



**TURKISH KANGAL (KARABASH) SHEPHERD DOG****by****Assist. Prof. Dr. ORHAN YILMAZ**

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**TURKISH KANGAL (KARABASH) SHEPHERD DOG**

History, Definitions, Breeding

by

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**Preface**

## Chapter 1

### DOG

#### Domestication

Dog is known as the first animal prehistorically domesticated in the world. Sheep has been domesticated subsequent to dog. Indeed the only animal, till the last few centuries, domesticated by Indians in North America has been a dog (*Altuğ 1978*). Dog was believed holy in ancient Egypt. Graveyards were constructed for them, and such places were considered sacred locality.

According to latter studies its domestication dates back 15.000 years before Christ. The ancient paintings dated from the years 3.000 or 2.000 BC in Egypt exhibit gazehounds or sighthounds (The Saluki Iranian Hound), powerful shepherd dogs (Mastiff), and even small house dogs. In addition, the skeletons of greyhounds, base dogs and some hybrid minor dog breeds have been found in the holy graveyards for dogs of ancient Egypt. Ancient Romans also hung warning plates on their main gates, having the same meaning of “*cave canem*” in Latin as the warning plates such as “Beware of the dog!” being used today (*Clutton, 1996*).

#### Description

The word “dog” is expressed solely as a domestic mammary animal of Canidae family of Carnivora (Carnivores) group having number of breeds from their length and shape viewpoint, being multi-directional benefited by human, smelling incredibly, faithful, and used in works such as guarding, hunting, flock protection. Despite dogs are classified in the Carnivora group they have become the animals in most countries as “the ones eating whatever they can find” namely “omnivora”. Among animals the dog which is most familiar to human is also the one of those who is cleverest.

#### Classifications

The first classifications have been made by *Buffon according to the ear shapes of dogs*. He has classified dogs into 3 classes as the dogs with “up-right ear”, “semi up-right ear”, and with “lop-ear” (erect or pricked ear, semi-drop or semi prick ear, and drop, pendent or pendulous ear, respectively according to *Harold H. Spira - Canine Terminology, 1982*). Later on, some scientists have taken a structure of head as a basis. However, the recent classifications separate dogs into groups in accordance with the works they perform.

**1. *Hunting and Sporting Dogs*.** They are classified as the dogs “detecting and showing a location of a hunt”, “detecting and bringing back the prey shot”, and the “flushing dogs and tracking dogs”. Terriers and greyhounds are included in this class. They are generally moderate size and runner type dogs.

**2. *House Dogs and Fancy Dogs*.** The breeds with small structure such as the Barbet, Spaniel, Terrier, Poodle, Chow Chow, and the Pekinuva dogs are included in this class.

**3. *Working Dogs*.** The dogs in this class are the watchdogs, shepherd dogs, rescue dogs, eye dogs, guardian dogs, fighting dogs and the northern breeds. These are large frame and with heavy massive livestock (*Meydan Larousse 1992*).

## Status in zoological systematics

The status of dog in zoological systematics is shown below.

Table-1 Status of dog in zoological systematics

<i>Kingdom</i>	<i>Animale</i>
<i>Pylum</i>	<i>Chordata</i>
<i>Subphylum</i>	<i>Vetebrata</i>
<i>Clasis (Class)</i>	<i>Mammalia</i>
<i>Subclasis (Subclass)</i>	<i>Placentalia</i>
<i>Ordo (Order)</i>	<i>Carnivora</i>
<i>Familia (Family)</i>	<i>Canidae</i>
<i>Genus</i>	<i>Canis</i>
<i>Species</i>	<i>Canis familiarise</i>

(Akçapınar 1999)

## Some qualifications of species

In general, the chins of dogs are long. Dogs have 42 teeth in their mouths. Canines (cuspids) flunked are large, and used for biting and tearing meat and sinews of prey, and the back molars for chewing bones. Its premolars used for catching a prey are long and sharp.

Since dogs have no *sudoriferous* glands they do not sweat. In case of running or if they are overheated they cool off by hanging their tongues out and panting. As they pant, the evaporation of perspiration from their tongues cools the animal. Dogs perspire also through their pads.

The normal body temperature, the pulse, and respiration are 38.4°C (101.12°F), 70-100 times/min, and 15-30 times, respectively. The sense of smell is the dog's most acute sense well developed. Its nose has about 125 to 200 million olfaction cells.

Their toenails or claws are emerged from the end of each toe. They are inactive, and not pulled back under skin. Its forequarters have four toes and five toenails each, and the fifth toe on the back of the leg, the dewclaw, is too high to be of any use. Hindquarters have four toes, and may have five, six, or seven toenails. Only the African Greyhound Dog possesses four toes and four toenails in its all limbs.

## Barking

Dogs usually bark excluding some barkless breeds such as the Basenji and the Malamute. The voice of barking varies in according to dog's morphological structure. Some dogs bark in high tone (The Kangal), some yelp (fancy dogs with minor structure), some bark ever so often (The Samoyed), some few (The Scottish Terrier), some in various tones so as to identify how far the prey is (Grand Bleu De Gascogne), some with a voice of melody (American Fox Hound), some yowl such as wolves (The Alaskan dog), and some yodel (The Castro Laboreiro).

## Breeding features

Feminine dog possesses 8 to 10 teats. Each teat has 3 to 4 holes. Pregnancy takes an average of 9 weeks, namely 63 days. Its average litter size is 3 to 10 puppies a venter. Some dogs in its first delivery can whelp only 1 or 2 puppies but some can deliver more than ten. The world record known belongs to the dog named Lena of W. N. Ely from the U.S.A. It delivered 23 puppies alive in one venter in 1944.

It is assumed that the total number of dogs across the world is around 1 billion (*Meydan Larousse 1996*).

### **What dogs come in useful?**

Throughout history, dogs have been given number of very interesting commissions other than the tasks known such as herding domesticated livestock, protecting houses, work places, gardens etc., rescuing people, using in hunting as greyhounds, using as a guard dog, being a companion with lonely and old people, being a guide for blind persons, detecting mines, bombs, narcotics etc., and using as tracking dogs.

Ancient Romans used dogs as messengers, and for the aim of attack. Upon appearance of the Molosser dogs with nail-puller-like scissor bite teeth, and having spiked collars studded with long spikes as sharp as a razor their enemies preferred running away instead of fighting. The dog that was called as a message dog was the most misfortune one. The written military orders were put into a small copper tube, and it was made swallowed by a message dog. Since no time was left for waiting for the tube coming out from natural way the copper tube was quickly taken out by killing the dog and cutting its abdomen when a messenger dog arrived in its destination.

In the Middle-age the priests used dogs for heating their feet during the meetings of church (*Clutton-Brock, 1996*).

In France, the dogs equipped with superior sense of smell are being used in searching of the fungi “*Rhizopogon luteolus*” a spices of mushroom” grown underground, which is a very delicious one (*Clutton-Brock, 1996*).

And “Laika” was the first animal ever sent to space by Russians in 1957 (*Clutton-Brock, 1996*).

## **Chapter 2**

### **SHEPHERD DOG BREEDS OF THE WORLD**

The common features of shepherd dogs in this group are to become a large and powerful dog having whitish coat generally. Following are the shepherd dog breeds well-known by respectful dog clubs across the world.

### **The Caucasian Ovcharka Dog**

The Caucasian Ovcharka Dog (The Kavkas-Caucasus Sheep Dog) is the most powerful sheep dog in Caucasia. Its breeding is wider spread in Caucasia than in Russia, Armenia, Georgia, Azerbaijan, Kabardino-Balkaria, Daghestan, Ossetia, Turkey, Chechnia, Ingushetia and Iran. All varieties have same temperament, but physical appearance varies slightly according to the region and the purpose for which they were bred. He possesses a brave, independent, overprotective, randy, and super powerful structure. He needs training and early-period socialization in discipline. Many different colours from grey and cream to various tones of brown exist and long, medium, or short double coats are acceptable. Its height at the withers, and weight are 67-75 cm (27-29 in) and 61-66 cm (24-26 in), and 60-70 kg (132-154 lbs) and 40-50 kg (88-110 lbs) in males and females, respectively.

### **The Komondor Dog**

He is Hungarian origin but looks like very much the Russian breed Ovcharka. He is known that its existence in Hungaria dates back at least 1000 years. Its coat covered with very long, dense and white cords is the characteristic feature of breed, and protects him against the predators. Since its coat looks like a sheep coat he appears from far distance like a member of flocks of sheep. Its front or back may not sometime be identified where he is stock-still. Komondors are self-confidence, brave, serious, careful and randy dogs. It is extremely affectionate with its family and friends and gentle with the children of the family. Because of Komondor's size, power and speed its owner must have him under control and discipline. Its height at the withers is 67-71 cm (26-28 in) in males. Females have a little bit lower size. Alive weight in full age dogs is about 45 kg (99 lbs). Its thick coat shows it great.

### **The Great Pyrenees (Pyrenean Mountain Dog) Dog**

The Great Pyrenees also known as the Pyrenean Mountain Dog is one of the most popular dogs. Its origin is from the French part of Pyrenean Mountains. It is accepted that he is a descendant of the Hungarian Kuvazs and the Maremmano-Abruzzese. He is a very large animal with a solid muscular body. He can provide protection against bears and wolves. He possesses a cold and water resistant double coat consisting of a long, flat, thick outer coat of coarse hair and lying over a dense, fine woolly undercoat. The Great Pyrenees Dog is confident, gentle, and affectionate for its flock or family. Its independent personality effects its training period negatively. Its height at the withers is 69-81 cm (27-32 in) in males, and 64-74 cm (25-29 in) in females. Alive weight in full age dogs is 45-57 kg (99-126 lbs) in males and 41-52 (90-114 lbs) in females.

### **The Castro Laboreiro Dog**

Many of experts do not agree that this breed is not a shepherd dog. Other shepherd dogs are of white colour in general whilst the Castro Laboreiro Dogs are brown. He resembles very much a Labrador Retriever. He is a mountain dog not for herding but a protective livestock dog for smaller sheep and sometimes cattle in mountainous sections of Portuguese. The meaning of

its name in Portuguese is “the labours’ village”. He is a medium height size brave and attentive dog in comparison with its size and weight. Its height at the withers is 56-61 cm (22-24 in) in males, and 51-56 cm (20-22 in) in females. Alive weight in full age dogs is 30-40 kg (66-88 lbs) in males and 20-30 kg (44-66 lbs) in females.

### **The Kuvasz Dog**

He is one of the most important dog breed of Hungary together with the Komondor Dogs and the Vizsla. The origin of the Hungarian Kuvasz is dated back to the Turkomans’ and Mongolians’ expeditions to inner Europe. The Kuvasz is a majestic, well-proportioned white sheepdog having an effect on protection of flocks. He possesses a white or ivory colour coat. The Kuvasz is an intelligent, curious, fearless, and self confident dog. This makes him a successful shepherd dog. Its height at the withers is 71-76 cm (28-30 in) in males, and 66-71 cm (26-28 in) in females. Alive weight in full age dogs is 45-52 kg (99-115 lbs) in males and 32-41 kg (71-90 lbs) in females.

### **The Polish Tatra Sheep Dog**

The Polish Tatra (or Podhalanski) is a breed of the Carpathian Mountains known as the Tatra Mountains in southern part of Poland. They are very small mountains but it is fascinating that with this relatively small area there is tied such a rich tradition of mountain shepherding and still working sheep guarding dogs - Polish Tatra Mountain Dogs. He is a smaller breed dog in comparison with other flock guarding dogs despite he possesses mutual pass of them with white colour coats across Europe. The Polish Tatra is a strong breed against winter conditions. Its height at the withers is 66-81 cm (26-32 in) in males and 61-71 cm (24-28 in) in females. Alive weight in full age dogs is 57-59 kg (126-130 lbs) in males and 41-50 kg (90-110 lbs) in females.

### **The Shar Planinetz Dog**

The Shar Planinetz of Yugoslavia has taken its name from the Shar Planina Mountains in Macedonia. Despite its origin is not exactly known it is assumed that he has been bred from domestic grey breeds of Yugoslavia. Initially, he was registered by the FCI as the Ilirski Ovcar, but then as a result of insists of the Yugoslavian Dogs Club he was registered as the Yugoslavian Sharplanina Shepherd Dog. He is a medium size breed. Its colour is irony grey. Whiteness can be seen on breast and in legs, despite it is not desirable. The Shar Planinetz is a strong and endurable dog. Its quantity in the USA is more than its number in Yugoslavia. . Its height at the withers is 55-60 cm (22-23 in) in males and 50-55 cm (20-22 in) in females. Alive weight in full age dogs is 25-35 kg (55-77 lbs) both in males and females.

