

Primitive and Aboriginal Dog Society

Dear members of PADS and readers of our newsletter!

Starting from this issue, we are publishing the texts of presentations at the first international cynological conference “Aboriginal Breeds of Dogs as Elements of Biodiversity and the Cultural Heritage of Mankind”. This conference was a unique event, because of the exceptional range and depth of the presentations and the warm hospitality of the friendly representatives of the young independent country, the Kazakhstan Republic. Unfortunately, publication of the presentations at the conference was delayed, because of shortage of funds and organizational difficulties, but we hope to compensate for lost time by publishing them all in our PADS Newsletter. The first three articles are included in this issue. We shall be sending them not only to all members of PADS, which we usually do, but also to every participant in the conference.

Sincerely yours,

Curator of PADS, Vladimir Beregovoy

CYNOLOGICAL CONFERENCE IN ALMATY KAZAKHSTAN REPUBLIC

K. N. Plakhov

THE CONCEPT OF AN ABORIGINAL DOG BREED

Vladimir Beregovoy

UTILIZATION OF TURKISH SHEPHERD DOGS IN TURKEY

Cafer Tepeli, Tamara Taylor

CYNOLOGICAL CONFERENCE IN ALMATY KAZAKHSTAN REPUBLIC

K. N. Plakhov

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Chairman of the Purebred Hunting Dogs Club**

The dog was the first animal domesticated by man; other animals became domesticated at a significantly later time. It was indeed because of two of them, the dog and the horse, that human civilization began to make progress. At present, the role of our two satellites has become less significant. However, there are many aspects of our life, where it is hard to do without dogs: they are watchdogs; they assist during hunting, herding, and protecting livestock and property; they are guide dogs for the blind and search and rescue dogs. They can be uncompromised assistants in law enforcement or simply our companions and friends.

There were of course other breeds in the course of the entire history of our civilization, some of which had been created during the last two-three centuries by using modern methods of selection. These dogs were specialized for different use or just primitive dogs that were useful for a variety of services. They hunted with their human owners, protected their homes from predators and robbers, they accompanied caravans and livestock herds, participated on the battlefield, served for removing waste and just for entertaining. At present, we call them "aboriginal dog breeds", assigning this term to certain geographic regions and peoples. During their thousands of years of history, they were subject to natural and artificial selection. In animal science, the term "aboriginal breeds" stands first for animal breeds that had been developed by unconscious selection and under the greater influence of natural selection than in the process of developing modern purebreds. They are well adapted to local conditions of life and hardy and have a more or less balanced body structure and versatile qualities.

Recently, the investigation and preservation of aboriginal dogs has become urgently important. Several organizations of Kazakhstan, the Institute of Ecological Research and Planning, the Purebred Hunting Dog Club, the Ecological Union of Associations and Enterprises of Kazakhstan "Tabigat" and the International Primitive Aboriginal Dogs Society based in the USA and Russia came up with the initiative of the First International Conference "Aboriginal Dog Breeds as a Part of Biodiversity and of the Cultural Heritage of Humankind". The Conference was held from 10 to 15 September, 2007, in Almaty, Kazakhstan Republic.

This was the first forum of specialist cynologists dedicated to aboriginal dogs of the world and it was flattering that the Kazakhstan Republic was the place, where a conference on such a scale took place. The Conference was supported by the Ministry of Culture and Information of the Kazakhstan Republic, the Kazakhstan National Agricultural University, the "Greenhouse" Public Fund, the Pet Channel Executive of MARS Company in Kazakhstan and Central Asia, and the Pedigree and Elemvet, Akylbai, Azhar-Toi and Sunkar companies. The Conference worked in the hall of the Animal Science Faculty of the Kazakh Agricultural University. Twenty two specialists on aboriginal dogs from 13 countries of five continents participated: Australia, Great Britain, Germany, Israel, Kazakhstan, Kyrgyzstan, Portugal, Russia, USA, Tajikistan, Turkey, Sweden, and South Africa. Unfortunately, several specialists could not come, but they sent their reports. The list of presentations made at the conference is as follows: "Central Asian Ovcharka in Tajikistan" (Alikhon Latifi, Tajikistan and Arunas Derus, Lithuania), "Hunting with the Laika for Profit versus Hunting for Sport" (S. V. Bogatov, Russia), "The origins of the Eastern Saluqi and its situation today" (Sir Terence Clark, Great Britain), "The Indian Native Dog (Indog) (Gautam Das, India), "About Coat Colors of the East Siberian Laika" (Tatyana and Sergei Desyatov, Russia), "Towards a New Place for Animals in Folklore Studies: Biofacts as Products of, and Participants in, Vernacular Processes (Ethnozoological Evidence from the Coyote Coursing Traditions of the North American Prairie)" (Eric E. Eliason, USA), "Determination of Genetic Structure and Differences among Populations of Different Aboriginal Breeds of Turkey (Kangal, Akbash, Kars Shepherd Dog and Turkish Tazi)" (Metin Erdogan, Cafer Tepeli, M. Dosaj Akbulut, C. Uguz, B. Brenig and C. Ozbeyas., Turkey), "Africanis" (Johan P. Gallant, South Africa, Belgium), "Canine Antiquity: The Origin by Evolution or Domestication? With Particular Emphasis on the Saluqi/Tazi" (Gertrude Hinsch, USA), "The New Guinea Singing Dog: Its Status and Importance" (Janice Koler-Matznick, USA), "Big Dogs of Tibet and 'the Marco Polo Effect'" (Don Messerschmidt, Germany, Nepal), "Plight of the Dingo" (Adrian Mifsud, Australia), "Mongolian Native Dogs and the Cultural Heritage of Pastoral Nomadism" (Michelle Morgan, Mongolia), "Genetic Impoverishment of the Azawakh in Europe?" (Elizabeth Naumann, Germany), "Population Genetic Studies Reveal the Origin and Earliest History of the Domestic Dog" (Mattias Oskarsson and Peter Savolainen, Sweden), "The Azawakh in its Ancient Distribution Range" (Werner Roeder, Germany), "The Dog of the Rabbit and its importance for the Rural Culture of Malta" (Jan Scotland, Germany), "Karakachan Dog" (Atila Sedefchev and Sider Sedefchev, Bulgaria), "Aboriginal Guard Dogs of Nuratau, Uzbekistan" Vladimir F. Shakula, Kazakhstan), "The Canaan Dog – Biblical Dog in Modern Times" (Myrna Shibolet, Israel), "Utilization of Turkish Dogs in Turkey" (Cafer Tepeli and Tamara Taylor, Turkey and

USA), “Tuva Ovcharka” (Ilya A. Zakharov, S. N. Kashtanov and S. V. Kashtanova, Russia), “The Central Asian Ovcharka: On some problems of preservation of the breed” (Tatyana M. Ivanova, Russia), “Activity of PADS in the Coordination of Efforts on Preservation of Aboriginal Breeds of Dogs” (Vladimir Beregovoy, USA), “Sleddogs of Russia” (Lyudmila S. Bogoslovskaya, Russia), “The Present State of the Aboriginal Population of the Tazy and the Tobet in Kazakhstan” (Andrey Kovalenko, Kazakhstan). Some participants presented two articles each: “Livestock Guarding and Herding Dog Breeds from Portugal. Morphological Relationships Based on Breed Standards and on Biometric Data” and “Livestock Guarding Dogs from Portugal: A review of Current Knowledge” (Carla Cruz, Portugal), “Methods for Developing a Standard for Aboriginal Breeds of Dogs (with the Example of the Kazakh Tazy)” (Konstantin N. Plakhov and Anna S. Plakhova, Kazakhstan) and “Aboriginal Dog Breeds as Full Value Elements of Biodiversity and the Cultural Heritage of the Peoples of Southwestern Asia” (Konstantin N. Plakhov, Anna S. Plakhova and M. Kh. Eleusizov, Kazakhstan), “The Taigan Kyrgyz Sighthound Breed, its Contemporary State, Origins and Ways to its restoration” and “The Need for Creating a Gene Bank for Aboriginal Breeds, Methods of Selecting Donors” (Almaz Kurmakulov, Kyrgyzstan).

The Conference helped to reveal a worldwide problem facing aboriginal breeds of dogs: their density in countries of origin declines so fast that they can be listed as endangered “species”. There are many causes:

- globalization, eliminating ancient traditions, including those related to the use of dogs;
- increasing mixing with purebred dogs imported even in the most remote areas;
- wars, starvation, decline of the economy and impoverishment of the local population in certain regions;
- purposeful extermination of aboriginal dogs;
- refusal of local dog clubs to work on aboriginal breeds or a total absence of such organizations etc.

There were no “we do not care” attitudes at the conference. All participants offered some measures directed towards preservation of aboriginal dogs, primarily in the countries of their origin. However, here different approaches to the problem became evident. There are breeds, which have a purebred version recognized by the dog community, for example the Saluki, the Afghan, the Azawakh, the Tibetan Mastiff, etc. In such a case, the discussion was only how to save a certain aboriginal gene pool of the breed in its historical home country, according to local traditions. There is a different situation, when the breed is authentic, but it does not have a purebred version (the Africanis, the Indog, the Tuva Ovcharka, etc.). Then, the discussion touched on different methods of preservation, taking into account the specifics of the country of the breed’s aboriginal range of distribution. The third variant was when a certain country considers the breed its own, but it has its sibling in other countries, where it has gained international recognition. These pairs of breeds are the Tazy/ Saluki, the Taigans/Afghans, the Tobet/Central Asian Ovcharka, the East Siberian and the West Siberian Laika/ local aboriginal Laika populations of different parts of Siberia and northeastern Europe, etc. In these cases, some specialists expressed doubts, if it would be worthwhile to work with such “breeds”. It would be easier to consider them summarily as “aboriginal populations” of already existing purebred dogs, ignoring arguments in favor of cultural, geographical and climatic peculiarities of different parts of the country.

