

WHEN DO WOLVES BECOME DANGEROUS TO HUMANS?

Valerius Geist, Professor Emeritus of Environmental Science, The University of Calgary, Calgary, Alberta, Canada. e-mail: kendulf@shaw.ca

UNDER WHAT CONDITIONS ARE WOLVES NOT DANGEROUS TO HUMANS?

Wolves are not dangerous when they are well fed, by virtue of successfully preying on abundant wild prey where they have either, very little contact with people, or where they are hunted. This is no novel conclusion^[i]. However, wolves can learn to avoid hunters and yet persist in attacking livestock. Wolves are also less dangerous to humans where there is an adequate buffer of readily available domestic livestock^[ii].

Therefore, to minimize danger to humans there needs to be (1) a low ratio of wolves to prey, and (2) an occasional, rare visit by humans or (3) a self-confident, fearless, even arrogant demeanor of persons traveling in areas with wolves. Such a confident, fearless way of walking and acting is associated with carrying arms. When we are armed we are sending a message of confidence and courage with our very movement. And that is intimidating to all large mammals I have worked with in my field studies as an ethologist. It is not the act of hunting or shooting that makes wolves and other predators weary, but the confident, self-assured manners of armed persons. Healthy wilderness wolves under these conditions are so shy and weary that they are not vulnerable to regular hunting methods, especially to stalking. It may be counterintuitive, but inefficient hunting is an excellent protector of large carnivores.

What must be avoided in the presence of wolves is running away, stumbling, limping as well as any sign of weakness, such as may be associated with an illness, or exhaustion. Making and keeping up eye contact is essential^[iii].

We can surmise that the reason why healthy free ranging wolves feeding on native prey are of little if any danger to people meeting them is that adult wolves live in a hard cage of interlocking instincts and imprint-like learning. They will act on the dictates of those instincts and learning, and they will not attack potential prey that does not match what they learned during their long ontogeny. To attack new prey requires the dismantling of what they learned and a slow process of re-learning, guided by observational learning about the new prey and a very cautious approach to attacking. Wolves cannot risk being bold as they risk injury attacking an unknown prey species. The greater the discrepancy in appearance, sound and smell of the new prey between what wolves learned in their youth and what they encounter, the greater the resistance to exploring such as new prey. And that resistance increases should the new prey act bold, assertive and fearless. Nevertheless, wolves will explore humans as alternative prey, even if there is no food shortage, if they continually come in close contact with humans and habituate. It cannot

be emphasized enough that habituation is but a stepping-stone towards fully exploring humans as prey. Habituated wolves will, eventually attack, as the next step in exploration, in making the unknown known. This is a principle of exploratory behavior applicable to all animals, not only to wolves.

UNDER WHAT CONDITIONS ARE WOLVES HIGHLY DANGEROUS TO HUMANS?

Wolves become dangerous when they run out of food, be it by depleting prey, or by encountering difficulties in hunting by virtue of old age, or young age and lone status and low social rank, or due to illness, or due to injury inflicted by a hunter, or by reacting to a scream of a wounded pack member and attacking, or by mistaking the human as prey. Well fed wolves can also become dangerous, but under conditions where they take advantage of a rich feeding opportunity that – constantly – brings them into close contact with humans. This can happen at garbage dumps and on campgrounds. However, a necessary condition for attacks to occur is the *de facto* or *de jure* protection of wolves. When these conditions are met, wolves begin to explore humans as alternative prey.

HOW DO WOLVES EXPLORE FOR ALTERNATIVE PREY?

A brief departure into theory is required here: all organisms – no exception – act so as to live in predictable surroundings and circumstances. **Predictability** is here key! The main reason for that is that under most conditions energy and nutrients for maintenance, let alone reproduction, are difficult to acquire, and are digested, metabolized into growth or work quite inefficiently. The **cheapest** way to live, which is the way by which the organism may set aside and store enough energy and nutrients for reproduction, is to live under utterly predictable circumstances. To make the environment predictable, organisms have mechanisms of exploration and the manner of making the unknown known is remarkably similar be the organisms mice, sheep, wolves or men. It is a process of little excursions into the unfamiliar followed by a quick retreat into familiar where the animals dwells mostly, till it sums up its “courage” to do a bit more exploration. The manner of the wolf exploring and becoming familiar with new prey happens to be exceedingly slow and proceeds in stages over along time, as the wolf, by nature, is – and needs to be - exceedingly timid. When confronting an unknown prey, the last exploration by a wolf is to attack^{iv}.