### **The Maremma-Abruzzese Dog**

The Maremma is bred to guard large flock of sheep in the middle sections where the portions of plains and the mountains called as the Maremma and the Abruzzese of the middle section of Italy, respectively are located. Italians assert that this breed has been living for 2.000 years in this area. He is an Italian breed of white shepherd dogs. The Maremma is very impressive and beautiful dog. He is majestic, lively, distinguished and intelligent, and he possesses lithe and strongly built body. He is faithful, courageous and careful about their environment. The Maremma’s height at the withers exceeding 76 cm (30 in) in males is usually seen, and its



weight alive in full age dogs is 40-45 kg (88-99 lbs) in males and 30-35 kg (66-77 lbs) in females.

### **The Slovakian Tchouvatch Dog**

This rare breed is seldom seen in its native Czech Republic and Slovakia where it is called as the Slovensk Cuvac, but shortly the Cuvac. He has been bred by hybridization of the Slovakian domestic white dog and the Pomeranian Dog called the Spitz. Then the Kuversz blood has been added to this hybrid breed, and the Tchouvatch has been obtained. He is originally used to guard sheep and cattle, and today is also a watchdog for houses. Its long harsh white coat can have yellowish markings on its ears and neck. Described as an independent dog, the Tchouvatch is very faithful, and he is also affectionate, gentle, and patient with children. Its average height at the withers is 71 cm (28 in) in males and 66 cm (26 in) in females. Alive weight in full age dogs is 39-48 kg (86-106 lbs) in males and 32-41 kg (71-90 lbs) in females.

### **The Tibetan Mastiff Dog**

He is accepted as one of the most progenitors of all the Mastiff breeds and livestock guardians. Its homeland is the Himalayan Mountains. Marco Polo, the early explorer, mentions this breed during his exploration in the 13<sup>th</sup> Century. Along with size, the Tibetan Mastiff possesses a bold attitude, a rugged constitution, and a dense coat able to withstand extremes in cold climate. The colour of its coat is black, black and tan, blue and tan, brown, grizzle, sable, or cream. White spots and blazes are acceptable. The Tibetan Mastiff possesses a well-developed protection instinct, steady nature, faithful and gentle with its owner and family. Its height at the withers is 64-71 cm (25-28 in) in males and 61-66 cm (24-26 in) in females. Alive weight in full age dogs and females is 64-78 kg (141-172 lbs).

## **Chapter 3**

### **NATIVE DOG BREEDS OF TURKEY**

There are five domestic purebred native dog breeds in Turkey of which three of them are the guardian livestock namely the *çoban köpeği* (cho-ban ko-pay-hee) which translates *shepherd's dog* or *sheep dog*, and two of them are the "*av köpeği*" which translates *hunting dog*.

### **The Kangal Dog**

His/her main spread was the triangle of Sivas-Tokat-Yozgat provincial area where the Akkaraman shepherding was extensive in Turkey (Asia Minor of old). Outer of these three areas, it was natural to come across the rare samples of purebred Kangal dog in variable numbers in Erzincan, Kayseri, Kırşehir, Nevşehir, Niğde, Ankara, Kırıkkale, Konya, Karaman, and Aksaray spreading from east to the middle of Anatolian plains. Today s/he can be found across Turkey. This spectacular Turkish breed is characterized with the female lion-shape of body, eyes and muzzle edged with black mask, ears as if adhered to his/her skull, and the tail hanging low with a slightly upward and forward curl. The colour of his/her dense and short coat varies from intermediate tones from fawn to cream, and tawny lever but never snow white. His/her courageousness, faithfulness and sensitiveness are forefront. The Kangal (*kahn gall*) Dog is fearless and talented in protection of his/her own flocks and human life. S/he is quite good to women and the children, livestock in his/her flock, pets and even with other individuals in his/her house. S/he can withstand extremes in cold harsh climate. S/he has a long life in comparison with such a large upstanding breed. S/he likes human however s/he establishes connection to his/her flock, and protects it. S/he is a formidable fighter against large dogs and other predators even though s/he can be controlled by training.

### **The Akbash Dog**

Akbash (*ack bash* or *ahk bash*) is a Turkish word meaning "white head". When we say white we mean "milk white". The Akbash Dog is a milk white livestock guardian breed native to the plains and mountains of the region between Eskişehir, Afyon, Konya, Salt Lake and Ankara of Turkey, which is its main spread. Even as the origins of the breed are unclear, it is known to be an ancient purebred. In Turkey Akbash Dogs are owned and bred by villagers and shepherds to protect their flocks from wolves and other predators. Purebred Akbash Dogs are free of pinto, skewbald, and brindle markings or other indeterminate colours. The cream colour from ears to the tail end can be acceptable. It is more beautiful having a refined appearance with an edged muzzle and a softer coat with long and medium hair in comparison with the Kangal Dog in fawn colour. Its weight and height at the withers are smaller than that of the fawn Kangal but it is as brave and faithful as the Kangal Dog, even more in fighting with predators. Its temperament is typified by a calm, quiet, alert, courageous independence coupled with a natural protective instinct. It is very agile. The Akbash Dogs can jump over the fences and walls in normal height of human. Possessing great stamina, they are capable of running at great speed.

### **The Kars Dog**

Generally, the location of this breed is mainly Kars but also the southern high mountainous and low valley sections of Artvin, and Erzurum, Ağrı, Ardahan and Iğdır provincial areas of northeastern Turkey. It is called locally as "*Kıllı*" (shaggy), "*Saçaklı*" (thrummy) and "*Tüylü*"

(hairy) in Kars-Ardahan-Erzurum-Iğdır-Ağrı, and Ardahan and Artvin, respectively. This regional sheep dog was first introduced by David Nelson from the USA on the occasion of the First International Symposium of Turkish Shepherd Dogs, Seljuk University, and Konya, Turkey in 1996. With its external appearance the Kars Dog resembles the Caucasian Ovcharka (Mountain Dog). Its long hair coat shedded suitable for severe winter conditions often gives it a dishevelled motley appearance. It is possible to meet with short-coated Kars Dogs. The Kars Dog is found in almost all colours and patterns. Colours include mostly dark colours of black, reddish brown, agouti, grey, mixtures of black and brown, white, piebald, and white with grey patches. White markings are very common in solid colour dogs. Also common are white forequarters, chests, and white neck collars. Head is usually with dark colour. The hairs on its neck and the backs of its hindquarters are long. Since its neck is with a mane it is appeared larger with its mastiff head from front. Local stories say that a few of them can cope with and even kill a bear which is not so big. In general it is in tendency of engagement to a one person. It is not much friendly against their environment. It yelps huskily with thick and intermissive voice in comparison with the Kangal dog. It is perfect as a guarding dog with its braveness and faithfulness.

### **The Turkish Tazi (Sighthound) Dog**

The breed better historical documented among other breeds is the Turkish Greyhound despite it is in less quantity among Turkish breed dogs. One of Şehzades (Sultan's son) of Sultan Süleyman (King Solomon) the Magnificent in hunting with gazehounds was illustrated in a miniature dated back from the 16<sup>th</sup> Century.

It is asserted that the Turkish Sight is native to the Kirghiz Taigan, and that this breed has been brought about in Anatolia by Turks during the Great Migration from Asia to Minor Asia. It resembles the Saluki Greyhound but it is larger. Its coat colour comes in all dog colours. The Turkish Tazi (*tah-zuh*) possesses long forequarters and hindquarters, a slim body, a thin tail without hairs, a long and slender skull, a long neck, deep chest and flexible and curved spine. It is mostly used in wetlands in middle and south Anatolia for hunting quails, partridges, rabbits, and foxes for detecting and bringing back the prey shot.

### **The Çatalburun Greyhound of Tarsus**

The fifth Turkish dog breed that is a greyhound but not a shepherd dog is the Çatalburun Greyhound of Tarsus. Its name has been given locally. A Turkish word meaning “Çatalburun” (in Turkish) is “fork-nose” because it possesses a muzzle with nose consisting of two portions. It usually lives in southern Turkey in a very small quantity. It possesses a superior smelling sense, and is the best for detecting and bringing back the prey shot.

### **Does any dog breed titled as the Anatolian Shepherd Dog exist?**

As it is seen above, there is no such 'breed' titled as the Anatolian Shepherd Dog among the purebred dogs of Turkey, not in name, not in concept, and not in reality. However, the flock guardian breed so called as the Anatolian Shepherd Dog is well-known across the world. Despite the name of Anatolian Shepherd Dog is used by some countries mostly the United Kingdom and the USA, in my humble opinion the purebred dog called as the Anatolian Shepherd Dog does not exist. Excluding the purebred ones above, all the flock guardian dogs seen throughout Anatolia known and called as the Anatolian Shepherd Dogs by their owners and breeders in foreign countries consist, as a matter of fact, of such a population created by

mating of the purebred, the real Kangal Dog with some other breeds freely because the mating technique under control, namely breeding on a pedigreed basis is not applied in villages. This matter can better be seen in the photographs in further pages.

Today majority of these mixed and wandering dogs lives independently in villages, town and even cities in Turkey. Bitches can mate easily and freely with one or more than of these male dogs during their rut periods. These mating male dogs may not always be the Kangal Dogs but various breeds, mongrel and even pariah dogs. As a result, number of dogs as if resembling the Kangal Dog is seen around but it will be clearly understood that they are not the purebred Kangal Dogs if they are seriously scrutinized.

We may denominate these dogs as the Anatolian Shepherd Dogs although they have no breed features since they are not purebred. With their exterior appearance they resemble the Kangal Dog when seen from far but they have not a structure as large as the Kangal Dog. Moreover, neither they have a body shape as a lion, eyes and muzzle edged and particularly in tail with black mask, and ears as if adhered to his/her skull nor a tail hanging low with a slightly upward and forward curl. Resemblance with the Kangal Dogs relates only the colour of their coats despite it exhibits various colours. Piebald colours are very often seen. Their features of temperament and characters are not as good as the Kangal Dog\*.

*\*My advice to those who would like to purchase the real, purebred Kangal Dog among the ones being sold in Turkey as the Kangal Dogs of which we can only denominate them as the Anatolian Shepherd Dogs will be the information given in this book that they must read carefully and give their attention to because at least 70-80% of the dogs brought to me for examination by the owners who would like to know whether or not their dogs were the purebred Kangal was, unfortunately, the pariah dogs as explained above.*

### **How many of those in western countries is the purebred Kangal?**

In Western countries, bringing one child up and breeding one dog is common among the Western families. Dog owners who purchase and breed one single Kangal Dog use the most convenient breed or the breed such as the Saint Bernard, the Mastiff and the Labrador that they could find if they do not find the purebred Kangal Dog when they want it to mate. This causes retrogression of the Kangal Breed. This point was well introduced during the 1<sup>st</sup> International Kangal Dog Symposium held in the Kangal District of Sivas province in 2003. The pictures and slides of dogs displayed by the participants abroad as illustrations of the Kangal dogs were actually the mongrels of the Kangal X Mastiff, Kangal X Saint Bernard, and the Kangal X Labrador. The dogs mostly in the USA and the other countries in the world known or called as the Kangal Dogs are in fact the mongrel pariah or wandering dogs that we can denominate them with the name of Anatolian Shepherd Dog. In the years of 70s and 80s both, namely the Kangal and those called the Anatolian Shepherd, with the intention of purchasing the Kangal Dog were transferred to the said countries since no official discrimination between the Kangal Dog breed and the spices of Anatolian Shepherd Dog has not been done yet. In further pages, this may obviously be seen if the photographs of some dog breeds with British origin provided in two full pages. Mr. Pat Broadhead, the founder member and the Chairman for the Anatolian Karabash Dog Club, and the Judge for the British Dog Club, and Ms. Sue Kocher, The Secretary General and Accountant for the American Kangal Dog Club in the USA proposed similar views in their speeches at the symposium above.

**Chapter 4**

**THE KANGAL DOG**

The Kangal Dog, or the Sivas-Kangal Dog as s/he is sometimes called in his/her native Turkey, has a special position in dog species. S/he is one of the cleverest, most loyal, and the heaviest-boned dog breeds of the world. The Kangal Dog is the guardian *par excellence*.

### **The word meaning of Kangal**

Number of different opinion exists on this era. According to some scientists the origin of word "KANGAL!" is ex-Turkish. It is derived from the word "kang" which means a "wheel". However, Melich Arm repudiates this opinion. He and some other sources show the word "kangal" in Greek and Romaic as the origin of word kangal, but kangal is called in Greek and Romaic as "kangali". It is called "kàngal" in Serbian, and used for the meaning of "empty", and "round" same as in Turkish. As a word meaning, it is a circular shape or ring of a thing such as a rope, wire and tube twisted. The word "kangal" is used for various meanings in the districts of Anatolia such as for men and animals who are "slender" and "thin" in Acıpayam-Denizli; for "old" animals in Bodrum-Muğla, and Şebinkarahisar-Giresun; for "walnut" in Çanakkale; for "hank" in Gölhisar-Burdur and Bor-Niğde; for "kidney" in Torul-Gümüşhane; for "oak cone" in Şebinkarahisar-Giresun; and for "thistle" in Sandıklı-Afyon, Yeşilova-Burdur, Tavas and Acıpayam-Denizli, Sivrihisar-Eskişehir, Artova and Zile-Tokat, Doğubeyazıt-Ağrı, Nizip-Gaziantep, Şarkışla-Sivas, Pınarbaşı-Kayseri, Silifke-Mersin, İsparta, Düzce Yozgat and Konya. The word "kangal" used for the meanings and in the places excluding the first two above are for the materials with round shapes.

