

Whatever Happened to the Term

ALPHA Wolf?

The word *alpha* applied to wolves has had a long history. For many years books and articles about wolves have mentioned the alpha male and alpha female or the alpha pair. In much popular writing the term is still in use today. However, keen observers may have noticed that during the past few years the trend has begun to wane. For example, 19 prominent wolf biologists from both



Eileen Jurkovich

Europe and North America never mentioned the term *alpha* in a long article on breeding pairs of wolves. The article, titled “The Effects of Breeder Loss on Wolves,” was published in a 2008 issue of the *Journal of Wildlife Management*. In the 448-page, 2003 book *Wolves: Behavior, Ecology, and Conservation*, edited by Luigi Boitani and myself and written by 23 authors, *alpha* is mentioned in only six places and then only to explain why the term is outdated. What gives?

This change in terminology reflects an important shift in our thinking about wolf social behavior. Rather than viewing a wolf pack as a group of animals organized with a “top dog” that fought its way to the top, or a male-female pair of such aggressive wolves, science has come to understand that most wolf packs are merely family groups formed exactly the same way as human families are formed. That is, maturing male and female wolves from different packs disperse, travel around until they find each other and an area vacant of other wolves but with adequate prey, court, mate, and produce their own litter of pups.

Sometimes this process involves merely a maturing male courting a maturing female in a neighboring pack and then the pair settling down in a territory next to one of the original packs. In more saturated populations, this may mean wolves moving many

miles to the very edge of wolf range and finding mates there that have similarly dispersed. This is the process that helps a growing wolf population expand its range. A good example is the ever-increasing wolf population in Wisconsin. There, not only is the main population in the northern part of the state continuing to fill the north with more and more pack territories, but wolves have managed to form a separate population in the central part of the state through this dispersal and proliferation of packs. Currently about 18 packs live in central Wisconsin.

But now back to the family. As the original, new pairing wolves raise their pups, they feed and care for them just like any other animals care for their young. As the pups grow and develop, their parents naturally guide

their activities, and the pups naturally follow. During fall when the pups begin to accompany their parents away from the den or rendezvous site and circulate nomadically around the territory, the pups follow the adults and learn their way around. The parents then automatically fall into the leadership role in the pack as they guide the pups throughout their territory. This leadership role, however, does not involve anyone fighting to the top of the group, because just like in a human family, the youngsters naturally follow their parents’ lead.

Certainly as the pups further develop, they begin to gain some independence, and individuals might temporarily stray from the group, exploring this and that along the



Bob Landis

As the pups grow and develop, their parents naturally guide their activities, and the pups naturally follow. During fall when the pups begin to accompany their parents away from the den or rendezvous site and circulate nomadically around the territory, the pups follow the adults and learn their way around.

pack's travels. However, the parents continue to guide the group as they hunt prey, scent-mark the territory, fend off scavengers from their kills, or protect the group from neighboring wolf packs that they might encounter.

As the pups continue to develop and reach 1 year of age, their parents produce a second litter of pups, which become the younger siblings of the first litter. Again the parents continue to guide and lead the new litter along with the older litter and remain the pack's leaders. The yearlings naturally dominate the new pups just as older brothers and sisters in a human family might guide the younger siblings, but still there is no general battle to try to gain pack leadership; that just naturally stays with the original parents. Some of the older siblings will disperse between the ages of 1 and 2 in some populations, and in others they may remain with the pack through about 3 years of age. However, eventually

almost all of them will disperse, try to find mates, and start their own packs.

Given this natural history of wolf packs, there is no more reason to refer to the parent wolves as alphas than there would be to refer to the parents of a human family as the "alpha" pair. Thus we now refer to these animals as the male breeder and female breeder and as the breeding pair or simply the parents.

So how did science get so far off track for so long and refer to the parent wolves as alphas? The answer is an interesting story that nicely illustrates how science progresses. Several decades ago, before there were many studies of wolves under natural conditions, scientists interested in animal social behavior thought the wolf pack was a random assemblage of wolves that came together as winter approached in order to better hunt their large prey. Thus to study wolves in the only way they knew how, these folks gathered

individual wolves from various zoos and placed them together in their own captive colony.

When one puts a random group of any species together artificially, these animals will naturally compete with each other and eventually form a type of dominance hierarchy. This is like the classical pecking order originally described in chickens. In such cases, it is appropriate to refer to the top-ranking individuals as alphas, implying that they competed and fought to gain their position. And so too it was with wolves when placed together artificially. Thus, the main behaviorist who studied wolves in captivity, Rudolph Schenkel, published a famous monograph describing how wolves interact with each other in such a group, asserting then that there is a top-ranking male and a top-ranking female in packs and referring to them as the alphas. This classical monograph was the main piece of literature on wolf social behavior available when



International Wolf Center



Lynn Rogers

Most wolf packs are family groups formed the same way as human families are formed. That is, maturing male and female wolves from different packs disperse, travel around until they find each other and an area vacant of other wolves but with adequate prey, court, mate, and produce their own litter of pups.