Finally, most time consuming and controversial was a discussion about the right of each country to have its own aboriginal breeds of dogs, which unexpectedly became most important. It turned out that in this area, there were disagreements among specialists in aboriginal breeds.

Speaking of their country or countries, which they represented, this right was taken for granted. It was even more so, because they were members of the FCI (except USA and Great Britain, which have a special status in the cynological world). It is different in countries, where cynology has still not been established. Opinions were expressed to the effect that they should not have their own breeds. Dr. Werner Roeder called it “cynological colonialism”. It can be also called the politics of double standards in cynology. By not recognizing aboriginal breeds of dogs, international cynological organizations discourage work with them and in effect they condone the reduction of the biodiversity of the planet, a part of which domesticated animal breeds are. Moreover, in such a case, these cynological organizations prevent countries, where aboriginal breeds are distributed, from realizing their right to cultural development.

The very term “aboriginal breeds”, according to the opinions of many, needs clarification. There were different opinions about this, because in cynology, this term is understood differently than in animal science, a part of which cynology is.

Nevertheless, the First International Conference dedicated to aboriginal breeds of dogs of the world was successful and productive. It attracted a wide audience of cynologists, breeders, students, college teachers and the media of different countries. It became a first step, uniting the efforts of specialists of different countries in the area of the investigation and preservation of aboriginal dogs. In the process of its work, we found that problems associated with aboriginal dogs are the same in most countries, where they are distributed: such as the decline of population; mixing with cultured breeds; and loss of interest of local people in their traditional breeds and their

replacement with imported cultured breeds. Some successful developments in methods of their preservation were reported. It is important to make clear that the preservation of aboriginal breeds is not just a whim of a handful of fanatical dog lovers. Our meeting was authoritative enough because of the qualifications of the participants and the problems that were discussed; and it calls for uniting efforts to preserve aboriginal dogs and aboriginal breeds of other animals as well. They are all covered by the International Convention on Preservation of Biodiversity. Moreover, being particular living monuments, developed over the centuries of the history of different civilizations, they have become objects of the material culture of humankind. Their preservation requires coordinated work, including breeding in kennels, informing the public in the media, governmental assistance to the breeders and the united efforts of international organizations directed towards their preservation. The role of the FCI is particularly important, because this is the leading international registry responsible for the international recognition of dog breeds. The strict requirements for the presentation of “new” breeds are preventing organized work with aboriginal breeds in many countries. How can we speak about a “new breed”, when the history of an aboriginal breed is confirmed by archeological artifacts?

The disappearance of any domesticated animal breed is not just a loss to the gene pool and the biodiversity of the planet, it is also a loss to national heritage, because each of them is a living part of the culture and civilization of people, who have developed and preserved it until the present. Aboriginal dog breeds have a history measured in millennia of development and hundreds of generations of dog breeders. We cannot afford the extinction of any animal breed. Mahatma Gandhi wrote: “The greatness of a nation and its moral progress can be well evaluated by its treatment of its animals”.

Participants in the Conference accepted a resolution, appealing to all countries and organizations to save aboriginal dogs as elements of the biodiversity and cultural heritage of humankind. The very fact of focusing the attention on aboriginal dog breeds is important. This is necessary for undertaking action in every country to preserve and reclaim its aboriginal breeds of dogs. We are planning to publish illustrated Proceedings of the Conference with a three hours long DVD.

THE CONCEPT OF AN ABORIGINAL DOG BREED

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Introduction

There was a time, when aboriginal dogs were the only dogs available. All of today’s popular dog breeds have been derived, at one time or another, from ancient aboriginal dogs. Then, they have been improved by deliberate selection and crossbreeding to achieve the desired combination of characters of appearance and behavior. Through long histories of life in confinement, good care, and trainability for obedience, they became more or less helpless, if left on their own. They are sometimes called man made breeds or cultured breeds. Many other animal breeds were also obtained by selective breeding and keeping under conditions of good care in a strictly controlled environment and they also declined in fitness and became more dependent on food and protection provided by people. The modern concept of a breed is based mainly on knowledge accumulated during work with this kind of breeds. Dogs, which do not fit any known breed listed in the catalogs of cynological clubs, remain “invisible” to the public and most often are not considered as breeds at all. On the other hand, if the major kennel clubs adopt an aboriginal breed, it also becomes changed and converted into another cultured pedigree breed. Thus, each of such transactions does not help the preservation of most of the remaining ancient unchanged breeds in the world, which aboriginal breeds are.

The aboriginal breed and subspecies in zoology

Aboriginal dogs are natural breeds, which have never been developed by any planned genetic manipulation, deliberate selective breeding and intentional crossing of one breed with another. Old travelers, when they found them with people in far away countries, commented about the benefits, intelligence and serviceability of the local dogs to native people. At the same time, they used unflattering epithets calling them “mongrels”, “poorly bred Collies”, “mangy beasts”, “ugly dogs”, etc. Generally, travelers, whose eye was trained on European purebreds, considered aboriginal dogs just local mongrels and it was not too far from the truth. However, those were peculiar mongrels, which now we prefer to call aboriginal breeds, though some dog lovers and experts are reluctant to apply the term “breed”, when discussing aboriginal dogs.

Aboriginal have drawn the interest of professional biologists only recently, because of raised public concern about the preservation of nature and national heritage. There are surprisingly few serious scientific studies on aboriginal dogs per se. In fact, they are very much like wild animals, because nobody can claim authorship over

any particular type of aboriginal dog. The most that we could do is to discover and describe them like we discover and describe wild species and races. Geographers and ethnographers discovered aboriginal dogs and left a few more or less sketchy descriptions, from which we now are trying to collect knowledge about their origins and historical past. Now, many of the aboriginal dogs are extinct or have become seriously threatened with extinction and an increasing number of enthusiasts are eager to get involved in their rescue by importing them from their native countries and taking good care of them, popularizing and keeping pedigree records with the hope of the AKC, FCI, national kennel clubs, etc recognizing them. Usually, there is no lacking of interest to try a new “unspoiled” breed. The question is: to what end? Do we need to spoil aboriginal dogs, too? Before getting seriously involved in projects of rescue and preservation of aboriginal breeds it is necessary to understand how and why they are different from cultured breeds and take a closer look at the very concept of aboriginal breed. The real preservation of aboriginal breeds can be only the preservation of them as aboriginal breeds together with their environment and work for people.

One of the most striking traits of all aboriginal dogs is their naturalness. Actually, they are more similar to subspecies of wild animals, described by zoologists, than to classic breeds (cultured breeds) of domesticated animals. Indeed, each population of a peculiar type of aboriginal dog has its own unique geographic range of distribution and it is always associated with a certain ethnic group. Because they are domesticated animals and associated with people, they may be safely called, therefore, ethno-geographic breeds. At the same time, like wild animals, each of such ethno-geographic breeds is a product of slow evolution under conditions of life and work for people. It has been subject to natural selection and selection by people in favor of better working qualities. Selection by people has been very subtle, sometimes; it is called “unconscious” selection, which may be considered rather like another form of natural selection, than what we call selection based on modern knowledge of animal husbandry, animal science and genetics. This is because aboriginal dogs live and work for people under conditions of nearly unlimited freedom, are never, or rarely, confined, are irregularly fed (sometimes not fed for weeks), mate freely and sometimes raise their puppies without the assistance of people. They live with humans rather like symbiotic animals than like animals captured, forced, “enslaved” or spoiled by domestication. Of course, the aboriginal dogs obtain their own benefits from sharing their lives with people, such as protection from wild predators, sometimes from the weather and food shortage. The latter is particularly obvious, where people and dogs live in extremely harsh climates, such as in the polar north or in deserts, where both people and dogs became literally interdependent for survival. However, everyone, people and dogs, had to work to obtain their daily bread. For example, a bad working dog would most likely not be treated very well, would possibly left unfed and most likely not bred; and it would be left to die in time of famine or it would be killed for its pelt to make mittens. Although dogs never or rarely lived confined and mated freely, puppies of favorite bitches or puppies sired by the best working males, if the sire was known, were spared more often to be raised as a replacement for adult dogs growing older. This kind of selective mortality worked rather by eliminating the least fit, than by preserving a few of the best dogs. Cyclic fluctuations of productivity in nature, game density and all kind of natural calamities affected both dogs and their owners. Natural selection never stopped.

Another similarity of aboriginal dogs to subspecies of wild animals is in the fact that aboriginal breeds are the oldest unchanged breeds in the world. Indeed, according to fossil and archeological evidence dogs of the Laika or sled dog type have been around people since Neolithic times. Excavated saluki type skeletons were dated to 2,500 years BC and so was the Australian Dingo. Powerful livestock guarding dogs are very old as well.