The correct, traditional name for the breed in Turkey is "Kangal Köpeği" or "Sivas Kangal Köpeği". (The Turkish word "*kopek*" means "dog" in English. When used with an adjective in the Turkish language, the word "köpek" takes the form *köpeği*.) Thus, the direct translation is the Kangal Dog or the Sivas Kangal Dog. No other name is acceptable to the Turks.

### **Origins of the Kangal Dog**

The Turkic tribes represent the last major ethnic influx into Asia Minor because of aridity and increase of population in Central Asia. They came via Persia and began to occupy Asia Minor (today's modern Turkey) in significant numbers. They accompanied 3 things during their migration: horses, dogs and sheep. Horses were used as mounts and drafting animals, dogs as guardian for flocks and people, and sheep for food, and these were the only property they had. The Kangal Dog and the Kangal Sheep of today which are native to the Central Anatolia are derived from the generation of these animals. Namely both are native to Anatolia. Various societies lived in, and number of civilizations was established in Anatolia before the invasion of Turkic tribes about 1400 years ago. Today numerous and later archaeological findings of these nations are exhibited in museums. No picture of dog resembling the Kangal dog has ever been seen in among these historical and ancient arts. This situation is the sound evidence that the Kangal dog is of Middle Asian origin. Namely the Kangal Dog has been brought Anatolia along with Turkic tribes.

### **From where the name of Kangal Dog is arisen out**

No one has ever used the name of Kangal Dog till the last quarter century. The names given locally in Anatolia were the "Shepherd's Mutt/Dog" (*Çoban İti/Köpeği*), "Sheep's Mutt/Dog" (*Koyun İti/Köpeği*), Karabash etc. The persons who have caused the name of Kangal Dog

given to this dog were Dr. Charmian (Biernoff) Stelle, Messrs J. Lloyd, D. Lyth and Dr. Withof- Keus.

Dr Chairman (Biernoff) Stelle, an archaeologist who has previously made excavations around Konya brought along, in 1965, first a three months old male and female couple of puppy into the United Kingdom. Dr. Stelle applied in The Kennel Club, UK to register her dogs. She explained that her dogs were called as “*Karabash*”, and they were used in shepherding as watching-guardian dogs in Turkey when she was asked which breed of her dogs was originated from. The Kennel Club did not accept the name of Karabash only as a new name of breed since they have previously had exercised some problems on recognizing a new name of breed but made a word-to-word translation of a Turkish term of “*Karabaş-Anadolu Koyun Köpeği*” as “The Karabash- Anatolian Sheep Dog”, and recognized and registered it as a new breed. Upon Ms. Stelle’s taking objection to this name the Club changed it with a new title, the “Anatolian Karabash Dog”.

In 1968, Messrs J. Lyod and D. Lyth made a visit again in Turkey together with Ms. Stelle, and exported the dogs named the *Gritaurus Arilan* and *Gritaurus Melek*. Then after two years Messrs J. Lyod and D. Lyth made another visit and exported a couple named *Elif* and *Atak*. Messrs J. Lyod requested from the Club their dogs be given the name of “The Kangal Dog”. Three years after this, Dr. Withof-Keus made a visit, and stayed for a while in the Kangal District (Reed, 2003). In 1973, we wrote the “Çoban Köpeği” under the photograph of a dog printed on a stamp of Krş 25 (TL ¼) whilst the name of our national dog were discussing in the UK. Then we came to our senses in 1995, and the name of dog was settled upon a stamp of TL 10.000 as the “*Kangal Köpeği*”, the Kangal Dog. This name is actually recognized by courtesy of Messrs J. Lloyd, D. Lyth and Dr. Withof-Keus who came and stayed in the Kangal District and took puppies from there accidentally. The name of this breed might have been the “Zile Köpeği” or the “Pınarbaşı Köpeği” if these people have visited in, and been a guest of, and taken puppies from the Zile District of Tokat or Pınarbaşı District of Kayseri in which the Kangal Dogs are available, too.

### **The TSE (Institute for Turkish Standards) Standards for the Kangal Dog**

Below are the standards with no: TS 12172 officially recognized for the stud Kangal Dog by the Turkish Standards Institute in March 1997. However I may obviously say that I cannot be able to accept these standards. For instance, the standards say that “the Kangal Dog is a dog particularly to Sivas Province and particularly to Kangal District”, and that the coat colour “of which I do not agree with. The Kangal Dog never belongs to a particular district, and the colour of his/her coat is not white.

**Definition,** The Kangal Dog is native to the surroundings of Sivas Province particularly to the Kangal District, registered his/her pedigree, consistent with and enduring natural harsh conditions, intelligent, powerful, agile, devoted to his/her owners, gentle and protective of his/her charges, a large, heavy-boned, and an ideal purebred shepherd dog.

Again in accordance with these standards the Kangal Dogs are classified in 6 groups consisting of the 0-5 months-old male puppies, the 0-5 months-old female puppies, the 6-16 months-old young male puppies, the 6-16 months- old young female puppies, more than 16 months-old mature male, and more than 12 months-old mature female dogs.

**Head:** Large and broad tapering towards muzzle and reverse V shape ears **Muzzle:** Medium rectangular shape tapering to a point. Eyes and muzzle edged with black mask. **Eyes:** Big, set wide and deep, various tones of brown in colour. **Ears:** Large size, long and dropped in type.

**Neck:** Muscular, powerful connection to body **Chest:** Deep and broad **Body:** Back is straight and strong, with loins thin, powerful and well muscled. **Tail:** Hanging low with a slightly upward and forward typically curled about 360°. **Legs:** Forequarters are strong and straight. Hindquarters are muscular, with stifles and hocks well bent, in double sometimes. **Feet:** Compact, with arched toes and thick pads. **Coat:** Double moderately short, quite dense, with brilliant hairs, varies from light fawn to grey-yellow-white in colour tones, eyes and muzzle edged with black mask, lower parts of legs and pads, particularly forequarters are pale colour near to white. **Characteristics:** S/he possesses a well developed smelling sense, s/he is more alert and consistent with flock movements at lights, s/he is loyal and affectionate with family members, children and flocks, and renowned for his/her devotion to his/her masters and families but belligerent and fighter against predators and *mala fide* strangers, they do not mate with sibling to sibling generally, and they are self confidence and intelligent guardian dogs.

### **Increasing interest in the Kangal Dog across the World**

The Kangal Dog is distinctive with his/her superior bravery, endurance, loyalty, and quietness among other sheep guardian dogs. S/he is used not only for fighting wolves but also other predators and even pariah dogs. In the USA the Kangal Dog is bred today in farms against the predators such as the mountain lion called Puma or Cougar (*Felis concolor*), gray wolf (*Canis lupus*), coyote (*Canis latrans*), jackal (*Canis aureus*) and lynx (*Felix lynx*). Many African counties use the Kangal Dog to protect their livestock from particularly cheetah (*Acinonyx jubatus*) and hyena (*Crocuta crocuta*).



## Chapter 5 THE KANGAL DOG AND THE WOLF

The routes of these two brave and noble canids have always been intersected. These two fairly resembled with each other from either their morphological structures or characteristics come across frequently because of the third species: Sheep.

### Wolf

It is a carnivorous mammary animal of *canidae* family. It is called in Turkish as “Canavar” (monster) among the people in rural areas in Turkey, and as “the wolf” in English, “Der Wolf” in German, and “Le Loup” in French. Throughout history it has always been an animal overawed.

### Characteristics of wolf

The wolf is the largest wild member of the *canidae* family. Its large head connected to its broad neck due to its powerful muscles of chin tapers toward the place where muzzle and nose joint it. Ears are erect, rounded and medium size long. Neck is thick and strong, chest is narrower than dog, and back of its body is thinner than front with loins thin. Forequarters and hindquarters are thin and long with gaunt appearance but paws are big and strong. The tail is long and bushy and usually carried down, never curled. Colour of eyes is soft-yellow. Its skull is narrower than that of dog, muzzle is dark and black. In normal walking, the hind foot often lands in the print made by the front foot on the same side. Wolves are extremely self-possessed canids. Despite coloration is quite variable the back of its coat is dun and brindle, and abdomen and inner parts of limbs are light and off-yellow colour. Front of forequarters has a black line. Tail is darker and black at the tip. The coat has long haired in winter and shorter in summer.

Highly social animals, wolves live in packs of from 7 to 24 individuals. A pack is a group of wolves. It is formed when a male and female wolf from two different packs leave the packs they were born in, find each other, breed, and produce young. The male and female become the pack leaders or alphas. They are called as “Alpha Male” and “Alpha Female”. The social structure within the pack is a strict hierarchy based ultimately on submission to the strongest male. Wolves generally hunt in packs consisting of all the adults. The alphas, being dominant, lead hunts and are the first to eat when a prey animal is killed. Being alpha is a status having some advantages but requires self-sacrifice. The alphas do not diffident about devotion of them for safety of pack. The pack designates the most dominant male or female as alpha. Pups are fed by a male wolf if female disappears.

The length of a wolf is 90-120 cm (35-47 in) (excluding tail), and of a tail is 35-40 cm (14-16 in), the height at the withers, and the weight are 75-85 cm (30-33 in) and 30-50 kg (66-110 lbs), respectively. Wolves 90 cm (35 in) in height and 60-65 kg (132-143 lbs) in weight are rare (*Turan 1984:28*). As seen from these figures, dimensions of a wolf and a dog are almost same.

### Characteristics of “Kurtçul” (Wolf-killer) Kangal Dogs

The wolf-killer Kangal Dogs must have three main features: **Courage:** The Kangal Dog in attacking to and fighting with wolves must be courage. Many of them so called or known as the Kangal Dogs walk off as soon as they see or smell out existence of a wolf. **Speed:** The

Kangal Dog in catching wolves must be speedy. S/he must be capable of great speed and endurance. **Strength:** The Kangal Dog in killing wolves must be powerful.

The purebred Kangal Dog already possesses these main three natural characteristics. Many people who know or do not know exactly about physical particulars of the wolf-killer purebred Kangal Dog put forward number of contradictory claims or tell stories, which have no scientific basis. The hearsays such as “The wolf-killer Kangal has wolf-killer toe-nails” or “The wolf-killer Kangal has a line with reverse hairs on its forehead” are merely the legends, or stories told by villagers or hunters. The wolf-killer Kangal Dogs possesses not only the main physical features above but also the general character and temperament of the Kangal Dogs. It is a reality that the dogs having very large body and high structure are not durable even in very short distance, and leave running. The legend about very large and high Kangal dogs are the bravest ones is not always correct.

### **Wolf-killing**

The Kangal Dog is a speedy and long distance runner. S/he runs into a wolf and uses his/her shoulders and chest in knocking it off balance from its sideways. It is not always true that the lumbar of a wolf is broken when the Kangal knock it off because it is so difficult to make a strong impact as powerful as breaking a lumbar of a canid running side by side. This may only be realized if a wolf stands still without moving. Since wolf is knocked over the Kangal in general builds up first and bites through the wolf's throat and kills it. Wolves can wound the Kangal during this fight. It can bite or scratch the most sensitive parts, the throat, ears (if not cropped), genital organs and/or abdomen of Kangal while it struggles in fear of its life. If wolf builds up first it will prefer running away.

The size of a wolf is a little bit smaller than Kangal. This seems as if a disadvantage for a wolf however it may be converted into an advantage because of wildness, courage, most probably being hungry, and the teeth, which are very sharp such as a razor blade, of a wolf. The Kangal Dogs used in guarding sheep and goat flocks in Turkey are protected from wolf bites by spiked collars studded with long spikes.

### **Similarity of the Kangal Dog and wolf**

The Kangal Dog and wolf have similarity. Both are concerned holy and valuable canids historically and mythological for Turkish nation. They have same number of chromosome,  $2n=78$ . The number of chromosome is also same in coyote, jackal, and the Dingo Dog. These can breed offspring if they mate with each other. This is different for instance in foxes. The Grey Fox cannot breed offspring if it mates with the Red Fox despite they almost resemble with each other externally but the number of chromosome is  $2n=66$  in the Grey, and  $2n=36$  in the Red Fox. The length of bodies and height at the withers of Kangal Dog and wolf are almost same. Wolf has lesser body weight than that of the Kangal. The number of teeth and teeth-order are same. The blood parameters and brain weights are similar. Colours of coats resemble each other. Pregnancy lasts about 9 weeks. Eyes of newborn open in 12-14 days. They become mature in 18-24 months. Both live in monogamous (having one partner for life) pairs. They have extreme intelligence, and have developed senses, and super courage. Both are social canines but wolves live in crowd packs whilst the Kangal Dog likes to live with human and flocks.