These are the 7 stages leading to an attack on people by wolves.

- 1) Within the packs territory prey is becoming scarce not only due to increased predation on naïve prey animals, but also by the prey evacuating home ranges en mass, leading to a virtual absence of prey. OR Wolves increasingly visit garbage dumps at night. We observed the former in summer and fall 1999. Deer left the meadow systems occupied by wolves and entered boldly into suburbs and farm, causing – for the first time – much damage to gardens, sleeping at night close to barns and houses,

which they had not done in the previous four years. The wintering grounds of trumpeter swans, Canada geese and flocks of several species of ducks were vacated. The virtual absence of wildlife in the landscape was striking.

- 2) Wolves in search of food began to approach human habitations – at night! Their presence was announced by frequent and loud barking of farm dogs. A pack of sheep-guarding dogs raced out each evening to confront the wolf pack, resulting in extended barking duels at night. The wolves were heard howling even during the day.
- 3) The wolves appear in daylight and at some distance observe people doing their daily chores. Wolves excel at learning by close, steady observation[v]. They approach buildings during daylight.
- 4) Small bodied livestock and pets are attacked close to buildings even during the day. The wolves act distinctly bolder in their actions. They preferentially pick on dogs and follow these right up to the verandas. People out with dogs find themselves defending their dogs against a wolf or several wolves. Such attacks are still hesitant and people save some dogs. At this stage wolves do not focus on humans, but attack pets and some livestock with determination. However, they may threaten humans with teeth exposed and growling when these are defending dogs, or show up close to a female dog in heat, or close to a kill or carrion defended by wolves. The wolves are still establishing territory.
- 5) The wolves explore large livestock, leading to docked tails, slit ears and hocks. Livestock may bolt through fences running for the safety of barns. The first seriously wounded cattle are found; they tend to have severe injuries to the udders, groin and sexual organs and need to be put down. The actions of wolves become more brazen and cattle or horses may be killed close to houses and barns where the cattle or horses were trying to find refuge. Wolves may follow riders and surround them. They may mount verandas and look into windows.
- 6) Wolves turn their attention to people and approach such closely, initially merely examining them closely for several minutes on end. This is a switch from establishing territory to targeting people as prey. The wolves may make hesitant, almost playful attacks biting and tearing clothing, nipping at limbs and torso. They withdraw when confronted. They defend kills by moving towards people and growling and barking at them from 10-20 paces away.
- 7) Wolves attack people. These initial attacks are clumsy, as the wolves have not yet learned how to take down efficiently the new prey. Persons attacked can often escape because of the clumsiness of the attacks. A mature, courageous man may beat off or strangle an attacking wolf. However, against a wolf pack there is no defense and even two able and armed men may be killed. Wolves as pack hunters are so capable a predator, that they may take down black bears, even grizzly bears[vi]. Wolves may defend kills.

The attack may not be motivated by predation, but be a matter of more detailed exploration unmotivated by hunger. This explains why wolves on occasion carry away living, resisting children, why they do not invariably feed on the humans they killed, but may abandon such, just as they may kill foxes and just leave them, why injuries to an attacked person may at times be surprisingly light, granted the strength of a wolf's jaw and its potential shearing power^{vii}[vii].

i] See Mark McNay 2002. *ibid*.

