

## Dog breeds do not always determine behavior: Inside the quest to recategorize dog lineages

Elaine Ostrander, who heads the Cancer [Genetics](#) and Comparative Genomics Branch of the National Human Genome Research Institute at the National Institutes of Health, has been pursuing answers to questions regarding the genetics of behavior for several decades. She collaborated with her post-doc Emily Dutrow and James Serpell of the department of Clinical Sciences and Advanced Medicine at the University of Pennsylvania School of Veterinary Medicine.

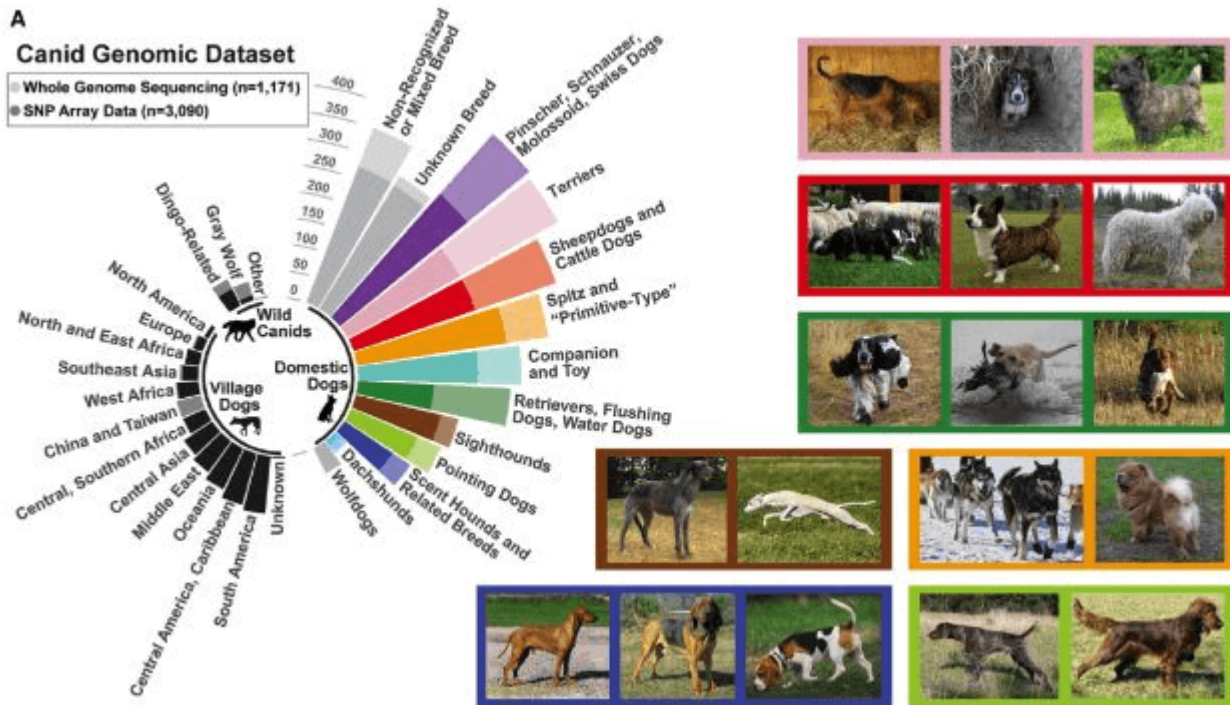
Their lengthy paper proposed a new way to look at the issue of breed-specific behavior that they hope will open the door to more studies. Essentially, they took dogs from 226 breeds represented in the Federation Cynologique Internationale (FCI) and re-sorted them according to lineages that share behavioral and sometimes morphological characteristics.<sup>4</sup>

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This new paper both complicates and simplifies the genetic basis of behavior. The graphics do an excellent job of illustrating that complexity. The bottom line, of course, is that there clearly is a genetic component to specific behaviors or behaviors more common to specific breeds than others.

But there is also a great deal of variation within those breeds and, in this case, lineages, and this variation is the result of a whole host of factors, many of which are not due to specific proteins, but rather to regulatory forces that nudge an individual's genome in one direction or another.



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