indication of activity of the adrenal system.

In F1 there is very low probability of an actual bite, and injury is unlikely. One wolf shows aggression and the other moves to avoid the conflict.

F2 is the gray area. The wolves alternate fighting and fleeing. Injury is unlikely, but the fight will escalate if one can not escape. Snarling is in this subcategory. Snarling can be broken down into its own subcategories of closed or open-mouthed. Open-mouthed snarling is much more likely to result in a bite. Note that these are all degrees of humbleness intermixed with the degree that the mouth is open in a snarl. A wolf is more likely to escalate a conflict if its ears are forward. However, whether it bites or not when it escalates can sometimes be predicted by the openness of the mouth. These signals are very subtle and mood can change rapidly as an individual assesses the counter signals of its opponent. Do not assume a snarling wolf with its ears back and mouth closed will not bite if it senses an opportunity!

F3 is the highest probability of a bite occurring, and injury is likely. The wolves lunge at each other, pin each other, wrestle and generally are not inhibited while in a fully escalated attack on each other.

F1: Flight

Lowest probability of a bite; avoidance of conflict; injury unlikely



Escape



Leave

F2: Mixed

Alternating between fight and flight response; cornered, inability to escape; injury unlikely



Whirl



Defensive Snap



Snarl

Closed
Mouth
Snarl



Open
Mouth
Snarl



F3: Fight

Highest probability of bite; conflict escalates; injury likely



Lunge



Wrestle-fight

Care:

The care category consists of soliciting, ritualized, and giving. Care can apply to adults to pups or adults to other adults. Visualize a continuum with care-soliciting (C1) on one end and care-giving (C3) on the other end. In between are the mixed behaviors of ritualized-care (C2).

When a pup grows up in a family, it learns certain interactions that may shape its behavior with its care-takers in adult life. Pups solicit care from all members of the family by whimpering, suckling, rolling, and begging food by licking the lips of adults. This is all clearly C1.

You may be surprised to see those behaviors in adult offspring as they continue to behave toward care-givers in a juvenile manner. This is the category of C2, ritualized care. It is ritualized because it no longer elicits care-giving, C3, behaviors, such as regurgitation, nursing, inguinal licking, or carrying. It differs from mixed fight / flight, F2, because there does not appear to be adrenal arousal. For example, in C2, ritualized care, interaction such as over-the-muzzle bite, you will not see the hackles raised. These are interactions among family members that have grown up together, and have learned what to expect from each other. The soft-mouthed pin and over-the-muzzle bite are an extension of the soft-mouth carry by care-givers.

Care-giving usually refers to the adult providing for the pup, such as in carrying, nursing, regurgitating food, nuzzling, and licking to clean and promote urination and defecation by the pup.

C1: Solicit Care



Whimper



Suckle



Beg



Lick-up

C2: Ritualized Care

Actions of care solicitors and care givers that acquire functions of boundary setting and appeasement



Soft-mouthed Pin



Lick-intent



Lie-lick-up



Stand-near



Lick-up



Over-the-muzzle-bite



Curl (Grovel)



Roll-lift-leg

Sniff-inguinal



Roll

C3: Give Care



Carry



Regurgitate



Nuzzle



Lick Inguinal

Conclusion

Wolves are definitely mystifying creatures. They have a language all their own, but are able to communicate in some ways better than humans. I find watching wolves to be a peaceful experience that you can reflect on throughout your life.

I hope that this guide has helped you to better understand the world of the Wolf. It is a wonderful world of intelligence, mystery, and beauty. I hope that some day more people will be able to open their eyes and look into the amber eyes of the wolf without fear and misunderstanding.