Similarity between aboriginal dogs and wild animals extends even further, if we take a closer look at their behavior, when they are working for people. Among dog trainers, aboriginal dogs are well known by their independent character. They often call them hard heads, stubborn and even stupid. This is because aboriginal dogs easily get bored, when taught to do circus type tricks or other behavior unnatural to them and so are tame wolves. This is what happens when wolves are trained to do similar unnatural things. Nobody calls a wolf stupid... However, in their native environment, aboriginal dogs show great intelligence, performing amazingly complex tasks and they do it all by themselves. They quickly learn what and how something should be done without much teaching, training and directing by people. They all work naturally. To start working, the aboriginal dog does not need a “stick and carrot” training system. The very work is the reward to them. To start working, an aboriginal dog puppy needs to be raised in the right environment. At a certain age, every puppy easily picks up the idea what to do and how to do it. Thus, aboriginal sight hounds, called Tazy, Saluki, Afghan, Bakmul and Taigan learn to hunt by themselves, when they are taken into an environment where fast running animals occur. In fact they are born, live and grow up in such an environment near their owner’s tent or yurta. A hunting Laika puppy starts finding squirrels and barking under a tree with squirrel or grouse from the age of several months, if allowed to run free in the woods and the same puppy will switch to higher value game, when it matures without much encouragement. A good Laika knows what should be hunted and how. Sled dogs start pulling from the age of four months, being harnessed with

older dogs or helping women or children to pull small sleds with firewood; aboriginal sled dogs are excellent hunting dogs and are used to hunt big marine mammals. Livestock guarding dog puppies start working in concert with older dogs, taking part in the protection of the herd by running free with older dogs and under conditions of being raised with the herd. To all these dogs, their work is a natural part of their everyday life. This behavior is very different from the behavior of “willing to please”, quickly learning how to sit, come up, and roll over and other similar things by cultured breeds. The aboriginal dog is doing work beneficial to people, but it acts like a wild animal, because it is preprogrammed genetically. The whole chain of action at work of an aboriginal dog is strikingly similar to the chain of action of wolves, which are also preprogrammed to live and hunt in a pack. However, with dogs, human masters and other domesticated animals became either a part of their pack or a vital element in their life and environment. To them, livestock is no longer game, but a part of their protected territory. To a hunting dog, the game shot or caught also belongs to the master. He will feed the dog in later on.

Now, I will illustrate conceptual difference between an aboriginal breed and a cultured breed based on the observations of people with experience of dog behavior.

This is the Basenji, one of wildest aboriginal breeds and the Cocker Spaniel, one of most admired cultured breeds. Coren (1994), a dog trainer, compared the behavior of 79 breeds and evaluated their intelligence by comparing a dog’s capability to learn and obey the commands of the trainer. In his book, “The Intelligence of Dogs: Canine Consciousness and Capabilities” he wrote that the Cocker Spaniel was among the most intelligent of dogs, but on his list the Bsenji was 78th among 79 breeds he tested. This book was among the best sellers of that time and it was even discussed in morning TV program in the USA. The poor Basenji was publicly humiliated! However, by coincidence, there was a serious scientific study done almost 30 years before Coren’s book was published, in which Scott and Fuller (1965) compared the behavior of the Basenji and the Cocker Spaniel in experiments designed for obedience and problem solving. The authors also used the Sheltie, the Fox Terrier and the Beagle in their research project on the genetics and the social behavior of dogs. Among these five breeds, only the Basenji was a truly primitive aboriginal breed. In experiments, involving voice, such as to stay quiet on the scales, restraining the dog’s activity by being put on the leash, obedience, being inactive and remaining on a platform at a distance from the trainer, the Cocker Spaniel was the easiest to train. Basenjjs were the hardest to train. The other three breeds tested fell in between the two. In goal orientation tests nine-week-old puppies were trained to run and solve problems to reach the goal. In this and other problem solving experiments of different difficulty, the Basenji turned out to be the most intelligent of all five breeds and the Cocker Spaniel was the last. This became particularly obvious in experiments, where flexibility of feet and toes and the dog’s inventiveness were required. Thus, the aboriginal “wild type” breed showed its merit, where independent thinking, motivation and initiative were needed. Remarkably, the man-made breed, the Cocker Spaniel, was most successful in passive obedience tests. In fact, here we deal with two different concepts of breed. Both the cultured breed and the natural breed (wild type) are very good dogs, but they had been made by different forces and for different purposes. The Basenji is more like a wild subspecies of *Canis familiaris* and the Cocker Spaniel is a cultured breed of *Canis familiaris*.

Here is my favorite definition of subspecies offered by Mayr (1963): A subspecies is an aggregate of local populations of a species, inhabiting a geographic subdivision of the range of the species, and differing taxonomically from other populations of the species. The word taxonomically means that a population is uniquely different enough to be recognized by scientists as a subspecies and given a unique scientific name in Latin. Add to this definition a human comparison, belonging to an ethnic group, and you will get a good definition of an aboriginal breed. In fact, attempts at describing aboriginal breeds as subspecies of *Canis familiaris* were done repeatedly, but this did not get much support among zoologists simply because *Canis familiaris* is a domesticated animal and its varieties do not belong to traditional subject of interest to taxonomists. Actually, each aboriginal breed is best characterized by its capability to do specific work, its appearance and by its unique geographic range together with its place in the culture of a certain ethnic group (or closely related groups), with which it lives. Its coat color is quite variable individually, including one particularly striking phenotype with white spots, a trait developed under domestication and living under human protection. Both ideas of subspecies and aboriginal breed are applied to real populations with a real geographic range and their recognition as entities with a name are supported by conventional wisdom and practicality. This makes them an important and very conspicuous part of biological diversity. The conventional definition of breed is weakly supported by hard science, because the idea of a breed (here again comes the similarity to the subspecies of wild animals) is always something vague and usually it is nothing more than what we agree upon collectively. Definition of breed by Merriam Webster Dictionary: “Breed is a group of animals or plants presumably related by descent from common ancestors and visibly similar in most characters”, also emphasizes the appearance, although traits of productivity and function are not less important.

Here is a definition of 'breed' put together by a well noted American geneticist Jay L. Lush, (1994): "Animals that, through selection and breeding, have come to resemble one another and pass those traits uniformly to their offspring. Aboriginal dogs, living in a certain region and used for the same purpose are quite well covered by this definition, because they have come to resemble one another through the process of selection and they pass their traits to their offspring. Calling aboriginal dogs of a certain ethnic group and geographic region breeds is very common in scientific and popular literature. The arguments sometimes are going on about which principle to choose, geographic or ethnic (national). Separation of them would always be artificial. This is what was done in the former Soviet Union, where four known today hunting Laika breeds had been designated. Although the words "to resemble one another" mean chiefly the appearance, in agricultural species the productivity traits of animals may be not less or even more important than traits of their appearance and it is equally true for aboriginal breeds.

Creative breeders of agricultural animals may develop and keep their own unique breeds. Therefore, here is a more liberal definition of breed: "A breed is a group of domestic animals, termed as such by the common consent of the breeders, ... a term which arose among breeders of livestock, created one might say, for their own use, and no one is warranted in assigning to this word a scientific definition and in calling the breeders wrong when they deviate from the formulated definition. It is their word and the breeder's common usage is what we must accept as the correct definition" Lush, 1994)

In the free world, any breeder or group of breeders of dogs, or other animals, can try their hand at the art of breeding and the future of any of their newly developed breeds would depend on their acceptance and usefulness to their users. However, aboriginal breeds are very different. Essentially, they are naturally occurring geographical variants of the domesticated dog (*Canis familiaris*), equivalent to a subspecies in zoology. Each of them is unique and came into existence by evolutionary process. Aboriginal breeds are natural monuments of nature and culture, because they have proven their usefulness and passed the test of time. Their most important conceptual difference from the constantly changing and newly emerging man made, or cultured breeds, is in the fact that they have been developed by the ability to perform a specific function. Their appearance is of secondary importance and it is always expressive of the function.

Cultured breeds

Aboriginal breeds are the predecessors of all man-made breeds. The ability to hunt certain game and in a certain way was very important to hunters of past centuries. Those dogs still resembled very much their ancestral aboriginal breeds; they were hardy and tough dogs, because they were bred by hunters for other hunters. Although dogs of different breeds had different names and purposes, crossing different breeds was common and mixes resulted from interbreeding were still named rather by their purpose and performance than by their appearance, such as scent hounds, sight hounds or bird pointing dogs, regardless of admixtures of other breeds in them. Every dog was valued for its ability to hunt the right way and this kind of genetic "alchemy" continued in dog breeding as long as dogs were bred for performance in field. However, radical changes took place in late 19th century, when dogs were bred pure with pedigree records and used for show contests. Dog shows renewed the popularity of hunting breeds, which had declined in numbers during the previous period, due to the loss of land available for hunting and the growth of urban populations in Europe. Now, more city dwellers became breeders of dogs, including hunting dogs, which became ornamental rather than hunting breeds. They sold puppies for profit to dog show enthusiasts and as pets. Because the breeders were most often not hunters, the appearance of the dog became more important and the original purpose of the breed. To the show fancy, all those hunting or guarding instincts became atavistic traits of the past and not taken seriously any more. It is interesting that even now some show fans and even some judges seriously believe that as long as the conformation is good, the functional qualities are also automatically present in the dog. Therefore, it is believed that show winning lines would be very good field performers, if given the chance. This is unlikely, because first, many traits highly valued at shows actually do not have any functional meaning for hunting and second, there are anatomical traits, which are misinterpreted by show judges, if they are not hunters themselves. This is why many hunting breeds became split into two groups, one for show and one for hunting.

However, the problem with show breeds does not end here. Using a few show winning males as sires and breeding dogs with maximal similarity to the ideal described in a breed standard leads to a loss of genetic heterozygosity in the population. Persistent inbreeding sooner or later results in the fixation of deleterious alleles and the appearance of genetic anomalies in the offspring with increasing frequency, such as missing teeth, wrong bite, and obsessive compulsive disorder and other nervous disorders, reproductive anomalies, hereditary blindness, epilepsy, hip dysplasia, etc. Interestingly enough, we already have several breeds that were derived from aboriginal stock during relatively recent times and transformed into popular pedigree show dogs. Each of them suffers hereditary ailments and the older the breed's history as a show dog, the more it genetically deteriorated. Here is a list of such breeds: the Finnish Spitz, the Samoyed, the Siberian Husky, the Alaskan Malamute, the Karelian Bear

and the Basenji. Each of them has a list of hereditary health problems. Several other breeds with only aboriginal ancestors, but bred to a standard, such as the West Siberian Laika, the East Siberian Laika, the Central Asian Ovcharka, and the Caucasian Ovcharka, remain in a better shape, because they were all meant to be used for field work, not just for show. Nevertheless, they too underwent various changes away from the ancestral aboriginal type dogs. All kennel bred aboriginal breed dogs follow the same pattern of changes: they become bigger and heavier, voracious eaters, prone to obesity and slower at work. These changes become particularly noticeable after the age of about 5 years. Their aboriginal ancestral populations still survive and comparisons permit us to observe and investigate the differences. The differences between kennel bred show lines and their ancestral aboriginal populations can become quite noticeable very soon even without clear knowledge by their breeders.

