

Breed Wheel of Life

The Study

A genomic study of 1,346 dogs across 161 breeds produced a cladogram (fancy word for a diagram that shows the hypothetical relationships based on shared characteristics and common ancestry) showing how modern breeds cluster based on shared ancestry. Researchers identified 23 clades (another fancy word for a group of organisms believed to have evolved from a common ancestor). The Nordic Spitz clade includes the Keeshond, Icelandic Sheepdog, Swedish Vallhund, and Norwegian Elkhound.

Disease Sharing

The study found that breeds within the same clade often share inherited diseases due to common ancestors. For example, Collie Eye Anomaly (CEA), appears not only in collies but also in Border collies, Shetland sheepdogs, and Australian shepherds – likely due to shared ancestral genetics.

Why This Matters

As genetic research advances and more disease-related marker genes are identified, breeds within the same clade may be found to share both diseases and their associated markers.

For instance, Swedish Vallhund carry a PRA marker gene currently being studied as a possible indicator for PRA in Keeshonden (research underway with Dr. Katie Diel, College of Veterinary Medicine, University of Georgia).

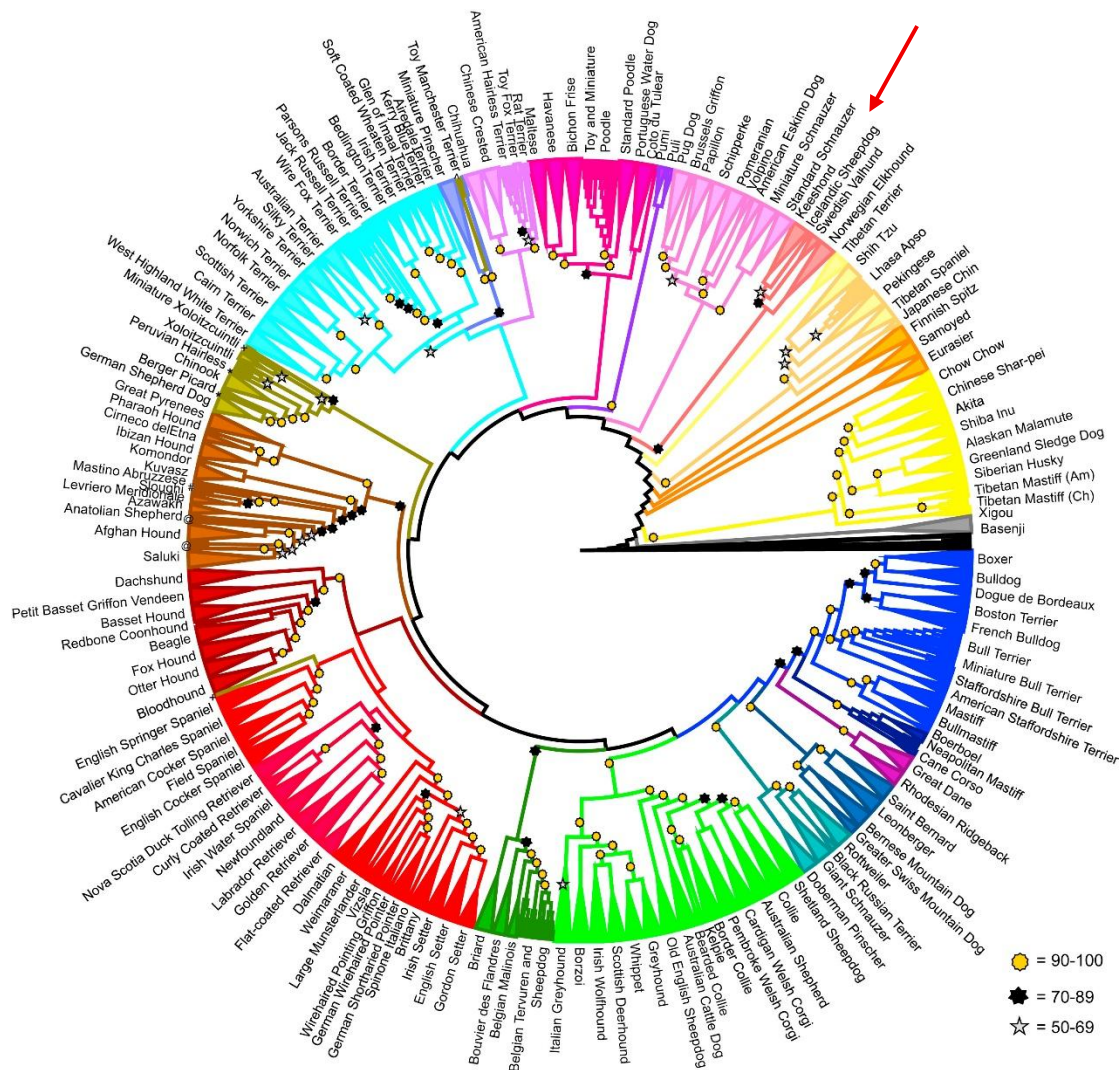
Shared Ancestry Beyond Clades

Some breeds fall into different clades but still share ancestry. The Eurasier, developed in the 1960s from Chow Chow, Samoyed, and Keeshond, is one example. Other breeds believed to share ancestors with the Keeshond include the American Eskimo, Pomeranian, and Schipperke.

Why This Also Matters

Shared ancestry—whether within or across clades—means these breeds may also share genetic diseases and marker genes.

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Watch the video here:

Canine Genetics: Studying Disease Susceptibility and Cancer Risk

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Source Material

Cell Reports, Volume 19, Issue 4 (April 25, 2017): *Genomic Analyses Reveal the Influence of Geographic Origin, Migration, and Hybridization on Modern Dog Breed Development* by Parker et al.

The full article can be found here:

[*Genomic Analyses Reveal the Influence of Geographic Origin, Migration, and Hybridization on Modern Dog Breed Development: Cell Reports*](#)