1[ii] In correspondence with Dr. Leonid Baskin, Institute of Ecology and Evolution, Moscow, it turned out that in Siberia, even where wolves were common, attacks on people were absent. The critical criterion appeared to be the ready availability of livestock. That is as long as domestic reindeer were available or adequate herds of sheep, goats etc, wolves concentrated on these and left people alone. This suggests that wolves, which learned to kill ungulates, find it difficult to change over to humans, as we are extremely different from the prey they learned to kill. Dissimilarity or discrepancy between what the wolves learned as pups and youngsters and the appearance, sounds and smells of humans, apparently acted to protect the latter. Baskin also reported that reindeer herders discovered that wolves may learn to avoid the dangers from hunting and yet continue to kill domestic reindeer.

viii[iii] Wolves readily spot indications of vulnerability. Prof. Harry Frank wrote in an e-mail to me:
*“Wolves are extraordinarily sensitive to movement cues. Something as trivial as a head cold can affect one's gait. Even if the head cold-sufferer is unaware of it, a wolf is very likely to detect it. I believe that at Wolf Park, workers with any sort of illness or injury are not permitted to enter the wolf pen”*s.

ix[iv] Jerome H. Woolpy and Benson E. Ginsburg 1967. *ibid*.

1[v] It is important here to recognize that wolves learn in a manner different from dogs, and that they excel at learning by closely observing what is going on. They are insight learners, and they solve problems, such as unlatching gates, for instance, almost at once! Some dogs may solve this, but over a very long time, and usually not at all. Captive wolves or coyotes not only learn to open their cage, but quickly open all the others as well! And they achieve this by sitting and just watching attentively – an activity wild wolves indulge in continually. That is from an elevated position they rest or sit and watch, watch, watch... Many times wolves followed me and on some occasions sat beside my cabin at night, orientated towards the cabin, apparently watching what is going on. Wolves have large heads relative to the body and at comparable skull sizes have about ten percent more brain mass than dogs. See Ray and Lorna Coppinger 2001 *Dogs*, pp. 42-47, 54-55.

x[vi] Personal communication by Dr. Paul Paquet from research on coastal wolves in British Columbia. Wolf scat contained fur and claws of both black bears and grizzly bears.

1[vii] I am grateful to Prof. Harry Frank drawing my attention to multiple motivations of wolves attacking people.

i[i] See Mark McNay 2002. *ibid*.

ii[ii] In correspondence with Dr. Leonid Baskin, Institute of Ecology and Evolution, Moscow, it turned out that in Siberia, even where wolves were common, attacks on people were absent. The critical criterion appeared to be the ready availability of livestock. That is as long as domestic reindeer were available or

adequate herds of sheep, goats etc, wolves concentrated on these and left people alone. This suggests that wolves, which learned to kill ungulates, find it difficult to change over to humans, as we are extremely different from the prey they learned to kill. Dissimilarity or discrepancy between what the wolves learned as pups and youngsters and the appearance, sounds and smells of humans, apparently acted to protect the latter. Baskin also reported that reindeer herders discovered that wolves may learn to avoid the dangers from hunting and yet continue to kill domestic reindeer.

iii[iii] Wolves readily spot indications of vulnerability. Prof. Harry Frank wrote in an e-mail to me:
“Wolves are extraordinarily sensitive to movement cues. Something as trivial as a head cold can affect one’s gait. Even if the head cold-sufferer is unaware of it, a wolf is very likely to detect it. I believe that at Wolf Park, workers with any sort of illness or injury are not permitted to enter the wolf pen”s.

iv[iv] Jerome H. Woolpy and Benson E. Ginsburg 1967. *ibid.*

v[v] It is important here to recognize that wolves learn in a manner different from dogs, and that they excel at learning by closely observing what is going on. They are insight learners, and they solve problems, such as unlatching gates, for instance, almost at once! Some dogs may solve this, but over a very long time, and usually not at all. Captive wolves or coyotes not only learn to open their cage, but quickly open all the others as well! And they achieve this by sitting and just watching attentively – an activity wild wolves indulge in continually. That is from an elevated position they rest or sit and watch, watch, watch.... Many times wolves followed me and on some occasions sat beside my cabin at night, orientated towards the cabin, apparently watching what is going on. Wolves have large heads relative to the body and at comparable skull sizes have about ten percent more brain mass than dogs. See Ray and Lorna Coppinger 2001 *Dogs*, pp. 42-47, 54-55.

vi[vi] Personal communication by Dr. Paul Paquet from research on coastal wolves in British Columbia. Wolf scat contained fur and claws of both black bears and grizzly bears.

vii[vii] I am grateful to Prof. Harry Frank drawing my attention to multiple motivations of wolves attacking people.