When one puts a random group of any species together artificially, these animals will naturally compete with each other and eventually form a type of dominance hierarchy. In such cases, it is appropriate to refer to the top-ranking individuals as alphas, implying that they competed and fought to gain their position.

I crafted my book *The Wolf: Ecology and Behavior of an Endangered Species* in the late 1960s.

This book was a synthesis of available wolf information at the time, so I included much reference to Schenkel's study. The book was timely because no other synthesis about the wolf had been written since 1944, so *The Wolf* sold well. It was originally published in 1970 and republished in paperback in 1981 and is still in print. Over 120,000 copies are now in circulation. Most other general wolf books have relied considerably on *The Wolf* for information, thus spreading the misinformation about alpha wolves far and wide.

Finally in the late 1990s, after I had lived with a wild wolf pack on Ellesmere Island near the North Pole for many summers witnessing firsthand the interactions among parent wolves and their offspring, I decided to correct this misinformation. By then, however, both the lay public and most biologists had fully adopted the

alpha concept and terminology. It seemed no one could speak about a wolf pack without mentioning the alphas. Many people would ask me what made an alpha wolf an alpha and what kind of fighting and competition did it take to gain that position. Thus, in 1999 I published the article "Alpha Status, Dominance, and Division of Labor in Wolf Packs" in the *Canadian Journal of Zoology* formally correcting the misinformation in the scientific literature. I followed that up in 2000 with the article "Leadership in Wolf, *Canis lupus*, Packs" in the *Canadian Field Naturalist*, further elaborating on the role of the parent wolves in the pack's social order.

However, it has been said that it generally takes about 20 years for new science to fully seep down to general acceptance, including even new medical breakthroughs. Such seems to be proving true with the alpha-wolf concept. Several of my wolf biologist colleagues have accep-

ted the update, but others suddenly correct themselves in the middle of their conversations with me; still others seem totally oblivious to the whole issue. It is heartening indeed to see newly published papers such as the one I cited above in the introduction to this article that have adopted the proper terminology.

The issue is not merely one of semantics or political correctness. It is one of biological correctness such that the term we use for breeding wolves accurately captures the biological and social role of the animals rather than perpetuate a faulty view.

One place where this issue becomes particularly confusing is Yellowstone National Park, where great numbers of the public spend much time observing wolves right along with wolf biologists and naturalists. Because the Yellowstone wolf population was newly restored and enjoys a great surplus of prey (6,000 to 12,000 elk, 4,000 bison,

Rather than viewing a wolf pack as a group of animals organized with a "top dog" that fought its way to the top, or a male-female pair of such aggressive wolves, science has come to understand that most wolf packs are merely family groups formed exactly the same way as human families are formed.



Some of the older siblings in a pack will disperse between the ages of 1 and 2 in some populations, and in others they may remain with the pack through about 3 years of age.

and hundreds of deer, pronghorn, bighorn sheep, moose and other prey), the pack structure of its population is more complex than in most wolf populations. There, young wolves disperse at a later age, when 2 to 3 years old instead of 1 to 2, thus making packs larger and containing more mature individuals than most packs do elsewhere. In these packs where both the mother and some of her daughters mature, all sometimes get bred during the same year, the daughters usually by outside males.

When more than one female breeds in a pack, the females may become more competitive, so it is probably appropriate to refer to the original matriarch as the alpha female and

to her daughters as “betas.” The Yellowstone observers commonly use this phraseology, but too often it becomes loosely applied to all the breeding wolves, even in packs where there are only single breeders. While it is not incorrect to use *alpha* when applied to packs of multiple breeders, it would be possible and even desirable to use less loaded terminology. For example, the top-ranking female could be called the dominant female or the matriarch, and her breeding daughters, the subordinates. Or individually if the females actually show a dominance order, the second- and third-ranking individuals could be called simply that. This approach would further reform wolf terminology and add to both

science’s and the public’s more accurate perception of the wolf.

Hopefully it will take fewer than 20 years for the media and the public to fully adopt the correct terminology and thus to once and for all end the outmoded view of the wolf pack as an aggressive assortment of wolves consistently competing with each other to take over the pack. ■

L. David Mech is a senior research scientist for the U.S. Geological Survey and founder and vice chair of the International Wolf Center. He has studied wolves for 50 years and published several books and many articles about them.

The issue is not merely one of semantics or political correctness. It is one of biological correctness such that the term we use for breeding wolves accurately captures the biological and social role of the animals.

One place where the “alpha wolf” issue becomes particularly confusing is Yellowstone National Park. Because the Yellowstone wolf population enjoys a great surplus of prey, the pack structure of its population is more complex than in most wolf populations. There, young wolves disperse at a later age, when 2 to 3 years old instead of 1 to 2, thus making packs larger and containing more mature individuals than most packs do elsewhere.