There is a book based on investigations into hereditary health problems of purebred dogs: "Medical and Genetic Aspects of Purebred Dogs", Ross.D. Clark, J. D. Steiner and H. David. Haynes, editors, 1983. This is a book of 576 pages about hereditary problems of AKC and FCI recognized breeds. Can you imagine how much the authors of this book would write on this subject, if they were to study aboriginal dogs uncontaminated by interbreeding with cultured breeds? Perhaps, they would find not very much, because among aboriginal dogs, mutations like these are wiped out by natural selection. Probably recessive alleles with deleterious effect on the phenotype occur among them at frequencies similar to those found in wild species. I remind readers that in not so remote past up to 90% of the Collie population were carriers of hereditary blindness. Discussion and bibliography on this subject can be found in Beregovoy and Moore Porter (2001) and Derr (1997).

Degenerative selection

The very life style of dog owners and the reasons why they breed or keep dogs are major parts of that environment, which is reshaping every dog breed in the long run, even contrary to the good intentions of dog owners to breed better dogs. This is a result of unconscious selection under conditions of passive life in kennels, inside homes or restricted physically by other means. The life of dogs in commercial kennels is particularly detrimental to an aboriginal dog breed, which is a discriminating, faithful, energetic, independent and capable field performer – all qualities not needed in a commercial style kennel. Indeed, the favorite dog of a show breeder, especially of a mass breeder, is a dog convenient for feeding, breeding, petting and, of course, for showing. Such a dog should be content with being locked up in the kennel for many long days without freedom to run and interact with the outside world. Kennel training became a routine requirement even for many family dogs. The dogs have to learn all kinds of things not to do: not to express craving for personal attention or for freedom by barking or trying to escape. In short, good kennel dogs should be dogs that are the least demanding for physical and mental activity and less responsive to all kinds of environmental stimuli. Their character should be closer to a pig or a rabbit than to a dog, "man's best friend". Moreover, the most convenient potential show winner, regardless of the original purpose of the breed, should allow an unfamiliar person to lead it away and to inspect it by touching without protest. The dog should stay calm for many hours of boring time when being transported and waiting at the show event. All these qualities are conducive to a natural indifference and sluggishness in the dog. Under these conditions, the high energy, full-of-fire dog is a disadvantage. Inventive 'escape masters' are the most likely category that a commercial breeder or an average backyard breeder, living in a friendly neighborhood, would want to get rid off first. Dogs with a long history of selection to be "good kennel dogs" do not need any innate desire or skill to find their home, because they would never be tested on the matter, being condemned to stay in kennels and never meant to be field performing dogs. They live life and are bred like rabbits and they are change accordingly. Some may argue that they take their dogs to different organized activity events specifically designed to keep the dogs and their owners busy, such as agility, weight pulling, lure coursing or water retrieving, schutzhund and obedience contests. All these are better than nothing, but with an aboriginal breed, this cannot replace real hunting, pulling sleds or protecting livestock one day after another. All these city dog activities are like a drop in the bucket and they are moreover different activities, which require a different dog. To an aboriginal breed, work is a part of life; to a cultured breed, work is a periodic active entertainment.

Another degenerative form of selection contrary to the traits of most biologically perfect dogs is linked with the basic biological function of reproduction, from mating to giving birth to puppies. Some breeders treat their dogs as if they were agricultural productive animals or even ornamental plants. Females with more than one estrus per year and producing larger litters have a natural selective advantage and this is good for making a profit from selling puppies. Females that do not accept males without prolonged courting and foreplay are at a disadvantage, especially if they had been flown or given a ride far away for mating with a choice sire. All naturally designed forms of behavior, such as courting, fighting, sometimes exhausting chasing have an adaptive purpose of preventing the unfit males from reproduction. Breeders prefer females readily mating with any male. Males, selected among show winners are "precious" potential sires and are usually being helped to mate by constraining

the female, which otherwise would reject it, sensing its biological inferiority. The dogs must mate, especially, if one of them was shipped away just for mating with a choice dog.

When puppies are about to be born, all product oriented junk literature about dogs tells you: “Call your vet!” A good aboriginal dog female is a good mother and it does not need any assistance, except a place protected from bad weather, timely provided food and a bowl with water. Mother knows best and it is better to allow nature to take its course. Do not call your vet, but if the dog cannot breed the natural way, do not breed it at all. Even feeding kibble dry dog food, if continued for generations, will change our dogs genetically. Commercially produced dog food, does not exercise jaws and muscles, makes teeth dirty and overloads dog’s digestive system with all kind of ballast. It makes eating, digesting and defecating almost like in a herbivore, with plenty of excrement. In the long run, it may trigger certain adaptive changes in the dogs. Feed it natural foods!

Commercial dog breeders prefer younger females for breeding. Many hereditary health problems start showing up with age, especially, when the dog is over three – four years old. Commercial breeders do not like taking chances with breeding older dogs. Thus, deleterious mutations with effect on phenotype at an older age are avoided. This is why we have so many show dog breeds, which are not very smart, spontaneous unprovoked biters, not developing a bond with the master or a natural attachment to the place where they live, and get lost once allowed off leash, especially if left for some time unsupervised, etc. We have armies of dog behavior therapists, dog trainers, animal psychologists and veterinarians. Our cultured breed dogs keep them busy. With aboriginal dogs, these specialists would lose their earnings simply because they are all healthy physically and mentally. Native breeders of aboriginal dogs simply kill all abnormal individuals.

Preservation of heterozygosis of aboriginal breeds

Finally, there is another important feature of aboriginal breeds, which is still poorly investigated. Every aboriginal breed in its own environment should have a high level of heterozygosis, similar to wild animal species. Much of the variation is of a polygenic nature. The high heterozygosis in aboriginal population can be expected a priori, because of the known wide range of phenotypical variation in their populations and because stabilizing natural selection favors heterozygous organisms. This is how balanced polymorphism is maintained in populations of wild animals. This is how a natural population absorbs, like a sponge, alleles from other aboriginal populations. This happens when dogs come in a direct contact as a result of transhumance. Hybrid vigor has a selective advantage, especially if newly obtained alleles are beneficial ones, and this is why aboriginal populations are always somewhat mongrelized. Despite the fact that certain types of aboriginal dogs prevail locally, under conditions of uncontrolled breeding or frequent genetic exchange between populations of adjacent and even far away regions, they are open to new possibilities, occurring naturally. Variation caused by contacts between dogs during seasonal migration (transhumance) is very old and well described by Cruz (2007) in livestock and herding dogs of Portugal. This kind of variation existed long before the recent influx of imported dogs and should not worry anyone. Trading caravans, regional fairs, hunting parties far away from home, war parties and the very nomadic way of life of aboriginal dog owners with their livestock have helped to maintain the general similarity of dogs of the same purpose over large territories, despite some local differences among dogs that have survived over long periods of time. Variation caused by mixing aboriginal dogs of similar purpose is not a problem, because they all can do the same job and their ability to survive does not diminish. Examples of this kind of mixing are in Kyrgyzstan between Taigan and Tazy, in Afghanistan between Afghan Hounds and Saluki, in Azerbaijan between shorthair and longhair Caucasian Mountain Dogs, in Siberia between hunting Laika types belonging to neighboring ethnic groups, between different types of contiguous populations of northern sled dogs, etc. It would be entirely different, if aboriginal breeds were mixed with imported cultural breeds. Even a small admixture of cultured breeds would be wiped out by natural selection. However, mass interbreeding, when imported breed dogs even outnumber aboriginal ones, is a death sentence for the aboriginal breed. Although aboriginal breeds came into existence at the hands of native dog breeders, purging alien genes from it would be difficult without some knowledge of animal science, genetics and good understanding of the breed. Because preservation of an aboriginal breed means preservation of a population, not just a few appealing looking dogs picked up by tourists, it should always be a collective effort by truly concerned breeders.

Saving aboriginal breeds from extinction

The avoidance of unconscious negative selection is very important for a long-term breeding program of any aboriginal breed and it is a challenging task. For example, if a well-informed dog lover imports a pair of aboriginal dogs from their native land, he would certainly take good care of them. He would do his best to find a good home for the puppies. However, the natural selection stops here. Now, it is up to the diligence of the breeder how not to destroy the dog’s fitness and its working ability, which fascinated him in the first place. This work ought to be well organized and the breeding must be selectively aimed primarily at working performance, traits of endurance and physical vigor. The dogs must be kept and evaluated under conditions as natural as possible. Keep

them busy, hunting, pulling sleds, herding or guarding, according to the respective breed's profession, and ensure diverse interactions with other dogs and the rest of the environment. This helps to know the dogs and find out the best dogs for breeding. Indeed, how will you find out if your dog is smart and capable of work, if you keep it locked up all the time? Many of us would give up the idea of having such a dog, because not everyone has the time and conditions to keep it the right way. To succeed, the breeder of aboriginal dogs should focus on their better performance.

At present, there are a few enthusiasts, who are trying to breed better dogs by using performance in the field as the sole criterion of the breed. This means selecting for a certain function, instead of a certain appearance.