### **Has the Kangal Dog bred from the wolf?**

Origins of the animals resembling genetically with each other may be investigated by means of three ways: 1. Mating and offspring, 2. Mutual behaviours, 3. Morphological particulars. The points above can give responses to these three ways. Most probably wolf is the ancestor of dog but no scientific study reporting that the dog has been bred from the wolf has ever been reported beyond the similarity of these two canids. The results of the study titled “The genetic evidence on the origin of Western Asia dogs” of *Slovainen et al.*, were published in the “Science” journal in 2002. In the study, 654 dogs from various breeds and 38 Asian and European wolves were analyzed, and the results were illustrated on the phylogenetic tree (a tree of genetic relations) obtained. The animals resembling genetically with each other were classified as groups. Six groups (as A, B, C, D, E, and F) were obtained. The results in accordance with the geographical districts in which these six groups are lived may be explained as follows: 1. The A, B, and the C groups consist of 90% of the dogs analyzed. 2. The ancestor of today’s dogs was the only one breed of dog. All of dog breeds have later been bred from this breed. 3. Domestication of dogs has been taken place first in the Eastern Asia. 4. The dog was domesticated 15.000 years ago, in contrary to those known 5. On the phylogenetic tree, the mitochondrial DNA of dogs and wolves appears alongside proves that dogs have been bred from wolves.

Analyzing the results above we may say that the “first”, if necessary, dog bred from the wolf might have been the Kangal Dog.

## Chapter 6

### BREED CHARACTERISTICS OF THE KANGAL DOG

## Some Concepts

Some concepts must primarily be cleared because the concepts, the species and the breed are often confused with each other.

**Species:** The term “species” means the communities of animal existing in genetic structure, resembling each other with some certain features and markings shown without changing, and breeding offspring in case of mating among them whatever the conditions of environment are. With this meaning for instance cat and dog are the separate species. They cannot mate with each other, and cannot breed offspring.

**Breed:** The term “breed” means, within the same species, the groups of animals resembling more each other from the standpoint of some genetic characters under the same environmental conditions. The offspring of animals from the same species must resemble their parents

Despite the breeds within a species resemble each other from the standpoint of basic characters they do not resemble each other from the standpoint of some characteristics. These are called the “Breed Characteristics” which are two kinds:

**Morphological Breed Characteristics:** Since these characteristics relate to morphological structure, they can be identified from external appearance. The characteristics such as the colour of coat, markings on the coat, body size and structure of some sections such as head, ears, and tail of its body may be given as the samples of morphological characteristics. Generally, they are determined by one or a few double genes. Therefore, these characteristics are not much affected from environmental conditions. Distinct variations among breeds from the standpoint of these characteristics exist whilst similarity also exists among them within same breed.

**Physiological Breed Characteristics:** These are related with the characteristics such as body structure, early developing, maternity feature, temperament and character, and they are generally polygenic. Namely they are created by number of genes having fewer side-effects but more in number. Affection of them from environmental conditions is much more in comparison with their morphological breed characteristics. Variation of these characteristics is observed both among breeds and among dogs within breeds.

The dog is species. The Kangal dog is a breed within species of dog. For instance the Doberman is a separate breed. The mating of Kangal dogs always gives the Kangal puppies. And the mating of Dobermans always gives the Doberman puppies. As to the mating of Kangal and Doberman, it gives different puppies. They may also resemble the Kangal dogs as well as the Dobermans but these puppies from this mating are not strictly resembled their mother or father. This process is called the “cross-breeding”, and the puppies are called the “crossbred”. Mother and father dogs could not create the puppies resembling them because they have different characteristics.

## The Basic Breed Characteristics of Kangal Dog

The era that how an external appearance of the Kangal dog should be, has always been a matter of great discussion. The following are the basic breed characteristics of purebred Kangal dog:

1. The structure of body and particularly head resembling a female lion
2. Dun or fawn colour coat with muzzle, ears and eyes edged with black mask
3. Completely dropped ears very near to its skull
4. Tail hanging low with a slightly upward and forward curl

These main four characteristics look like a trivet. The stability of a trivet fails if one of its legs is absent. The purebred of a dog cannot be in question if one of these four characteristics does not exist.

### **The secondary breed characteristics of Kangal dog**

1. A white spot or blaze (medallion) on the chest
2. A white spot on the end of tail
3. A few black spots with long bristles on the face, sometimes on the tail
4. White socks or stockings on the lower sections from the knees of forequarters
5. A black spot on palate
6. 1, 2, or 3 additional toe nails called "Claw" or "Wolfish Nail" on the hindquarters
7. Toes webbed

Existence of one, a few, or all of these characteristics does not show the evidence that that dog is not purebred. Existence of them is better than inexistence, and it is desirable.

### **Coat colour**

This is the most discussed issue in breeding of Kangal dog. The coat colour of Kangal dogs is fawn or dun. However this colour may display variety. It also varies from intermediate tones from off white to cream, yellow, fawn and tawny to liver. No colour of complete snow white or black (excluding pads and the medallion on the chest) is seen. There are some factors having a role on variation of colour.

1. Today, it is not exactly known how many alleles at main loci are, and the added, dominant and epistatic relations between these alleles. In addition, the genes defining the coat colour in number of animals are affected by some genes having modifying effects. These modifying genes cause variation within population. An example can be given for those who are not much familiar with the subject matter. The coat colour in cattle is multifarious. It is assumed that the coat colour and pattern in cattle are affected by at least 9 main loci. Each of 4 of them has at least 3 alleles. Hundreds of colour tones will be created in cattle if the genes having modifying effects activate. Indeed, there are hundreds of colours, colour tones and patterns are seen in cattle. The same situation exists in the coat colour of Kangal Dogs. The German Shepherd Dog varies in colour. Strong rich colours such as varieties of brown-black are preferred. Its coat should be hair straight, harsh and lying near to the body. Even rare it is seen sometimes the puppies born with white coat and long hairs. This is not permissible. The white colour is recessive in both breed. The rate of white colour may be decreased by means of selection studies but it can never be eliminated from population because it will be transferred to the next generations in hiding in heterozygote genotype.

2. Number of effects such as dominance, intermediation, pleiotropism, and penetrance are in question among the genes which are alleles.

3. Number of effects such as adjacent genes, the genes effecting on mono sexuality, the genes whose effects are modified with sexuality, preservative gene effects, supplementary gene effects, epistatic effect, and double genes and modifying effect are in question among the genes which are not alleles.

One or more than one of the effects listed above may play role in the coat colour of Kangal Dog.

### **The Kangal Dogs in Turkey in accordance with colour varieties**

Colour is an important characteristic of the Kangal Dog. In Turkey, non-standard colours or patterns are indicators that the dog is not a purebred Kangal Dog. Following are the true colours of Kangal Dogs.

***Dun or Fawn*** is the main colour and determined by a dominant gene (Robinson, 1989). The true Kangal Dog colour is always solid dun or pale. The Kangal dogs with dun colour coat native to the Kangal District of Sivas Province in the Central Anatolia where Akkaraman Sheep breeding is extensive. Today it can be seen in various countries of the world.

***Grizzle (“Kırçıl” in Turkish)*** is another main colour namely grey or partly grey spread over outer guard hairs or it can be seen partly on an outer coat. It is determined by the gene with recessive effect (Robinson, 1989). The Kangal Dogs with grizzle colour native mostly to the villages and region of Akmaden-Yozgat, Şarkışla-Sivas and Hekimhan-Malatya line.

***Ashy (“Yağız” in Turkish)*** is another main colour, a variety of Kırçıl, which is iron grey and ashy. Different from Kırçıl appearance, the white spots on the feet are extended half way up the forequarters, and the white blaze on the chest is outlined with ashy hair. Head is generally homogenous ashy colour darker than Kırçıl. This colour is also determined by a recessive gene (Robinson, 1989). These Kangals have muscular body and with rigorous character. They are usually seen in the Central Anatolia.

***Greybrindle (“Dalkır” in Turkish)*** is a true colour of ashy dun having 10 to 20 brindle trims\* in iron grey or iron dun of 1 to 3 cm in width from up to down of the outer coat same as those on the tiger coat. This coat is locally called as “Çizgili Sırtlan Postu” and “Kaplan Postu”, which means the “Brindled Hyena Coat” and the “Tiger Coat” in English. This colour is referred to the dog called as the “Karakaya Breed Dog” by those who do know the scientific side of the subject matter. This colour is determined by a recessive gene (Robinson, 1989). The Kangal dogs with Dalkır colour are native to the Damal and Hanak Districts of Ardahan, and rarely in other regions.

\* *The coat colour with brindle trims seen in the Kangal Dogs may also be seen in other breeds such as the Dutch Shepherd Dog, Brindle Great Dane, Old English Mastiff, Brindle Boxer, Fila Brasileiro, Castro Laboreiro, Staffordshire Bull Terrier, Treeing Tennessee Brindle, and Spanish Greyhound (Pugnetti, 2001).*

***Yellow Colour of Erzurum*** so called locally is a reddish, dull gold or dark yellow true colour. The Kangal Dogs with these colours are extensively native to Erzurum and its vicinity. These Kangals have very beautiful and noble appearance.

### **General Appearance**

The Kangal Dog is a large, powerful, heavy-boned canid, whose body in general resembles a female lion. The harmony between his/her size and proportions gives him a lovely silhouette. He has a body developed naturally convenient for running, and in the type so called *typus respiraturius*. According to some measurements s/he has had a speed record of 50-55 km/h (31-34 mile/h). His/her bone and muscle structure is powerful. S/he has never been fat.

### **Body**

The body is powerful and muscular. A properly proportioned Kangal Dog is slightly longer (measured from prosternum to point of buttocks) than tall (measured from the withers to the ground), and length of the forequarter (measured from point of elbows to the ground) should equal slightly more than one-half of the dog's height. 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 elbows.

### **Head**

The head is large but in proportion to the size of the dog without appearing heavy or coarse. This shows him a majestic view. His/her forehead is large and high. Viewed from above, the broad skull tapers very slightly toward the place where the muzzle joins it and then tapers slightly from the base of the muzzle toward the nose. The skull is broad between the ears and slightly domed. The muzzle is wide. Its black mask is a distinguishing breed characteristic. It may cover only the muzzle, or it may extend over the eyes, and ears.

The slightly pendulous upper lips which are somewhat padded over the lower lips. The chins are of equal length. Lips are fairly tight and always black. His/her teeth can be seen from the sides of his/her chin. S/he has a complete set of large, evenly spaced, white teeth meeting in a scissors or level bite.

Eyes are medium size, set well apart, but seen small in comparison with the size of head. Eye colour ranges from gold to deep brown. His/her looks are warm, full of love, affectionate, and sad.

The velvety and meaty ears are flat to the skull. They are pendant or drop, medium sized, triangular in shape and rounded at the tips. They may appear large disproportionately to the body in puppies. In Turkey the majority of Kangal Dogs have their ears cropped (to prevent tearing or ripping during a fight) as puppies.

Neck is powerful and muscular, moderate in length, slightly arched, and rather thick.

### **Forequarters and Hindquarters**

The forequarters are long, well boned, and set well apart, with strong, slightly sloping pasterns with big pads. The shoulders are well muscled and moderately angulated. The forequarters are straighter than the hindquarters which has slightly the "S" appearance. They are well-boned and moderately angulated at the stifle and hock joints. Its forequarters have four toes and five toenails each, and the fifth one, dewclaw, is too high to be of any use. Hindquarters have four toes, and may have five, six, or seven toenails. Forequarters have an additional pad without toenail on the back and lower section of knees. Upper surface of toes are slightly domed. The colour of toenails may be black, white or blended colour.

## **Tail**

The tail is uncut, thick at the base, and tapering to the tip. The length of tail is  $\frac{2}{3}$  of the body length excluding head. When the dog is in repose, the rather long tail reaches at least to the hock. When the dog is alert, the tail is carried in a curl over the back. The curl may be tight or loose but when the tail is curled tightly, the tip of the tail may fall off to one side of the back. The tail and legs are never plumed or feathered.

## **Coat**

The Kangal dog has a thick, dense double coat, uniformly short but only very slightly longer on the ruff (neck and shoulders) neither wavy nor fluffy. In summer the undercoat will be shed creating a slightly less "carpet-like" appearance. It is this double coat which allows the Kangal Dog to withstand extremes of temperature. The short coat becomes much denser rather than longer in winter, providing protection from ice, sleet, and snow. The Kangal dog is durable against cold but not hot and humid climate. The hair layer over the coat varies from short to long. The hair on the face, head and ears is quite short.

## **Stature and Weightiness**

**Newborn Puppies:** They are born as 400-600 g (0.9-1.3 lbs). These values of weight depend on many factors such as the age and weight of a female dog, number in litter, season of birth, age of first pregnancy (gestation), and the weight of a male dog. In general, height of newborn pups at the withers is 11-13 cm (4-5 in), and body length is 14-16 cm (5-6 in) although correct measurement cannot be taken because of newborn.

