

Tibetan Terriers

THE PRESERVATIONIST PREDICAMENT

“Many folks just ‘know’ that evolution can never be seen in the immediate here and now. In fact, a precisely opposite situation prevails: Biologists have documented a veritable glut of cases for rapid and eminently measurable evolution on timescales of years and decades.” —Stephen Jay Gould

Did you know that elephant tusks are getting smaller, human pelvises are getting narrower, coyotes are getting larger, and swallow wings are getting shorter? These recent developments are, respectively, the result of elephant poachers targeting long-tusked males; the refinement of Cesarean section operations allowing more women with narrow pelvises to survive childbirth; and the draw of the highway underpass for swallows’ nests that favor short-winged swallows in outmaneuvering fast-moving cars. (Mark Oliver, [“10 Species That Are Evolving Right Now,”](#) *Listverse*. 23 December 2016,)

The coyote may be the master of adaptation, exploiting human persecution of wolves in the 19th century by taking over their terri-

tory and interbreeding with the few wolves that survived. Genetic studies also show that some coyotes are interbreeding with large dogs. Always living up to their wily reputation, the coyote manages to thrive amid continuing environmental pressures wrought by humans. In a short span of time they have gone from 30 pounds to above 60 pounds, with larger skulls and jaws, now able to prey on deer and caribou. Scientists say the mixing of genes has been much faster, extensive, and transformational than anyone had noticed until recently. (Sharon Levy, [“Rise of the Coyote: The New Top Dog,”](#) *Nature*, 16 May 2012.

Like the coyote, the Tibetan Terrier, one of 12 ancient breeds identified via canine genome sequencing, may also be quickly evolving right under our noses. Knowledge of epigenetic changes has led to a greater understanding that genes are constantly responding, switching on and off to all kinds of variables intrinsic in an environment. These observable and heritable phenotypic changes modify gene expression rather than alter actual genetic code. Consider that when Dr. Grieg first received the “Holy Dog” from Tibet in 1922, just taking the breed out of Tibet to England introduced new flora and fauna, a radically different diet, an altered lifestyle, and exposure to novel toxins, viruses, and bacteria that all impact epigenetic changes. Allergies,

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endocrine issues, and autoimmune conditions are often epigenetic in origin.

Breeders, judges, and the overall dog show culture in the Western world also create a trifecta of synergistic influences on the evolution of TT from rugged mountain dog into the domesticated, modern breed seen today. Selecting for preferential coat colors, particular movement, even for what is perceived as a more desirable temperament for urban living (for example, lower prey drive) impacts DNA and genetic code. The famous Russian fox study is confirmation that temperament is genetically linked to phenotype. Scientists breeding for a more docile fox produced floppy ears and piebald coloring in just a few generations. Breeding for temperamental traits produces [unexpected changes in the overall DNA of the dog](#).

If one looks at historic photos of TTs, both taken in Tibet and those in 20-year-old



Like the highly adaptive coyote, dog breeds are subject to influences that can impact epigenetic changes.



Historic photos of Tibetan Terriers in the breed's place of origin reveal some differences when compared to the breed today. (Photo by Volkmar Wentzel, date unknown; from 1989 TTCA publication.)

Tibetan Terrier Club of America journals, various differences are revealed when compared to the TT of today. Most will admit the feet are not noticeably large, as described in the standard, and some feet are neither flat-footed nor all that round. Coats are now coiffed, conditioned, and constrained to abide with that rewarded at dog shows. Head proportions have changed, and the efficient, distinct movement has been altered, a natural casualty of changing feet, along with front and rear structures.

Like the coyote, the diverse TT has been proficient in adapting to myriad factors since its departure from Tibet. While epigenetic changes may be inevitable, the humbling reality is there are formidable challenges in preserving a breed. Breeding decisions swayed by western culture modify original breed type with each subsequent generation. An honest discussion about the original goals of breeding and judging might be an encouraging start in understanding how to better preserve the robust, charming, and quirky native TT. Otherwise, it would be an unfortunate irony that a breed that originated in Tibet, known as a land of extremes, may instead be rapidly morphing into a dog of extremes.

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