In the USA, coyote hunters in central and western prairie states are developing the Coyote Hound for at least 100 years (Eliason, 2007). One may ask why develop another kind of a sight hound, when we already have several excellent sight hound breeds for hunting all kinds of game? The problem is none of them satisfies a coyote hunter. Under existing conditions in American prairie and western states, Greyhounds do not endure hot weather and can even die of overheating, if sent on a hot day after some quarry. Besides, they can break their legs on the rugged terrain. Scottish Deer Hounds have enough guts to fight a coyote, but they are not fast enough to catch it. Borzois can run fast, but they are not maneuverable enough, when the coyote starts weaving under barbed wire fence and shrubs; besides, they do not like hot weather. A good Coyote Hound must be fast, maneuverable, bold and aggressive, strong and skillful for catching such a strong and fast predator as the coyote is. Coyote hunting enthusiasts are crossing all kinds of sighthounds and even non-sighthound dogs to add the necessary qualities to their major mixed breed origin stock. Trial and error continues, anything goes, which helps further to improve the breed functionally. Is it a breed? Yes, this is the breed, which is the best at catching and killing coyotes. Its appearance does not matter much, but in the functional part, they all are very good and similar anatomically. Their appearance is variable; but this is unimportant for their function; some dogs have a wiry coat and have a beard, like the Scottish Deer Hound, and some are smooth; some have one ear upright and the other hanging and any coat color is accepted. Their functional anatomy and vigor are perfected to the limit, but some less important traits of the appearance, such as ears or coat color, are allowed to vary. Owners and users of the Coyote Hound think that their dogs are beautiful, but to the traditional "purist" dog breeder, this is hard to accept. The coyote hunters see beauty in their dogs' performance. The Coyote Sight Hound is truly a unique dog breed with one single and most important trait, they can catch and kill coyote better than any other existing purebred.

Another example is the Alaskan Husky. What kind of a breed is it? The Alaskan Husky is a dog breed, which can pull sleds very fast and very far. Function comes first. What do the dogs look like? Very much like the northern Spitz (or Siberian sled dog). Any coat color is acceptable; some dogs have not perfectly prick ears or asymmetric ears, but because of the function and the northern environment, the classic sled dog appearance prevails. Genetically, this breed is in a constant flux, because its enthusiasts cross again and again, trying to improve function. All kinds of breeds have been added to the breeding stock: aboriginal North American sled dogs similar to the Canadian Eskimo Dog, the Alaskan Malamute and the Siberian Husky. Since the Gold Rush era sighthounds were added for speed, scent hounds for endurance, Irish Setters for hyper temperament, and more recently the German Shorthaired Pointer, the German Shepherd Dog and, sometimes, wolf. All this was recombined and reselected to improve one function, which is always the same, running very fast and for very long. The appearance is subordinate to the function. Perhaps under pressure of natural selection and life in the north, at a glance the Alaskan Husky is a northern sled dog. Alaskan Huskies may not look beautiful enough to some, but they win races.

These two examples deserve the serious attention of zoologists and geneticists. Some dog experts decisively refuse to recognize these two breeds, but in fact, these dogs are as much breeds as any other pedigreed breed, but they are based on a different concept of breed. In these two cases, appearance is subordinate to working ability and dogs of each of the two breeds are quite uniform anatomically and behaviorally. Perhaps, this is how all aboriginal breeds started in prehistoric time, when their ancestors initially looked like the Dingo or other generalist aboriginal dogs?

Selection for performing a certain job began from the time when the wolf was first domesticated. Perhaps the job of the first dogs was just being a pet and occasionally food. This is that ecological niche, which was occupied by the Australian Dingo before it became discovered by Europeans. Being selected over millennia for different functions and adapting to different geographic environments, they diverged, producing Laika, Saluki, livestock guarding dogs and other types of aboriginal breeds. Their further fate would depend on the fate of entire ecological systems, from where they came to us. Breeding for preservation is not the same as breeding for improvement. Even if we know what any particular aboriginal breed should be able to do and how it should look, breeding it in "captivity" can help only as a temporary measure; if continued for many generations; it will change the breed for the worse, because of degenerative selection.

Some aboriginal breeds are highly variable morphologically and are even polytypical, which means they have more than one type in one population or several close sub-breeds. Understandably, their natural diversity cannot be preserved by breeding to a traditional breed standard that reduces variation as much as possible. The standard of an aboriginal breed must be more liberal, descriptive and include more than one type found in the home country of the breed. A. Sedefchev and S. Sedefchev (2007) already put it to work with the Karakachan Dog. The best dogs suitable for breeding should not be show champions, but rather best rated dogs. Entire dog show and trials of aboriginal breeds should be redesigned to emphasize field behavior and physical performance.

The preservation of maximal heterozygosity within breeding stock could be achieved beneficially by running several parallel lines with periodic subsequent crossbreeding. Breeders of productive agricultural animals commonly use this method.

Using and breeding aboriginal dogs for performing a different job that is new to them would change them, especially if they were selected for greater trainability. This would change them by making them more responsive to trainer's commands, but this may come at the expense of their ability to work independently in their native countries.

Owners of cultured breeds will continue breeding and taking their dogs to shows and many do not mind to picking up some of the aboriginal breeds to keep and breed them for the same purpose. Some strains derived out of aboriginal breeds, after a number of generations, will be selectively modified for a different use, or even transformed into a different breed under a different name. Adding a healthy and vigorous genes of aboriginal "wild type" breeds to ailing genetically cultured breeds can be a benefit. However, this activity is irrelevant to our goal of preserving indigenous ancient aboriginal breeds.

Preserving aboriginal breeds should be a part of a broader nature conservation project, involving landscapes, vegetation and wild animals, such as hares, antelopes, jackals, foxes, wolves, coyotes, bears, etc. Of course, people with their traditional ways of land use with their livestock and dogs would be a vital part of such projects. Effective conservation cannot be achieved unless the people who live and rely on these lands are an integral part of the conservation process. Nature Conservancy and various charitable funds and associations should support such projects and aboriginal dog lovers would benefit by saving the truly "wild type" core populations of aboriginal breeds. At this conference, we had an opportunity to hear about interesting studies and developments in the history, variation and preservation of the Tazy in Central Asia and in Kazakhstan. The breed is certainly on the way to recovery (K. N. Plakhov and A. S. Plakhova, 2005). The authors have done tremendous work to save the breed in the country and have accumulated very interesting knowledge of the breed's history and existing variation. However, their recent idea of developing a separate breed, the Kazakh Tazy, is potentially dangerous to the very idea of preserving this breed as an aboriginal one. It would simply be transformed into another cultured breed with all the subsequent changes, such as a reduction of variability and isolation from its still surviving really aboriginal populations. Very interesting results from scientific in-depth studies on the aboriginal breeds of Portugal were presented by Cruz (2007). An example of progress in the preservation of the Karakachan Dog was made by A. Sedefchev and S. Sedefchev (2007) in Bulgaria. The Sedefchevs, did not fly to Almaty, as they planned, but they sent their article recently. They conduct an exciting project for preserving three of the oldest animal breeds still surviving in Europe: the Karakachan Dog, the Karakachan sheep and the indigenous breed of horse; and this work is a part of an integral project of nature preservation, including wolves and bears. Such efforts can serve as an example to others how to obtain financial support and tackle such difficult and complex problems.

Breeders, actively using aboriginal dogs for work and for sports are exactly those people, who must seriously contribute in their preservation for future generations. Nevertheless, saving aboriginal dogs in their countries of origin is the most reliable way of securing the survival of these unique remarkable dogs. Strains of aboriginal breeds in possession of dog owners far away from countries of their origin would need periodic genetic exchange with core populations of the "wild type", just as the ancient Greek giant Antaeus needed to touch mother Earth to regain his strength.

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UTILIZATION OF TURKISH SHEPHERD DOGS IN TURKEY

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Abstract

Turkish Shepherd Dogs are guarding dogs for livestock animals, and they have been reared in Turkey for a long time. Sheep and goat husbandry are an important part of Turkish agriculture. Historically, predators such as wolves constitute a major threat to Turkish livestock animals. Turkish Shepherd Dogs have for years had an important role in protecting sheep and goats against wolves. Kangal and Akbaş Dogs are the most well-known guarding dog breeds of Turkey. These breeds are becoming popular and getting greater public attention both as livestock guarding dogs and companion dogs all over the world. Companion dog breeders are raising the dogs primarily for placement as home companion, guardian dogs.

In this paper, general information about Turkish Shepherd Dogs is provided. It has been stressed that Turkish Shepherd Dogs might be the counterpart of some European and Central Asian guarding dogs.

Introduction

Turkey is a country situated at the heart of the oldest continents of earth, and it is also a bridge between ages, nations and civilizations. Greece and Bulgaria border on the European side; while Georgia, Armenia, Azerbaijan, Iran, Iraq and Syria border on the Asian. Between these borders of Turkey, lie the seas that surround it on three sides. The Black Sea to the north, the Mediterranean to the south, and the Aegean Sea to the west, fill in the remaining parts of the frame.

Animal husbandry is an important part of Turkey's agricultural sector. Sheep and goat husbandry form a significant portion of Turkish agriculture. In Turkey, some sheep breeds identify with some shepherd dog breeds. Turkish shepherd dogs are bred by villagers and shepherds on an unpedigreed basis in most areas of Turkey. Most of the guarding dog population consist of crossbred guarding dogs because there is no public recording system. The dogs are accepted as a natural adjunct of rural, agricultural life. Traditionally, the shepherd's dogs accompany the shepherd and the flock to the high summer pastures and live there until after the harvest is finished in the lower valleys. The flock then moves back to the village fields until the onset of winter. During winter, sheep, dogs and any other livestock, such as the family's cattle or goats, are housed in the village in low barns.