**Females:** Weight and the height at the withers are 40-60 kg (88-132 lbs) and 65-75 cm (26-30 in) respectively, and the length of body is 70-80 cm (28-32 in) in rural conditions. The females cared specially and well-bred may achieve to the weight, the height at the withers, and body length, of 75-80 kg (165-176 lbs), 90 cm (35 in), and 100 cm (40 in), respectively.

**Males:** Weight and the height at the withers are 50-70 kg (110-154 lbs) and 75-85 cm (30-33 in) respectively, and the length of body is 80-90 cm (31-35 in) in rural conditions. The males cared specially and well-bred may achieve to the weight, the height at the withers, and body length, of 90-100 kg (198-220 lbs), 100 cm (39 in), and 110 cm (43 in), respectively.

## **Chapter 7**

### **BEHAVIOURAL CHARACTERISTICS OF THE KANGAL DOG**



## **Character**

The Kangal Dog is a flock guardian dog and possesses a temperament typical of such dogs which are alert, territorial, and defensive of sheep and goat and his/her human family. Possessing a natural protective instinct s/he is calm, noble, courageous, steady, intelligent, sensitive and affectionate with his/her own family and flock, loyal, proud, self-assured and independent. The Kangal Dog is alert to everything around him. S/he will sound an alarm at unusual sounds and sights, following up with an investigation. The deep sound of his/her bark, which is reinforced by his/her powerful build and massive size, is usually enough to deter any type of predator.

## **Intelligence**

According to literature and the breeders' statements, the Kangal dog has an excellent memory. S/he can recognise numerous words, and receive orders. It is said that his/her lexis is about 250 words. S/he is frequently compared with the German Shepherd (Wolf) Dog. The thought that "the Kangal Dog is cleverer than the German Shepherd Dog" is prevailed. However no scientific study exists on the comparison of both breed from the standpoint of intelligence. It has been evidenced by the villagers talking about wolves observed that the Kangal dog sitting peacefully nearby who has previously killed a wolf alerted and looked his/her around when s/he heard the word, "wolf" said by someone. It is also reported that the Kangal Dog who guards his/her entire life with the same flock is acquainted with each of 300 to 400 sheep or goats of the flock. And it is known that the Kangal Dog keeps the sheep in his/her own flock from the sheep of other flocks or foreign animals whenever the shepherd leaves the flock for a while.

## **Behaviours**

**Maternity:** The female Kangal Dog is an excellent mother and very affectionate with her pups. She immediately stands back and lets her meat when her puppies approach it. She protects her whelps to the death in case of a threat.

**Sensitivity:** The Kangal Dog is sensitive to reprimands and eager to receive affection. S/he shows his/her senses by his/her actions such as attitudes, acts, mimics, barks, and moans when receives love and affection, and huffs and be pessimist when s/he is misbehaved by his/her master.

**Jealousy:** The Kangal Dog is jealous about his/her master if his/her master shows sympathy to, and affection with another dog, and s/he sometimes may give this dog harm.

**Loyalty:** The Kangal Dog loses his/her appetite, his/her eyes become fishy, and his/her actions become slowly in case of s/he loses or stands apart his/her master. S/he looks like a man who is deeply affected. S/he howls, cries, becomes bad temper, and looks as if s/he is tired of life for days. The Kangal Dog is also faithful his/her compeer. Sitting nearby and waiting for days on his/her dead compeer who has lost his/her life as a result of traffic accident is the event seen often.

**Feeding Decency:** The Kangal Dog does not eat the food given by another person if s/he has been accustomed being fed by only his/her master since the times when s/he was a puppy. S/he, excluding his/her master, does not permit anybody who would like to approach him while s/he is feeding. Only the real owners or masters of Kangal Dogs, or the persons who have establish friendship with him can take back the food or meat from his/her teeth.

**Defecation and Urination (Toilet) Decency:** The Kangal Dogs do not defecate or piss the place where they sleep or lie down. They keep this habit from birth. Even the newborn puppies move by creeping a little bit away from the place where they sleep, and come back after they defecate or urinate.

**Recognising of Beneficent and Maleficent Peoples:** The Kangal dog can define and differentiate of people who have good and bad intention. Very rare, some dogs attack on people without any reason. The reason of this may be the training level of dog, or the person attacked, radiating negative electric and sense of bad intention. The Kangal Dogs who have ever and continuously been exposed to bad treatment, bruised, lived without of love, tied all the time or kept in a dark place may exhibit aggressive tendency. The Kangal Dog recognises the close friends of his/her master and treats them with tolerance but keeps their distances. S/he keeps quite when his/her master and a friend of him/her visit home, but s/he never permits him coming in when his/her master absent.

**Compassion against Impotents:** The Kangal Dog is affectionate with women, children, and smaller canids, and s/he does not attack on if s/he is not extremely enforced. S/he is so patient particularly against children. Even puppies establish relations with children very quickly.

**Seriousness about Working:** S/he never leaves alone a sheep or goat from his/her flock s/he is guarding if it is in a situation that it cannot move. S/he has been seen even sitting nearby and waiting for a worthless or a broken plate of which shepherds has left or forgotten.

**Ability of Adaptation:** The ability of adaptation means whether the ability of decrease on any proficiency taken place or not where an animal is transferred to a periphery or a peripheral conditions different from the medium it lives. This is an important concept in animal breeding. Generally, in genetics there is a contradictory relation between high efficiency and adaptation. Namely, if an animal has high efficiency of a certain particularity its ability of adaptation is low from the standpoint of that efficiency. The ideal is that both should be high. The ability of adaptation of the Kangal Dog is perfect. Excluding hot and/or humid climate, s/he is extremely endurance against all negative conditions such as insufficient nutrition, harsh natural conditions, sicknesses and harmful conditions. S/he is only sensitive against the scolds of his/her master. When s/he is scolded by his/her owners s/he is ashamed like a child, looks so sad and innocent for begging his/her owners to forgive his/her mistake. They show their feelings not only through position, behaviours, mimics and gestures but also in various tones of barking. Actually, s/he is accustomed to live in cold and low humidity areas and in arid conditions. However, s/he has been adopted to live even in a humid environment such as in the United Kingdom where a cool but humid climate is dominant.

### **Stages of Starting an Attack**

In normal conditions the Kangal Dog is not aggressor or attacker unless s/he receives an attack, or sees or hears something unusual near or in his/her territory. S/he acts successively as follows in case of such situations:

1. Should any foreigner enters his/her own territory without permission, or a danger appears s/he will first stays motionless, then sits up and takes notice, and keeps a close watch on.
2. Should the foreigner cannot receive this message, or a danger persists s/he stands up immediately from the place s/he is sitting or lying. S/he stands still exactly at front; slightly leans back and hold his/her head down. S/he starts looking at him/her from upper parts of his/her eyes, and then a light growl starts. His/her tail curls completely forward like a lashing, his/her ears lies back, the hairs on his/her back stand up, his/her body is tighten up like a spring. His/her muzzle is also tighten up, and teeth are seen whilst s/he growls.
3. Should the provocative action of the foreigner is continuing s/he starts barking at the place where s/he stands, and showing his/her teeth a lot. S/he salivates while s/he is barking.
4. Should the trespassing is still continuing , or a danger still persists then this time s/he accelerate and raise the volume of the barking and starts to make attack by barking toward the stranger. His/her aims are to stop, or drive him/her into a corner, or the danger away, and make him/her ineffective.

5. Should a foreigner or aggressor is still insisting on not receiving the message, or a danger persists then s/he does not have a solution anymore other than attacking toward him/her.

### **Fighting Tactics**

The Kangal Dogs are very amenable and quiet dogs, protective but not aggressive without a reason unless they are provoked or their territories are trespassed. However, they are experts in fight if they have to do so. The Kangals are usually bred in Turkey as pair protect with each other during fight, and they do not allow their companion become crushed by their enemies. First, one of them watches and follows up the other in excitement, and gets into the fight if some other dog against his/her companion interferes in the fight, or the enemy is bigger or super and has the advantage of his/her companion. Otherwise, both never get into the fight together with a weak enemy. The Kangal Dog is an intelligent canid. He gives special attention to protect his/her back by taking a wall, a tree or a rock at his/her back for probable attack from there if s/he is alone.

## **Chapter 8**

### **STUD SELECTION**

#### **Selection of Pups**

Selection of a puppy or puppies may be made from two ways: purchasing from breeders, and selection from existing litter.

In order to purchase from breeders outside Turkey, the key to finding the right stud dog or puppy and the right breeder is to first educate you. Do not rely on the breeder to educate you, as there may be many dishonest breeders. Real purebred Kangal Dogs are rarely, or may be never found in newspaper advertisements or at pet stores. Every dog has faults. The goal of a good breeding program is not to produce the perfect dog but to create the least imperfect dogs.

In Turkey, you may purchase purebred Kangal Dog puppy directly from the country people who are usually referred to as "villagers" or, in Turkish, "köylü", the people who do not maintain formal written records or pedigrees for their dogs, or from the state operated kennels at Ulas and Kangal in Sivas province, the physical facilities of the Veterinary Faculty of Selçuk (Seljuk) University in Konya.

### **Purchasing a Kangal Puppy from Breeders**

Following are the key points in purchasing Kangal pups from breeders:

1. The climatic and geographical conditions of the place where the pup was born and the place where it will live, should be similar each other. This matter relates with the points in the article the "ability of adaptation" explained in Chapter 7.
2. The pup to be purchased should be 2-3 months old preferably. It must not be older or younger. There are a few reason of it: **a)** a pup must be nursed mom at least first two months. This indicates that that pup would be in health, and durable against sicknesses; **b)** we may observe the breed characteristics such as a curled tail in 2-3 months old puppy but not in younger one, or in the newborn with closed eyes; **c)** we cannot receive correct responses from the tests to be applied to a younger pup or a newborn who has eyes closed but the one who is 2-3 months old gives correct responses or reactions. For instance, a 2-3 months old Kangal pup must not cry and gives more healthy responses when we hold from its back coat or neck, and lift up. The 2-3 months old Kangal pup crying and whining is not preferred; **d)** some faults cannot be recognized in younger pups. For instance, a fault in leg cannot be seen if the pup which cannot even stand on its legs is purchased; **e)** the age of 2-3 months old canines resembles the age of 2 years old of human babies. Both the spices of pups and human babies start to leave plumpness, gain height, and turn to more slim and high body just at this age. On the other hand, a few weeks pup well-fed is plump and seems beautiful. This situation forces human to behave sensitive, and leads to purchasing an unqualified pup; **f)** the owner does not want to sell the pup which will have very good stud qualifications when it grows whatever the price you are ready to pay for it, or s/he may sell it with an excess price. S/he is adhered to his/her dog sensitively. S/he has a lot of memories with it. S/he knows the value of his/her dog. Therefore s/he wants to sell the one which has lower quality of a litter. However, if the dog to be purchased is a pup, these problems will not be existed.
3. The other key point is to purchase pups always in double, one male and one female. However, they must not be siblings or near relatives, and must be purchased from different breeders, or they must be chosen from different litters. In case of the dogs

bred in a closed fence, they cannot find peels from another litter for mating. This is a case which is not required because it is disadvantageous genetically. Various sicknesses are arisen out, and hereditary faults take place. Courage decreases. The breeders of Kangal Dogs know well that the pups of a sibling couple mated with each other lost their breed qualifications for instance they do not want fighting with wolves.

### **Criteria for Selection the Stud Pups of Kangal Dog**

Following are the criteria for selection of a stud pup in 2-3 months old in order to make lesser mistakes during purchasing, or choosing from your own litter.

1. The first point to be given utmost attention is to examine whether or not the Kangal pups possess the main breed characteristics (see Chapter 6) which are essential. For instance, if the puppy having all main breed characteristics such as the muzzle and eyes edged with black mask, dropped ears near to skull, a curled tail etc., is not selected because it has no dewclaws, it means that this selection is not a good and correct one. This puppy is the puppy of Kangal Dog whether or not it has dewclaws. On the contrary, if a puppy is selected only because of having dewclaws notwithstanding much one of deficient main breed characteristics this selection is not a good and correct one, too.
2. As a general appearance, the stud puppy must be active, interested in environment, and all parts of its body must be in harmony with each other. It does not have a part with bad appearance of its body. It must be with heavy boned, large head, thick legs, and large pads. Its appearance from side must be regular, and his/her head must be upright. Viewed from the front and back, the appearance of its legs must be normal, and it must take proper steps when it walks. It must have a muzzle and eyes edged with black mask, dropped ears near its skull, and a curled tail. The hairs of its coat must be brilliant, alive and smooth. They must not be rough and mixed. Its coat must immediately be returned to its normal position when you tweak it up. Its ears must immediately be returned to their normal position when you hold and squeeze them, and they must be warm.
3. The stud pup must attack with ambition toward the food put in front of it, try to impede other littermates, and it must glut it as if it will be deprived.
4. Another important criterion in choosing the Kangal Dog pup is the "Whining Test". This test shows whether or not the Kangal pup's courage is much or less. For this, the pup is flat on its back, its abdomen, chest and particularly throat are pinched, tweaked and squeezed, and the pup is provoked. If the pup keeps quite, waits just in that way and makes no effort to get rid of this situation. This is a bad point. If it whines, this is a worse point. If it snarls and strives with its fore limbs and hindlimbs for getting rid of your hand, this is a good point. It must not whine when you pick it up by holding it from coat of its back or neck. It must be kept quite. If it snarls this is much better. Stand up in front of it, act as if you will slap it, and make a sudden attack. If it whines, and moves backward or runs away from you, this is a bad point. It must be still stand. If it is on the alert, starts to snarl by showing its teeth, and stands erect, this is a good sign and point. It means that its courage is good. Breeders have developed some other practical methods to test and understand the courage of puppies. Some breeders put puppies in a covered place such as a shed or barn, then an animal such as a donkey, horse, goat or cattle of which puppies have not ever met with them before is suddenly released into this place, or the owner of these puppies enters in the barn with a cover

on to hinder him/her to be recognized. The puppies scared and run away are not preferred but those who still stand, bark, snarl by showing their teeth, and try to attack forward, are preferred.

### **Selection of a Stud Puppy through Scoring (assessment)**

Since scoring is generally based on the objective assessments of individual it should be made by a few experienced persons other than only one person, a purchaser or the one who will chose the pup, and the result is achieved by taking the average of all scores. It should behave carefully and specifically. Thus, a more healthy result may be obtained. The person who will make assessments should know about the breed specifications very well, and should be experienced in examining quite a few dogs. Scoring is made under 7 main categories and over a total of 100-point system. Scale of points is as follows:

1. General Appearance	20
2. Body	10
3. Head and Neck	30
4. Feet and Legs	10
5. Tail	10
6. Secondary Breed Characteristics	10
7. Whining Test	10
<b>Total</b>	<b>100</b>

- 1. General Appearance (20 points):** Assessment is made on 4 categories: **a) Harmony** (5 points): Body shape as if a lion. Head in harmony with other body parts without non inconvenience; **b) Structure of Skeleton** (5 points): Heavy-boned structure. No thinness, excess roughness, curvature or shape failure; **c) Coat** (5 points): Dun and single colour. Orderly, smooth and bright hair. Alive and brilliant coat returning to its normal situation when it is hold and pulled up; **d) Liveliness** (5 points): Active look on its face. The activities around followed up by its eyes.
- 2. Body (10 points):** Assessment is made over 2 categories: **a) Body Structure** (5 points): Higher shoulders than hindquarters. Large chest, thin loins and well-arched abdomen. Muscular and powerful body; **b) Genital Organs** (5 points): Normal external appearance both in male and female. Descended testicles in their place. In female, 8 or 10 teats. All in healthy appearance.
- 3. Head and Neck (30 points):** Assessment is made over 6 categories: **a) Head** (5 points): Large and majestic as if a head of female lion. Large and high forehead; **b) Mask** (5 points): Eyes, muzzle and ears edged with black mask; **c) Chins and Teeth** (5 points): Strong chins meeting in a scissors bite. Large evenly spaced white teeth; **d) Neck** (5 points): Short, thick, muscular and powerful; **e) Ears** (5 points): Triangle with rounded tips of pendant ears as if adhered to its skull. Sense of velvety of aliveness and fleshiness. Returning immediately to their normal positions when holding and squeezing them; **d) Eyes** (5 points): Small in proportion to its head, deep-set, alive and bright. No inflammation, leakage and erythema. No flabby of lower eyelids and invisible inside of eyelids.
- 4. Feet and Legs (10 points):** Assessment is made over 2 categories: **a) Legs** (5 points): Strong structure and thick. Viewed from front, straight. Strongly stand on the ground. Sound and muscular shoulders; **b) Feet** (5 points): Large, rounded in shape with healthy and well-cushioned pads. Strong nails.

5. **Tail (10 points):** Assessment is made over 2 categories: **a) Structure (5 points):** Thick at the base, long and strong. 2/3 length of body; **b) Shape (5 points):** Reaches at least to the hock when the dog is repose, and carried in a curled over the back when the dog is alert.
6. **Secondary breed characteristics (10 points):** Assessment is made over 10 categories: **a)** 1, 2 or 3 additional toe nails in rear feet (4 points); **b)** White blaze on the chest (1 point); **c)** White spot on the tip of tail (1 point); **d)** A few black spots with long bristles on the face, sometimes on the tail (1 point); **e)** White socks or stockings on the lower sections from the knees of forequarters (1 point); **f)** A black spot on palate (1 point); **g)** Toes webbed (1 point).
7. **Whining Test (10 point):** Assessment is made over 3 categories: **a)** It does not whine when it is hold from its back coat or neck, and raised up (4 points); **b)** It starts snarling when it is flat on its back, and its abdomen, chest and throat is pinched, tweaked and squeezed (3 points); **c)** It does not run away when you stand in front of it and make a sudden attack (3 points).

The puppy receiving points less than 50 % of any of the 7 categories above must not be chosen as a stud puppy even though it receives full points from another 6 categories.

### **Selection of Mature Sire and Dam Stud Dog**

Some criteria below are given attention in case of purchasing a mature sire or dam stud dog or choosing a couple among the stud dogs more than one in hand.

1. Basic breed characteristics
2. Healthy appearance in all organs
3. Normal appearance of genital organs. Number of teats in female should be 8-10. No additional teat should be seen between two teats. Testicles should be in place.
4. Good character and calm nature.
5. Not eating the food given by a stranger.
6. No hereditary imperfection or widespread sickness around district. This point should be examined and investigated even though it is not reported by the owner.

### **Judging Dog Age from Teeth**

Dog's bite is a part of judging dog age from teeth. In dogs, the number of deciduous (baby) teeth is 28, and of the permanent ones are 42. Distribution of baby teeth in one chin is as follows: 6 incisors in front; 2 canines, one in both sides of incisors; and 6 premolars behind them. They are 14 in one chin, and 28 in total.

Distribution of permanent teeth in one chin is as follows: 6 incisors in front; 2 canines, one in both sides of incisors; 8 premolars behind them; and 4 molars in the upper and 6 molars in the lower chin. They are 20 in the upper, 22 in the lower chin, and 42 in total.

Dentition of incisors teeth between the canines are used for judging dog age from teeth. The 6 incisors have names: 2 are the middle incisors, 2 are the incisors next to middle, and the last 2 are the last incisors (called as "pens", "ara" and "köşe" respectively in Turkish). These incisors are divided into three lobes as if a cloverleaf. Judgement of age from teeth is given in accord with the situation of teeth cusp worn off.

A puppy is born without teeth. When it is three to four weeks old, 28 deciduous teeth will break through the gums, and all are in upon completion of six weeks old. At 4-5 months of age its permanent incisors, 5-6 months of age its permanent canines, and 6-7 months of age its last molar in lower jaw is in, namely it will have 42 brand new teeth.

## **Chapter 9**

### **REPRODUCTION OF THE KANGAL DOG**



The male and female Kangal reaches their live weight at the age of 2. Growing is slower in the second year despite it is faster in the first. Dog gains its height during its first year, and it rather develops transversely in the second year.

### **Heat (estrous) Cycle**

Female Kangal becomes sexually mature (have her first heat) between 10 to 12 months of age if she is fed properly, and receives good care. However, bitch Kangal is not permitted for mating even when she is 12 months of age because of physiological growing continues until its 18 months even sometimes 2 years of age. Mating when she is in 12 months of age is called as the “Constant Environment Factor”. This leads to the lower weight both in mother Kangal and her puppies. Female Kangal exhibiting heat does anomalous actions. She seems uncomfortable, and she wants to go out from where she lives. She scratches the door and tries to climb the windows if the place is a closed room. She does not obey orders. Her sexual organ (vulva) swells and turns red and mucus and transparent secretion at the beginning and then reddish bleeding with special odour comes from vulva. This odour called “fremon” attracts males from far distances. She also urinates frequently to spread her scent for the males. The estrous cycle is about 10-21 days.

### **Mating**

Male and female Kangals are kept in adjacent fences for a few days prior to mating (proestrus) to become familiar each other if the male is a foreign dog. Female Kangal is observed, and they are allowed for mating after the 10<sup>th</sup> day from starting of some bloody discharge from vulva, and swollen vulva. The vaginal discharge is more yellowish than bloody during estrus.

Kangal Dogs do not breed with sibling-to-sibling, dam-to-son or sire-to-daughter unless they have to do so. Near relative mating can be seen in the case only instinctively to continue its generation if they cannot find any bitch for mating. Despite lasting for centuries, they have not lost anything from their blood qualifications or high spirit. They are highly blood noble. They do not mate with any other dog species even when they are free.

Dogs prefer the places in peace and far from sight, or the times at night for mating. Conception lasts about 15-30 minutes. The middle of a dog penis has a swollen section which is matched with a cavity of a dog vagina. These sections are interlocked during mating. Dog penis does not come down immediately after ejaculation. Therefore, male cannot withdraw its penis. To do this, erection should be terminated namely the hardness of penis should be loosen.

The vagina inside the dog is not a straight tube, and has a very strong ring of muscles. Once the male has entered the vagina, the bitch tightens these muscles to hold the penis in place. Once this tightening action has been occurred it must be waited until the female relaxes the muscles and breaks the tie to release the male. The tie assures that the seminal fluid will not leak back out and the slower sperm have a chance to swim up to the fallopian tubes. If it is attempted to pull the couples apart this will cause serious pain, damage and injury to both dog because inside the dog penis different from numerous other living creatures, there a long bone called the “os penis” exists, which sometime may be broken if couple is attempted to be apart by force. This situation is very painful for a dog and if he wishes to mate again but cannot do it. In case of a broken penis bone and a male dog is a breeder’s dog it can be treated by a vet’s

intervention by means of putting the broken os penis in a plaster cast. Female will be calm and will not permit male to subsequent mating if she is impregnated.

### **Pregnancy**

Pregnancy in a female Kangal Dog lasts about 9 weeks namely 63 days. This period varies dog to dog depending on some factors such as age, number of pregnancy, feeding, working and climatic conditions, and season. No change in physical appearance of bitch is seen during her first month of pregnancy but at week five, she starts to become thicker and broader rapidly, her teats grow large and hang down. Therefore, more attention is to be paid to her from the beginning of the first month of pregnancy. A special section in quite area that is easy to keep warm is allocated for her in order to avoid being disturbed by other pets, dogs and human. She must not be exposed to excess hot and cold, and expected much more work. She does not need a special diet but care must be paid not to give her old, cold and excessive fatty feed.

### **Labour and Delivery**

Whelping section must be a clean, warm, draft-free nesting area. In villages it must at least be disinfected by whitewashing, and littered down. Clean newspaper is good bedding because it is easily disposed off. The pregnant female is so uncomfortable through the last few hours of gestation. It may be seen that she attacks even to human who disturbs her. She does not welcome the presence of one of household nor its master. The best way is to leave the pregnant bitch alone in its whelping nest. She finds a quite place and digs a den in the ground large enough for her and prospective puppies if she lives in a village and no place has been allocated for her. Very often she walks around and come back to the den. Namely, her labour has started. Delivery takes place after 2-3 hours from these signs.

In general, delivery passes easily and necessitates no intervention. Normally puppies are delivered in a clear thin membrane (sac) full of liquid in jelly consistence and the placenta attached with a cord with the average of half an hour intervals. Instinctively, even if it is her first whelping, dam Kangal licks and cleans the newborn all over, snatches the sac with her teeth, tears it and eats together with placenta because it is a perfect food full of protein for her.

The newborn whelps have wet coat in colour near black. The coat colour starts to be whitened from 1-1.5 months after birth. Their eyes are sealed closed and so are the ears. The eyes and ears continue to develop, and they are opened out from 9-10 days and fully opened from 12-14 days after birth. Ears begin to hear approximately the same time.

The part remained from the umbilical cord dries and falls off spontaneously within a week. In villages, all cords of puppies should be tied with a clean string and cut close to the navel by leaving an umbilical stump of about  $\frac{1}{4}$  in length immediately after delivery in order to protect the puppies be infected if the dam Kangal can be mislead and the puppies can be accessed, because mother Kangal is very jealous during 2-3 days following delivery, and she does not permit anyone to approach the puppies. However, disturbing the tired dam Kangal should be avoided.

In rural conditions, the so called "Summer Puppies" are considered pre-eminent than those born in winter in most areas in Anatolia however not much genotype difference exists between the dogs born in two seasons. The difference is that the dam Kangal whelping in

winter has lesser milk and that is way puppies cannot be fed properly. In addition, the puppy's body cannot ensure heat regulation within a month age in winter, and deaths take place. The breeders and anxious individuals who would like to have the Kangal puppies are recommended not to purchase "Winter Puppies" from villages.