Turkish Shepherd Dogs are livestock guarding dogs, and they have been used primarily for protecting sheep and goats against predators, such as wolves, for generations. They were classified by David Nelson in the International Symposium on Turkish Shepherd Dogs held at Seljuk University in Turkey in 1996. The main points of the classification were body size, form, pelage and geographical distribution of the dogs. In addition, temperament and function as well as human cultural and historical factors were also considered. In the symposium, three different Turkish Shepherd Dog Breeds in Turkey were recognized. These were the Kangal Dog, the Akbaş Dog and the Kars Dog.

1. Turkish Shepherd Dog Breeds

1.1 Kangal Dog

Kangal is the largest district of the province of Sivas in respect of land. The district has two sources of genes that are important for Turkey. These are the Kangal Dogs used for protecting herds of sheep and the Kangal Sheep, which is a variety of the Akkaraman Sheep breed.

The Kangal dog is the national dog of Turkey, and is reared in places where Akkaraman sheep are bred, especially around Kangal Province and Sivas. Although Sivas Province is the center of Kangal Dog breeding, good examples of the breed can also be found in parts of the provinces of Kayseri, Yozgat, Tokat, Erzincan, Malatya, Kahramanmaraş, Konya and Aksaray. The geographical distribution of the Kangal Shepherd Dog is seen on map 1. Looking at the map, one can conclude that the Kangal Dog is not a regional breed. A limited number of Kangal dogs can also be seen in the regions of Akbas and Kars Dogs.



Map 1. Geographical Distribution of Turkish Shepherd Dog Breeds

The importance of the Kangal dog started to be understood when the breed was taken to the military training programme by the Turkish Army located in the province of Gemlik in 1970. At the same time, the breed started to be exported outside Turkey. These facts made the Kangal dog very famous both outside and inside Turkey.

Because the Kangal dog is rather trustworthy, faithful and reliable for family members, the breed has been successfully bred as a home companion guarding dog in the last twenty years. That is why breeding Kangal dogs as companions and pets has become popular in different parts of the world. When the Kangal dog is rebuked by the owner, he does not react against the owner and family members. This characteristic is very important for a companion housedog.

The Kangal is one of the guarding dogs that is able to fight with wolves. While some guarding dogs in the world exhibit only a deterrent attitude towards predators, the Kangal dog prefers to kill the wolf. Generally, breeders keep one male and one female dog to protect nearly 200 head of sheep. Using the male and the female together for protecting the sheep herd is based on the different talents of the sexes. Since the females are less heavy and more athletic than the males, they have the ability to catch and block the wolves. When a wolf tries to attack the herd, the female starts to pursue the wolf. Then the male Kangal dog attacks the wolf by hitting the wolf with his chest towards the wolf's flanks and finally knocking it to the ground.

The guarding ability of the Kangal dog is related to the genetic structure of the dog. Although the ability to guard exists in a Kangal dog, he learns to protect sheep herds from his parents. If a Kangal dog is raised for guarding, the puppy should be kept and accustomed to lambs and kids after weaning. This activity is called bonding. The pup can stay with the lambs and kids until he reaches six months of age. At stages of bonding, the breeder should watch the puppy. If he tries to chase the sheep, he should be removed from the breeding programme. After the dog reaches six months of age, puppies are allowed to accompany their father and mother when they are guarding sheep and goat herds.

After the military breeding programme of Kangal dogs in Gemlik, the Governor of Sivas set up a centre for the purpose of breeding and protecting the Kangal Dog in the Kangal Province of Sivas in 1988. Then another breeding programme started at the Agriculture Farm of Ulaş. These units, which are situated in a natural habitat, still produce and sell Kangal pups to breeders. Following on from these important initiatives, in 1992 the Faculty of Veterinary Science at Seljuk University began a research project and established a kennel to breed and preserve the native dog breeds of Turkey.

In recent years, private kennels have been established to produce purebred Kangal Dogs in different parts of Turkey. Moreover, dog festivals for Kangal Dogs have traditionally been held in Kangal Province and various regions of Turkey. Kangal dog are displayed at shows and the best breeders are rewarded at these events.

In spite of some positive developments in Kangal dog breeding, there is a danger of Kangal dogs degenerating and disappearing. Sheep breeding has declined in Turkey in the last 25 years, and as a consequence there has been a decline in the importance and number of livestock guarding dogs. While sheep breeding has been decreasing in Turkey, dog fighting has increased. Some good specimens of Kangal Dogs are purchased by householders. Then these dogs may be abandoned and mated with street dogs. That can damage the purity of the breed.

Breed Standarts

The Kangal Dog is recognized by Turkish Dog Clubs (the Turkish Kennel Club (TKC), the Association for the Preservation of Shepherd Dogs (ÇKKD), the Association of Turkish Shepherd Dogs) established in recent years in Turkey. It is also recognized by some Kennel Clubs in America (United Kennel Club), Europe (in Germany) and Australia (Australian National Kennel Control). The Institute of Turkish Standards has developed a breed standard for the Kangal Dog. The standard is almost the same as those of the UKC in the USA. The standard is explained below.

General Appearance

The Kangal Dog is a large, powerful, heavy-boned dog, whose size and proportions have developed naturally as a result of its continual use in Turkey as a guardian against predators. The head is large and moderately wide with drop ears. A properly proportioned Kangal Dog is slightly longer (measured from prosternum to the point of buttocks) than tall (measured from the withers to the ground), and the length of the front leg (measured from point of elbow to the ground) should equal slightly more than one-half of the dog's height. The tail, which is typically curled, completes the distinctive silhouette when the dog is alert. The Kangal Dog has a double coat that is moderately short and quite dense. The Kangal Dog has a black mask and black ears and a body color which may range from sandy to gray.



A male Kangal dog from Kangal region (www.cumhuriyet.edu.tr)

Temperament and Behaviour

The typical Kangal Dog is alert, territorial, and defensive of domestic animals or the human family to which it has bonded. The Kangal Dog has the strength, the speed, and the courage to intercept and confront threats to the flocks of sheep and goats that it guards in both Turkey and the New World. They are loyal and affectionate with family.

Head and Skull

The head is large and the skull is mesocephalic. The female's head is somewhat more refined than the male's head. When viewed from the side, the length of the muzzle, measured from the stop to the end of the nose, is slightly shorter than the length of the skull, measured from the occiput to the stop, in an approximate ratio of 2:3. The skull is broad between the ears and slightly domed. The cheeks are moderately well developed.

Faults: Dolichocephalic (narrow, long head) and brachcephalic (short-faced) head

Eyes

The eyes have an intelligent and trustworthy appearance. In proportion to head size, the eyes are medium sized. Eye color ranges from honey yellow to brown. Eye rims are black.

Faults: Light yellow eye colour; lack of solid black pigment on the eye rims; drooping eye lids.

Nose and Muzzle

The muzzle is deep and moderately blunt due, in part, to the development of the upper lips which are somewhat padded, especially in mature males. When viewed from the side, the jaws are of equal length. The muzzle is squarer and stronger in the male. The lips are fairly tight and always black.

Faults: A liver or chocolate-colored nose, Snipey muzzle; over developed flews

Teeth

The Kangal Dog has a complete set of large, evenly spaced, white teeth meeting in a scissors or level bite. Broken teeth resulting from field work are not to be penalized.

Faults: Overshot or undershot bite; more than two teeth missing; wry mouth

Ears

The ears are pendant, medium sized, triangular in shape, and rounded at the tips. The ears are set level with the outside corners of the skull. In puppies, ears may appear disproportionately large. The majority of Akbaş Dogs have their ears cropped as puppies in Turkey

Faults: Any ear carriage other than pendant; ears set too high or too low; ears too large or too small.

Neck

The neck is powerful and muscular, moderate in length, slightly arched, and rather thick. Some dewlap is present in males.

Faults: Too short, heavy neck; overly long neck; exaggerated dewlap

Forequarters

The shoulders are well-muscled and moderately angulated. The forelegs are long, well-boned, and set well. The elbows move freely and close to the sides. The front quarters are slightly heavier in proportion to the hindquarters.

Faults: Loose shoulders or elbows in mature dogs; bowed front legs; feet that turn in or out; chest too wide or too narrow

Body

The body is powerful and muscular. The line of the back inclines very slightly downward from the withers, levels, and then rises with a slight arch over the short, muscular loin, which blends into a moderately short and slightly sloping croup. The ribs are well-sprung. The moderately wide chest is deep with the brisket extending down to the elbow.

Faults: Narrow or poorly muscled chest; narrow rib cage; barrel chest; long back or long loin; steep croup; overweight or lack of muscle

Hindquarters

The hindquarters are powerful and well-muscled, although somewhat less substantial than the forequarters. The rear legs are well-boned and moderately angulated at the stifle joint and the hock joints. The hind legs are parallel when viewed from the rear. The rear pasterns are moderate in length and slope slightly forward from the hock joint when the dog is standing in a natural position.

Faults: Poorly muscled thighs; insufficient or over-angulation at stifle or hock joints; rear feet turning in or out

Feet

The feet are large with the front feet somewhat larger than the rear feet. They are either rounded or oval in shape, with well-cushioned pads and toes that may be webbed. Nails, which may be black, white, or mixed, should be kept blunt. Rear dew claws may be absent, present, single or double. Dew claws may be removed.

Faults: Splayed feet

Tail

The tail, which is set at the end of the croup is uncut, thick at the base, tapering to the tip. The hair is slightly fuller on the tail than on the body. When the dog is alert, the tail is carried in a curl over the back.

Faults: Extensive tail feathering or plumed tail; tail too short or too long; tail carried off center (to the side of one hip) when curled; kinked tail

Coat

The Kangal Dog coat has a short double coat, neither wavy nor fluffy. In cold weather, the coat is very dense, nearly uniform in length. In warm weather, much of the undercoat is shed, leaving a short, flatter outer coat. The outer coat is harsh and the undercoat is very soft, dense, and sometimes grey in color. The hair on the neck, shoulders, and tail is only slightly longer than the hair on the body. The hair on the tail is never plumed or feathered.