### **Number of Puppies in a Litter**

The Kangal Dog gives an average of 8 whelps in a litter. Since it has been a heavy breed it is included in the category of "multi whelping breeds". In a study carried out by Robinson on 76 breeds he found that the average number of puppies in heavy, medium and small size breeds is 7-8, 5-6, and 3-4, respectively.

## **Chapter 10**

### **BREEDING CONDITIONS**

## **Kennelling**

Since the Kangal Dog has been a flock guard, and accustomed to live in severe climatic conditions, at least a small shed will be well enough to protect her/him against excess sunshine and cold in summer and winter. This shed must be protective against wind, its ground must be dry, and not be convenient for parasites such as fleas and mites. The real Kangal breed must never be sheltered only within a house. S/he is an excellent companion but is by no means a lap dog as a Canish. Its independent nature is not akin to sitting at his masters' feet, except when it suits the dog to do so.

## **Light**

As it is known, sun shines are essential for synthesis of vitamin D, and its production by a body. Vitamin D ensures secretion of the "Growth Hormone". The growth hormone is the one responsible for normal grooving of alive.

## **Temperature**

The Kangal Dog immediately curls up when s/he exposes to cold, and put the black wet tip of his/her nose which is the freezing part of his/her body underneath of his/her legs supported by his/her tail. Thus s/he both heats his/her nose and takes directly no frozen breath. Bodies of newborns cannot do regulation of cold and hot for a month. Therefore, the newborn whelps must be protected against cold, and so their kennel should be kept warm.

## **Humidity**

In a natural living environment of the Kangal Dog, summers are hot and winters are cold and rainy. S/he can tolerate dry hot in summer whilst s/he can endure high humidity in cool places. S/he can successfully be bred in the U.K., where summers are humid but cool. Great problems for the Kangals will be arisen in cases where hot and moisture conditions exist together. Such climate may be tolerated should the breeding be started with puppies.

## **Starting Breeding**

Note that the most effective, cheapest, and the easiest way of achieving success in breeding of the Kangal Dog is to "show your sympathy and affection" that will make him/her very happy. The Kangal Dog must be bred in double, male and female together, and starting breeding must be with puppies. The best age of possession of a couple is 1.5 to 2 months because they have been nursed by mother's milk that is most important, and they have gained numerous abilities from their mothers during this period.

## **Care of Puppies**

The place where the puppies will be stayed must be a quite area, and in particular the pups must not be easily disturbed by other pets, dogs and human. Mature dogs and pups never take a bath. The mother Kangal licks the newborn puppies to stimulate their bladders and bowels, and she cleans up and swallows whatever they excrete. However, in particular the puppies separate from their dam they often do get dirty with their own faces. These may be removed by means of a piece of cloth or fabric wet in hot water. Puppies may be taken bath, but dried

immediately by means of a piece of dry cloth, or a towel, if possible, or a hand-held hair drier set on low subsequently by keeping the air flow away from the puppy if dirties are too much.

### **Cropping the Ears of Kangal Dog's**

In Turkey, the majority of Kangal Dogs in rural area have their ears cropped as puppies. Cropped ears on a dog imported from Turkey (despite it is legally prohibited today) should not be penalized. According to numerous Kangal Dog breeder or owner the main three reasons for cropping the ears of Kangal Dog in Turkey may be explained as follows. Since the ears of Kangal Dog are thick, meaty and drop hearing of dog is impeded and consequently the guarding duty cannot be performed well. Possession of such meaty and sensitive ears may be disadvantage causing defeat for the Kangal during fighting when his/her ears are caught or bitten by wolves and other dogs. And the third reason is such an affectation that everybody has the Kangal Dog with ears cropped, and the ears cropped are so befit.

### **Care of Mature Kangals**

The bowls for food and water must be kept clean at all times. Water must be fresh daily. The coat, ears, eyes, teeth, and nails should be examined frequently whether the dog has any parasite or sickness. Again, the Kangal dog never takes a bath. Since dogs have no *sudoriferous* glands they do not sweat. They excrete a fatty substitute from their skins in order to protect their coats and skins. This fatty substitute prevents the skin dried and cracked by keeping it moisturized. Taking bath will remove this fatty substitute and give harm. S/he requires no grooming. The Kangal dog needs a lot of exercise. S/he needs a large, enclosed and safe area for running around or working off his/her energy, and is not suited to suburbia and small back gardens. To stay in a certain place will make him/her unhappy. S/he will affect negatively especially s/he is single. In Turkey, there are no fences in villages. The Kangal Dog is very loyal to his/her owner however s/he loves independence.

## **Chapter 11**

### **NUTRITION**

## **Introduction**

All living bodies need energy to implement the basic activities of their cells, tissues and organs. Nerves, muscles, excretion glands, connecting tissues and organs can only be active if sufficient energy exists. Energy resources are the nutrients ingested by living organisms, which are necessary for survival. The six basic nutrients need by living things are protein, carbohydrates, fat, vitamins, minerals, and water.

The contents of fundamental substances of Kangal's body change continuously. Elements and organic compounds are lost by urine and defecation as well as hair shedding and skin erosion. It is known that the elements such as calcium, phosphorus and sodium cannot be synthesized in the Kangal's body. Hence, the nutrients consisting of these elements must be provided externally.

The Kangal Dogs don't require a lot of food for their size, but puppies and adolescents eat much to gain weight. In rural area in Turkey, they are routinely fed a barley meal from hulled and boiled barley. Very occasionally, they are also treated with pieces of a dead lamb, goat, or cattle.

## **Water Need**

Water, as for all other living organisms, is an essential nutrient for the Kangal Dog. The water need of Kangal is 2.5-3 times of dry-matter of nutrients s/he receives. Namely, if a Kangal of 50 kg in weight takes a dry-matter of 1 kg of nutrient s/he must take 2.5-3 litre of water. Stated differently, the Kangal Dog must consume 50 g water for each kg of its body weight. These are minimum values. Over values are acceptable.

## **Energy Need**

Due to some following reasons, to give definite figures in calculation of nutrients need is difficult in breeding of the Kangal Dogs:

1. Weight differences between individuals
2. Different environment in living conditions
3. Different performances expecting in according to breeding purposes

## **Need of Proteins**

Proteins are chemicals made up of other chemicals known as amino acids. Amino acids are the building blocks of proteins. The Kangal Dog needs 23 amino acids. Dogs can synthesize 13 amino acids in their bodies and must be supplied others in their food. The left 10 are called the "Essential Amino Acids" which are phenylalanine, histidine, isoleucine, leucine, lysine, methionine, valine, arginine, tyrtophan, and threonine. The only nutrient having all essential amino acids in the world is milk.

## **Need of Minerals**

Minerals are essential for bone formation, muscle metabolism, fluid balance, and nervous system function. Minerals are divided into major and trace concentrations. Calcium and phosphorus are necessary in particular ratio for bone formation and strength. An imbalance in the ratio will cause bone problems. Potassium is found within tissue cells and is important in cellular activity; a deficiency causes muscle weakness and heart and kidney lesions. Sodium is found in fluids outside the tissue cells and performs a function similar to potassium. It is usually found in the diet as sodium chloride and is rarely deficient. Excess sodium has been linked to hypertension in dogs. Magnesium is found in soft tissue and bone; it interacts with calcium to provide proper heart, muscle, and nervous tissue function and aids in metabolism of potassium and sodium. Deficiency leads to muscle weakness and sometimes convulsions. Trace elements are iron, copper, manganese, zinc, iodine, selenium, and cobalt. Although dietary requirements are minimal, they are essential to general good health.

### **Need of Vitamins**

Vitamins are the organic compounds which are vital but cannot be synthesized as necessary in the dog's body, and hence they should be taken with food. In accordance with their solubility they are divided in two groups: soluble in fat and soluble in water. They can be stored in liver to some extent.

### **Need of Essential Fatty Acids**

Fatty acids are important for a wide array of cell structure components and for many chemical reactions in the body including hormonal and energy activities. There are two fatty acids playing a role in the Kangal Dog's metabolism: Of the one is the linoleic acid (called Omega 3 fatty acid) with 18 carbon atoms and having a double bond, another is the arachidonic acid (called Omega 6 fatty acid) with 20 carbon atoms and having a 4-double bond. Kangals can synthesize arachidonic acid from linoleic acid. Thus only linoleic acid is needed. Plants are an excellent source of linoleic acid. Arachidonic acid presents only in animal fats. The need of these two acids is 1.6% of dog's body weight. Namely, 800 g of these fatty acids are needed for a dog in 50 kg. Some of defects such as growth retardation, weakness, pathological changes in skin and coat, loss of hair are seen in the Kangals in case of deficiencies of these two fatty acids.

### **Feeding during the period of lactation (0-2 months)**

The pup's eyes are sealed closed and so are the ears. They find out the teats of their mother instinctively when they are delivered, and start to suck. They must suck their mother at least until the age of 1.5-2 months. Longer the sucking better for the puppies is. The dam normally has sufficient milk to feed her whelps for the first months but this depends on its balanced diet. She sometimes whelps up to 10 puppies a litter that means if a mother dog has milk not enough for feeding all the puppies, they must be supported with milk and food. Support of milk; bread or pita (village bread) moistened with milk; and of food should be made up to 15-day, between 15-day and 1 month, and after 1 month of age, respectively. Bakery foods such as bread, rice flour, starch, boiled rice (pilaf) and pasta providing not being oiled too much may be mixed and moistened with milk. The demand of milk by nursing puppies will continue to increase day by day. Consequently, the female's food and water requirements increase during this time. At peak lactation, the female's food intake may be two to four times above her usual or maintenance food intake.

## **Importance of Colostrum**

As far as puppies are delivered they start to suck colostrum. Colostrum, a sort of thin yellowish-milky fluid is very important for the puppies from its two viewpoints:

1. Puppies are fed with blood through umbilicus cord whilst they are inside their mother's tummy. They cannot defecate for two months. Hence, they must release, which is the first bowel movement, the meconium, a thick, rather sticky, greenish black substance, that lines puppy's intestines during pregnancy. Colostrum has an effect of diarrhoea, and the mother Kangal helps the puppy by licking especially around the rectum. This movement will clean intestines.
2. Newborn puppies have lack of immune system. They are extremely opened against sicknesses, but colostrum is the fluid that contains all the antibodies against the many viruses that could make the puppy sick.

## **Other matters in respect with milk to be paid attention**

### **Kind of Milk**

Preferably cow milk or goat milk, if available, because sheep milk and buffalo milk are fattier milk, is used for feeding newborns if dam Kangal does not enable to feed all puppies sufficiently.

### **Milk Cleanness**

The milk for newborns must be clean and boiled. Pasteurized milk is favourable, if available. Milk may be given with a feeding bottle using a rubber nozzle.

### **Dilution of milk with water**

Milk should be diluted with 2/3 parts of water in the first day, and with fifty-fifty thereafter, because bitch milk has lesser fat than that of milk of other domestic animals. Excessive fat leads problems such as diarrhoea. In case of diarrhoea, 3-5 baby biscuits may be added into milk, and puppies should be taken under observation. Number of biscuits is increased to two in each meal. Normally, diarrhoea will be ended before the number of biscuits is reached to 10 for one feeding bottle.

### **Milk Temperature**

Temperature of milk is adjusted to about 37°C. In practice, temperature should be felt neither hot nor cold by means of a middle knuckle of second finger immersed into heated milk. Finger tip must not be immersed into the milk because milk will be polluted by possible dirt and microbes between nail.

## **Feeding of Young Kangals (2/18 months)**

Feeding work of owner of the Kangal Dog will rather be easier if the puppy is bred up to 2 months old. The puppy at this age should have been accustomed to eat home meals and pet food. Very important thing to which attention must be paid in this period is to provide calcium to the puppies that have not been nursed any more. Puppies may take their need of calcium should they be fed with bones but if feeding is the vegetal weighted or puppies are fed only by "yal" (in rural area of Turkey) (pieces of barley dough) from the age of 2 months old then calcium should be mixed with their food. Calcium additives from pharmacies may be used.

No raw meat is definitely given to puppies. Two reasons of it are:



1. The puppies given raw meat may be harmful for domestic animals and pets;
2. The puppies given raw meat is at the risk of internal parasites and other infectious diseases.

### **Feeding of Mature Kangals (after 18 months)**

The food to be given to mature Kangal Dogs should consist 50% of protein, 40% of carbohydrate, and 10% of fat, minerals and vitamins during this period.

### **Feeding of Pregnant Kangals**

Two meals a day is given to male and female dogs during mating period. The quality and quantity of meals should be increased at the second month of pregnancy. Fusty, very cold or frozen, stale and rancid, and windy meals must not be given to the pregnant bitch. These may cause abortion.