Faults: Feathering anywhere on the body or on the legs or tail; lack of undercoat; medium, long, or shaggy coats

Color

Color is an important characteristic of the Kangal Dog. The true Kangal Dog color is always solid and ranges from a light pale to a steel gray, depending on the amount of black or gray in the outer guard hairs and in the soft, cashmere-like undercoat. This basic color is set off by a black mask which may completely cover the muzzle and even extend over the top of the head. The ears are always black. White is only permitted on the feet, chest, and chin. The white on the feet may extend half way up the forearm. The white on the chest may range from a small spot to a blaze which may extend in a narrow stripe under the chest.

Faults: Poorly defined black mask, white marking on the chest and feet extending into main color

Height and weight

Height ranges from 70 to 85 cm for males, and 65- 80 cm for females. Weight 45-70 kg in male dogs, 40-55 kg in bitches

Faults: Obese, soft condition

Gait

The Kangal Dog's movement reflects the breed's combination of strength and agility. Its natural gait is relaxed and efficient with strides of moderate length. The back remains level, and the front and rear legs on each side move in a parallel fashion. As speed increases, however, the width between the legs decreases and the tendency to single track increases. Pacing at a slow gait is acceptable.

Disqualifications

Unilateral or bilateral cryptorchid. Viciousness, marked shyness, or cowardliness. Piebald, brindle, or parti-colored coat patterns. White, black, chocolate or liver whole body color. Liver or chocolate colored nose.

1.2. Akbaş Dog

The Akbaş Dog is a white livestock guardian breed of western Turkey. There are two varieties of Akbaş (long coated and medium (short) coated). The geographical distribution of the breed is shown on map 1. As can be seen on the map, Akbaş Dogs are found in parts of Ankara, Konya, Afyon, and Eskisehir Provinces. Especially, Sivrihisar and its villages are the center of Akbaş Dog breeding.

The Akbaş Dog is regarded as the Turkish counterpart of some of the white guardian breeds (the Greek Sheepdog, the Hungarian Kuvasz, the Slovakian Chuvatch, the Polish Tatra, the Italian Maremma, and the French Great Pyrenees) found around the northern Mediterranean Basin. However, only the Akbaş Dog possesses its unique combination of mastiff and gazehound characteristics.

In Turkey, Akbaş Dogs are owned and bred by villagers and shepherds to protect their sheep from wolves and other predators. The dogs are known locally as "ak-baş" (white head) or "ak-kuş" (white bird) in Turkish. Recognition of the breed resulted from field work by the Americans David and Judy Nelson who studied the dogs in Turkey beginning in the 1970s. The Nelsons imported over 40 Akbaş Dogs to the United States.

Although the Akbaş dog was recognised almost 30 years ago in the USA, the breed started to be known as a different breed in Turkey after a symposium. The sheep industry is in decline in the Akbaş region as in other parts of Turkey. As the Kangal dog is very famous in Turkey, most of the Akbaş breeders are making their Akbaş dogs breed with Kangal dogs. That is why there are so many crossbred dogs in the region. While it is still possible to find good Akbaş Dogs in the region, it is becoming more difficult as time goes on. The decline is caused by changing agricultural patterns and the migration of villagers to cities.

These dogs became the foundation stock for the breed in the United States and Canada. In 1980, the U.S. Department of Agriculture introduced Akbaş Dogs to its Predator Control Program where the dogs performed successfully.

Akbaş dogs are also bred as a home companion dog or estate guardian, like Kangal dogs in and outside Turkey. The Akbaş Dog is loyal, gentle, and quietly affectionate with its own family, including children and family pets, but remains aloof and suspicious towards strangers. It is also by nature watchful of other dogs and may on its

own territory react aggressively to intruding dogs. In recent years, some establishments for Akbaş dogs have been set up in different parts of Turkey.

Breed Standarts

The Akbaş Dog is recognized by some Turkish Dog Clubs such as the Turkish Kennel Club (TKC), the Association for the Preservation of Akbaş Dogs (AÇKKD), the Association of Turkish Shepherd Dogs, established in recent years in Turkey. It is also recognized by the United Kennel Club in America. The Institute of Turkish Standards has developed a breed standart for the Akbaş Dog. The standard is almost the same as that of the UKC in the USA. The standard is explained below.

General Appearance

The Akbaş Dog is white, a long-legged, lean, muscular dog of imposing size and strength, great courage and stamina, with an alert, regal bearing. The Akbaş Dog appears slightly longer in proportion than tall, has a wedge-shaped head with pendant ears, and a long tail, usually carried in a curl over the back when moving or excited. The Akbaş Dog represents a very rare and special mixture of Mastiff and gazehound characteristics that are important to maintain. The gazehound influence is apparent in the breed's long legs, deep chest, arched loin, shallow lower jaw, tucked up flank, speed, and agility, while the Mastiff's contributions can be seen in the breed's height, weight, broader head, and overall impression of power. Typically, the male dog is proportionately taller and heavier than the female.



Two Male Akbash Dogs from Afyon Province

Temperament and Behaviour

Their temperament is calm, quiet, and steady. They are independent and capable of responding correctly to changing circumstances. The Akbaş Dog is also highly suitable as a home companion or estate guardian. Akbaş Dog is loyal, gentle, and quietly affectionate with its own family, including children and family pets, but remains aloof and suspicious towards strangers. Although independent in nature, the Akbaş Dog responds well to basic training. Properly socialized and trained, the Akbaş Dog is an ideal family pet and home guardian.

Head and Skull

The head is large and the skull is mesocephalic. Male head is proportionally larger than female head. Viewed from the side, the length of muzzle is approximately one-half the length of the head, measured from occiput to nose. The skull is longer than broad and tapers gradually to the muzzle. Cheeks are flat and smooth.

Faults: Dolichocephalic (too flat and narrow) and brachcephalic (short-faced) head

Eyes

Eyes are medium-sized, almond shaped. Eye color may range from golden brown to dark brown with darker color preferred. Expression is to be intelligent, alert, and kindly. Eye rims are tight and solidly colored either black or dark brown. Eye lashes are white.

Faults: Very pale yellow eyes; loose and drooping eye rims.

Nose and Muzzle

The nose color may be either solid dark brown or solid black with both colors being equally acceptable. Dogs displaying a slight seasonal fading of nose pigment should not be penalized. Viewed from the side, the topline of the muzzle is straight and roughly parallel to the top of the skull. The muzzle is broad where it joins the skull and tapers gradually toward the nose, forming a blunt wedge shape. The jaws are strong. Lips are black or dark brown.

Faults: Butterfly nose, Snipey muzzle

Teeth

The Akbaş Dog has a complete set of good-size, evenly spaced, white teeth. A scissors bite is preferred, but a level bite is acceptable.

Faults: Over or undershot bite; more than two teeth missing

Ears

The ears are pendant; V-shaped, and slightly rounded at the tips. The ears are set rather high and lie flat to the skull. In Turkey, the majority of Akbaş Dogs have their ears cropped as puppies.

Faults: Ears set too high or too low; ears too large or too small.

Neck

The neck is muscular, medium long to long, arched at crest, and with little to no dewlap. A dog with some dewlap should not be penalized.

Fault: Excessive dewlap.

Forequarters

The shoulders are well muscled as expected in a working dog. The shoulder blade and the upper arm are well angulated and nearly equal in length. The forearm is long, straight and well-boned in proportion to the overall build of the dog. The front legs are set moderately well apart with elbows close to sides. When viewed from the front, legs should be parallel with each other and perpendicular to the ground.

Faults: Bowed front legs; feet that turn in or out

Body

The chest is deep and moderately wide. The ribs are well sprung from the spine and then flatten to form a deep body extending almost to the elbows. The length of the ribs decreases fairly quickly from the lowest point of the chest toward the loin. The topline inclines very slightly downward from well-developed withers to a strong back with a slight but definite arch over the loin, which blends into a long, well-muscled, sloping croup. The flank is well tucked up giving evidence of the gazehound influence in the breed.

Faults: Barrel chest

Hindquarters

The hindquarters are powerful. The upper thigh is both deep, from the front to the back, and long. Although more heavily muscled, the bone and angulation of the hindquarters balances that of the forequarters. The long hind legs contribute to the graceful arch of the loins and to the speed and agility of the breed. Viewed from the rear, the rear pasterns should be parallel to each other; from the side, they should be slightly forward of the perpendicular when the dog is in a natural but alert position.

Faults: Cow hocks; sickle hocks.

Feet

Two types of feet appear in this breed: cat feet and hare feet. Both are acceptable; the cat foot is preferred. Regardless of shape, the feet are large and strong with well arched toes. The pads are thick, hard, elastic, and may be either light or dark. Nails are gray, brown, or white and should be presented blunt.

Faults: Splayed feet

Tail

The tail set is low at the base of the croup. When the dog is moving or excited, the tail is usually carried in a curl over the back. The height and degree of the curl depends on the degree of excitement and confidence. The tail may be slightly to heavily feathered in proportion to the coat length of the dog.

Faults: Docked tails or short tails; tail carried between the legs, which would indicate shyness or cowardliness.

Coat

The Akbaş Dog has a double coat consisting of longer, coarse outer guard hairs and dense undercoat made of soft, fine hair. Thickness of the undercoat will vary significantly with the climate and exposure of the dog to weather. The Akbaş Dog normally sheds its undercoat annually. There are two equally acceptable coat lengths. In both types of coat, the hair on the muzzle, ears and paws is shorter than the body coat.

Medium Coat(short coat): The body hair is short to medium in length, lies flat, and gives a smooth, sleek, racy appearance to the dog. There is a slight ruff. There may be slight feathering on the forelegs, thighs, and tail.

Long Coat: The body coat on the long-coated Akbaş Dog body is distinctly longer than on the medium coated dog. The hair is often slightly wavy, but is never curled or matted. The long-coated Akbaş Dog with full undercoat appears heavier than the medium coated Akbaş Dog.

Color

The Akbaş Dog is always white. Light biscuit or grey shading around the ears or in the undercoat should never be penalized as long as the dog's overall appearance is white. Grey or silver-blue skin pigmentation, either solid or in spots, is desirable but not required provided the individual dog shows ample pigmentation on the eye rims, nose, and lips.

Height and Weight

Males 40-70 kg, 70–90 cm; Bitches 35-60 kg, 65–80 cm.

Gait

The gait of the Akbaş Dog is easy, free, and elastic. The feet travel close to the ground. From the front or rear, the legs do not travel parallel to each other but rather close together at the ground. As speed increases, the legs gradually angle more inward until the pads are almost single tracking. Viewed from the side, the hind legs reach far under, meeting or even passing the imprints of the front legs. When alert, the Akbaş Dog moves with determination and purpose toward the object of interest.

Disqualifications

Unilateral or bilateral cryptorchid. Viciousness; marked shyness or cowardliness. Cropped ears on a domestic bred Akbaş Dog. Complete lack of pigmentation on the nose, eyes and/or lips. Blue eyes. Any overall color other than white. Defined spots on the outer coat. Black whiskers. Black eyelashes.

A male Kars Dog from Kars Province



1.3. Kars Dog

The Kars Dog of Turkey is found in the northeastern parts of Turkey such as Kars, Ardahan Artvin, Erzurum, Ağrı, and Iğdır Provinces. There are many different kinds of guarding dogs in that areas. Some of the dogs are very similar to the Caucasian Ovcharka (Caucasian Mountain Dog) found across the Turkish border in the Republics of Georgia and Armenia. One example of this type of dog is seen in the picture below. The type can also be the counterpart of the Caucasian Ovcharka. There are also some similar white guardian dogs in some villages of Kars Province. While some scientific studies are focusing on the Kangal and Akbaş Dogs, studies on Kars dogs are very rare.

There are very few reports on the breed standard of the Kars Dog. According to the first International Symposium on the Turkish Shepherd Dogs, general descriptions about the breed standard are given below. Genetic and morphological studies are going on to determine the different characteristics of these dogs.

Body; The back is broad, straight and muscular. The loins are short, broad, and gently arched; the croup is broad, long and almost horizontally set. The abdomen is moderately tucked up.

Color and Coat; Solid black, brown, white, creme, fawn, tan, tawny agouti dark-grey, light, silver, reddish or yellowish with

or without markings. The double coat is composed of straight guard hairs and a well developed undercoat.

Weight and Height; Males 45-75 kg, 70–90 cm; bitches 40-60 kg, 65-80 cm.

Temperament; The breed is alert and courageous, protective without undue aggression, and assiduous in performing its livestock guarding duties.

2. Origin and History of Turkish Shepherd Dogs

There are different theories concerning the origins of Turkish Shepherd Dogs. These are mostly developed on Kangal Turkish Shepherd Dogs. Kangal Shepherd Dogs are native dogs of Anatolia or they are brought from Central Europe and Asia to Anatolia. It can be said that the theories can be valid for the other Turkish Shepherd Dog Breeds (Akbaş and Kars Dog).

In the first theory, Turkish Shepherd Dogs are native dogs of Anatolia and originated from Asia Minor. The early archaeological record shows that the domestic dog was living well within the borders of Turkey (Asia Minor) as early as 7000 B.C. representing some of the earliest dog finds in the world. Remains of these very ancient dogs have been found at Neolithic sites such as Hacilar in western Turkey and Çatal Hüyük on the Konya Plain of central Turkey. These dogs constitute the "original" dog of Asia Minor.

The theory is also supported by archaeological evidence from the historic period showing that the mastiff type of dog was used by such civilizations as the Babylonian (1900-331 B.C), the Assyrian (858-627 B.C), the Hittite (2000 -1180 B.C.), and the Phrygian (750-300 B.C.). An Assyrian mastiff dog relief from the palace of Nineveh, built by Assurbanipal about 649 B.C is on show in the British Museum, London. Some books record that the Akkadians (2350-2200 BCE) raised sheepdogs. However, it was reported that the mastiff type dog could be the Saint Bernard and the sheep dog could be the Belgian Shepherd Dog. Therefore, the dogs represented as Assyrian dogs are not guarding dogs for sheep.

The second is that Turkish Shepherd Dogs came from Europe to Anatolia. The theory is not valid for the origin of Kangal Dogs because there are no guarding dogs look like Kangal dog in Europe. However, there are some white guarding dog breeds such as the Great Pyrenees, Maremma, Kuvasz, Chuvatch, Tatra and Greek Sheepdog. These breeds are very similiar to Akbaş Dogs. Therefore, Akbaş dogs can be related to these breeds. The theory may also not be true for Akbaş dogs since there are some white guarding dogs in central Asia.

According to the last theory, Turkish Shepherd dogs originated from Central Asia. Turks brought shepherd dogs when they moved from Central Asia to Anatolia. On their long trek out of Central Asia they were accompanied by guard dogs. In Anatolia, there was no guarding dog before the Turk migration. It is generally regarded that small livestock animal breeding became widespread after the Turks in Anatolia. A journey to Central Asian countries proved there were many guarding dogs looking like Kangal and Akbaş Dogs in countries such Azerbaijan, Uzbekistan, Turkmenistan, East Turkestan, Kyrgyzstan, Afghanistan and Iran.

There are many museums representing the different civilizations in Turkey. It is possible to see in almost every museum a wall relief depicting every kind of animal except the dog. However, a number of reliefs of Turkish Tazis are available in some historical places. One of the first records of the presence of greyhounds in Turkey is a miniature painting from the Shahnama of Sultan Suleyman the Magnificent, a sixteenth century sultan, which shows the sultan's sons hunting with gazehounds. Moreover, in some history books, it has been accepted that livestock guarding dogs originated from central Asia. These events confirm the last theory.

We may conclude about the origin of Turkish guard dog breeds that while they reflect the dogs of a number of different civilizations, they were most recently influenced by dogs which the Turkish people brought with them on their long migration into Asia Minor.

3. Dog Breeding Unit of Selcuk University

The mission of the dog breeding unit of Seljuk University Veterinary Faculty is to preserve and develop the native Turkish shepherd dog breeds and to work to enhance the understanding of these breeds as well as to maintain the good reputation of these dogs and that of the Turkish livestock producers who breed and use them.

To achieve this mission, we Maintain a genetically diverse breeding population of good quality dogs of correct working temperament and conformation, Maintain individual dog records such as pedigrees, health records, and breeding records, Cooperate with individual breeders of good working dogs in the region by using their dogs in our breeding program and making pups available to area breeders and livestock producers.

Work to educate local, regional, national, and international owners, breeders, and organizations about the history and characteristics of the native Turkish shepherd dogs, the need to preserve those characteristics, and the dangerous effects of some practices, such as dog fighting,

Undertake and collaborate in research projects that are related to our mission and that of Selçuk Üniversitesi, for example we are currently collaborating with international researchers investigating the genetic

relatedness of Turkish shepherd dog breeds with other breeds and the tracing of canine origins through maternal DNA.

Our position on dog fighting

Dog fighting has historically been simply an informal contest between two male dogs. However; in recent years, the number of commercial breeders of Turkish shepherd dogs has increased while the number of sheep flocks which require protection has decreased. At the same time, dog fighting has become more common and the breeding of fighting dogs has become profitable for some breeders.

The damages done to the native shepherd dogs by organized and more widespread dog fighting are multiple. In order to increase the level of aggression, individual breeders are reported to be crossbreeding the shepherd dogs. Often these fighting dogs are bred for great size.

When breeders produce aggressive dogs, the reputation of the shepherd dogs as trustworthy protectors is destroyed. In many countries this can lead to the banning of a breed. The banning of Turkish shepherd dogs in other countries would create a negative image of not only the Turkish dogs but also Turkey.

The SUVF condemns dog fighting and encourages Turkish shepherd dog owners, breeders, and organizations to do likewise. However, great care must be taken in the banning of individual persons or their dogs. We also recognize that foreign breeders might unnecessarily limit their populations by such bans. The best policy seems to be the evaluation of each animal on its own merits because there is little or no reliable knowledge outside of firsthand experience about which breeders or dogs might fail to meet the anti-fighting criteria.

Conclusions

Turkish Shepherd Dogs are guarding dogs, and they have been reared in Turkey for a long time. The Kangal dog, the Akbaş dog and the Kars dog are raised in central, western and eastern Turkey, respectively. Kangal and Akbaş dogs are becoming popular and getting greater public attention as both livestock guarding dogs and companion dogs all over the world. In recent years, some establishments for Turkish Shepherd Dogs have been set up in different parts of Turkey. These associations are trying to bring to dog breeders selective and pedigree breeding systems. However, sheep and goat breeding has declined in Turkey in the last twenty years. Therefore, the numbers of guarding dogs have decreased. By contrast, commercial dog breeding and dog fighting have increased. That is why Turkish shepherd dogs are increasingly in danger.

Some European and Asian guarding dog breeds can be the counterpart of Turkish Shepherd Dogs. Genetic studies of guarding dogs are needed to investigate the migration of guarding dogs over the world. This can be achieved by cooperation between different countries.

In particular, further studies should be made to determine the characteristics of the Kars dog; and the relationships between the Kars and Caucasian Ovcharka (Mountain Dog) of Georgia, Azerbaijan and other areas need to be investigated.

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