### **Feeding of Old Kangals**

The food with low protein and fat, soft, easy-digestible and rather vegetal weighted ones are given to old-age Kangals. No large bones are given because of his/her teeth decreased in number.

### **Feeding of Sick and Injured Kangals**

Juicy, soft, easy-digestible food with high nutritional value is preferred for sick dogs and soft meat rich in protein, and green vegetables rich in vitamin, and leguminous “yal” for injured Kangals.

## **BREEDING MATERIALS**

### **Shelter**

The general and/or detailed information on construction, building and materials of doghouses and kennels are available at any library and internet as well. Here, we only mention some important points for doghouses of the Kangals. Doghouses can be produced by using various materials, but the materials used should protect them from temperature changes especially in summer. They should be insulated on the floor, walls, and roof to facilitate cleaning and avoid conductive heat transfer. Dimensions should be large enough to allow your Kangal to turn around easily in it, but should not be too large. In general, dimensions for a doghouse should be more than one and a half times the dog's height at the withers in all 3 dimensions. Dimensions of 1 x 1 x 1.5 m may be suitable for the Kangals. The house should have a floor which sits 5-10 cm above ground to prevent water from entering on the rainiest days. Raising the floor will also isolate it from the cold ground in the winter. The slope of roof should be backward. Walls should also be waterproof, and suitable for washing and disinfection. Inside of a doghouse should be daylight. Kangals can endure very severe winter outdoor conditions but vented doghouses are not appropriate. Wind shields may be placed about 1 meter far from its door if it is exposed to wind.

### **Dog Training Supplies**

Here, again the general and/or detailed information on dog training may be available at libraries. Briefly, I may say that the supplies such as the leather collar, chain collar, chain training collar, driving (training) leash, chain link, muzzle, spiked collar ("Tok", "tork", "çengel" in Turkish) snap, hidden sleeve, and scratch jacket are the materials needed for training the Kangals. These materials should not be poor quality but sound whether they are cheap or expensive.

### **Feeding Supplies**

**Dog Food and Water Bowls:** Dog food and water bowls are available in many materials, colours and styles but the best ones are made of stainless steel or hard plastic material bowls in suitable size, width and depth, not suitable for settlement of micro organisms but cannot be broken, can be cleaned daily with soapy water and thoroughly washed easily. Weighted bowls for food and water are suitable because dogs usually push their dish around trying to get every last morsel, and puppies like to tip over the water bowl in particular.

### **Dog Grooming Supplies**

Dog brush, dog comb, and dog nail clippers or trimmers are the grooming supplies suitable for the Kangals. Dog brush may be the pins brush preferably, a grooming glove or a bristle brush. Brush should be used everyday if possible. Dog comb, dog nail clippers or trimmer are used for grooming a dog for a contest, and for health and treatment purposes.

### **Dog Health Supplies**

Maintaining appropriate dog health is very important to the long term quality of your Kangals' life. Good dog health depends upon a healthy diet, regular medical care, and plenty of exercise and love. A deluxe first aid kit consisting of standard first aid materials plus the ear, eye, paw, coat and joint cares medicals, dog wound care medicals and fungus control products, nutritional supplements, antioxidants, flea and mite control materials will to enhance and promote the health of your Kangal and eliminate his/her health problems.

**Chapter 13**

**TRAINING**

I am adverse to train hardly the Kangal Dog other than basic commands. His/her character and temperament of independent thinking, free, and a leadership dog makes him/her to be trained hardly. On the other hand, since the Kangals Dog, as we mentioned above, is one of the most intelligent dogs that s/he can learn around 250 words there is no need to train him/her for other unnecessary things excluding the meanings and actions of these words. S/he is a sheep guarding dog in nature.

### **Training Puppies (0-6 months)**

Dogs need to be taught good manners just like children do. Training of 0-6 months old puppies forms a base for further trainings.

### **Denomination**

First, a name should be given to each puppy. S/he is tried to be accustomed to its name by repeating it ever so often. The main purpose to denominate the puppies is to benefit from distinctive feature of a name. A dog must be denominated in order to distinguish him/her from other puppies and other animals, and to tell about and introduce him/her to other peoples. One of purposes of nomination of dogs is to have excess affection for dogs. Love, companionship depending on a medium of reliance, and a loving animal-human bond between two lives can be established during the first period of 1-2 months. Take him/her in your lap, pet his/her head and back with your hand but not fondly. Let him/her to lick your hands but not too much.

### **Discouraging**

Keep the puppies out of children as much as possible. Continual desires for playing of children courage puppies, and they may easily gain bad habits such as barking very often, giving harm to environment, making attacks to anyone they see, importunity, defecation to anywhere, and disagreeable actions. In such cases, fold a piece of newspaper and hit it onto your own leg in a manner to create a loud sound s/he can hear and discourage. Never hit or physically punish your puppies. Give an order with different tone of your sound. Such punishment should always be made by left hand. Right hand should be used for petting him/her or showing attention and giving his/her food. Thus puppy learns the different functions of right and left hand. Otherwise, s/he will confuse concepts.

### **Collar Training**

The Kangal puppy must be introduced to his/her collar during the period of 2-3 months of age. Start with a light collar and let him/her get used to wearing it on its own for 1-2 days but not too tightly buckled. Then get him used to the lead or chain by attaching it to the collar and wandering around the area. In the third step chain him/her in short periods to his/her own doghouse not continuously. This is done only for recording such an action to his/her memory. S/he will exhibit no reaction when you further need to chain him/her in short periods.

### **Professional Training**

This type of training should be given by professional trainers. The method of Pavlov's (Ivan Petrovich Pavlov-1849-1936) Conditioned Reflex may successfully be used in training of the Kangal Dogs. Pavlov became interested in studying reflexes when he saw that the dogs drooled without the proper stimulus. Although no food was in sight, their saliva still dribbled. When a dog encounters food, saliva starts to pour from the salivary glands. As it is known this saliva is needed in order to make the food easier to swallow. The fluid also contains enzymes that break down certain compounds in the food. Then he realized the dogs were reacting to bell ring. Every time the dogs were served food, he was at first ringing a bell. Therefore, the dogs reacted as if food was on its way whenever they heart the ringing sound of bell.

**Basic Dog Training Commands and Dog Orders**

The basic dog-commands may be 'Heel!', 'Sit!', 'Come!', 'Down!', 'Stop!', 'Wait!' etc. Every time the dog does the action and makes progress, say the order and praise it excitedly. For instance, hold it from his/her leash or chain and walk together with him/her. Say 'Stop' and then stop by pulling his/her leash and praise subsequently. Repeat it several times. You will see that s/he will stop without needed to pull the leash when you say 'Stop', and praise it again. Repeat the action for a while and do not praise any more. Try him/her to get used to stop without praise. Never say the order and the action at the same time. Puppies start to obey the order 'Come'. Orders must be the orders with single syllable supported with face and hand mimics and a constant voice tone.

**Dog Training (Older than 6 months)**

Training is continued gradually despite the puppy at this age is considered not matured. The Kangal Dogs may be trained for the following purposes. 1) To guard sheep or goat herds. 2) To guard houses, workplaces, and other buildings providing that they will be free in garden. 3) To be used in hunting against wolves, foxes, wild pigs etc. 4) To be used as a body guard dog for ladies in particular. 5) To become a life companion for old people in particular providing that they will be free in garden. 6) To be used as detecting dogs for illegal substances such as mine, narcotics, and bombs, and for trace detecting dogs and patrol dogs.

## Chapter 13

### SICKNESSES AND TREATMENT

Definition of sickness is made by numerous scientists as a “situation of leaving from health”. It is normal that the appearance of sicknesses and pests in these animals living in nature, together with human and other animals. The normal body temperature, the pulse, and respiration in dogs are 38.4°C (101.12°F), 70-100 times/min, and 15-30 times, respectively. Eyes and hairs are seen alive glossy and brilliant, and skin is flexible. It goes back its place when it is pulled out and released. Dogs should be observed permanently whether any disorder is seen. In case of any problem apply to a veterinarian. Do not attempt to treat him/her before consulting to a vet. The Kangal Dog is very sensitive against tranquillizers. For instance, even 0.25 ml of a tranquillizer, acetylpromazine known as ACP can lead a 50 kg Kangal Dog to death. This medication is used to calm down dogs before operations. It is a rather reliable medication for dogs but not for large ones such as Danua, Boxer, and Saint Bernard etc. It is reported from the UK that even a very small dose causes to decrease blood pressure and then introducing anaesthesia subsequently leads a dog to death.

There are about 600 dog diseases. The ones mostly seen and spread out are mentioned below.

#### **Parasites**

Canine parasites exist internally and externally. There are many different types of parasites, some more common, and some more problematic than others. Fighting with parasites is important for your Kangal and you. Here are some of the more common parasites.

#### **External Parasites**

Fleas, lice, and mites are the most common external parasites found on the dog. Fleas are a pest that causes annoyance. Dog fleas are different from cat and human fleas. They lay their eggs not on dogs but in environment, basically anywhere the dog goes. It is; therefore, important to deflea all these areas at the same time you deflea the dog. You must place a lot of importance in preventing fleas in your Kangals because fleas are more than just blood-sucking insects. They can also cause or transmit diseases in dogs. When a flea bites, it feeds on blood. With many fleas feeding at the same time, significant blood loss can occur. If the fleas are allowed to remain on the dog, severe anaemia can result. Puppies must externally be checked in each 15 days if possible, or each month until a year of age.

Dogs are a common target for ticks. They can transmit serious diseases to dogs and even to humans. For fighting fleas and ticks there are many products available to treat flea infestations. Many methods have been tried to remove ticks. The best recommendation to remove a tick is to use a tweezers with a piece of cotton absorbed with alcohol, acetone, cologne or tincture of iodine and pull the tick off. Do not touch the tick since diseases can be transmitted. Consider wearing gloves when removing a tick. With a tweezers grab the tick as close to the head as possible. With steady, gentle pressure, pull the tick out of the skin. Frequently, pieces of skin may come off with the tick. If the head of the tick remains in the skin, try to grab it and remove as much as possible. If you are unable to remove the entire head, don't fret. This is not life threatening. Your pet's immune system will try to dislodge the head by creating a site of infection or even a small abscess.

Mange is known to be a specific skin disease due to invasion of the skin by tiny parasites called mites. There are two common types of mites which cause mange: Demotectic and sarcoptic mange. The two manges are quite different. The mite known as sarcoptic mites are highly communicable little bugs that actually dig tiny tunnels into the skin where they cause intense itching, inflammation and hair loss particularly at the back of ears, and the leg joints. There are many products on the market that control ticks.

### **Internal Parasites (worms)**

Internal parasites exist in all ages of dogs with the greatest frequency in puppies even within a few days of newborn through the milk. These parasites have highly evolved life cycles that make their elimination impossible. In addition, many internal parasites affect people with the potential for serious consequences. Dog can have internal parasites even though the faecal sample is negative. Fortunately, we have effective medications to treat most parasites. I recommend all dogs get a treatment for internal parasites every 6 months. The most common ones found in the Kangal dogs are briefly given below.

**Toxocara canis:** It is common in dogs. Immunity is developed in adult dogs against this roundworm parasite. However, the 3<sup>rd</sup> period larvae may be placed in muscles, kidneys, eyes and brain. Toxocara canis is all too easily transmitted to children. **Dipylidium caninum:** It is a zoonosis parasite (found both in animals and human). It is commonly found in dogs, cats, foxes and rarely in human. Its length is about 20-28 cm. The flea is a common intermediate host. **Taenia hydatigena:** It is the longest taenia living in carnivores. Ruminant species and pigs are common intermediate hosts. While eating grass or drinking, a ruminant accidentally ingests the eggs which pass into the small intestine. Each egg penetrates the wall of the intestine after the eggshell is digested away. After penetrating the wall of the intestine the larvae migrate to the liver. **Echinococcus granulosus:** It is the causative agent of Hydatid disease in man and many other mammals. The dog acts as the definitive host for this species. This one and echinococcus granulosus equinus are the most important ones among a number of sub-species of this parasite. **Echinococcus multilocularis:** It is a zoonosis parasite of 2-3 mm in length. It is a causative agent of highly pathogenic Alveolar Hydatid disease in man and other mammals. The foxes and rodents are the most important definitive hosts, although dogs may also be infected with the adult parasite. Again there appears to be a number of sub-species of this organism.

### **Diseases**

**Rabies (Canine madness):** Rabies, medically termed hydrophobia is an acute infectious disease of mammals, especially the carnivorous ones, characterized by pathology in the central nervous system, leading to paralysis and death. It is caused by a neurotrophic virus which is present in the saliva of rabid animals. Infection can be prevented by vaccination of three-month old puppies. **Canine distemper:** Canine distemper seen mostly in winters is a highly contagious and serious disease caused by a virus. They usually become infected through airborne exposure to the virus contained in respiratory secretions of an infected dog or animal. Puppies are immune until three months of age. The first sign of distemper is eye discharge that may appear watery to pus-like. Subsequently, dogs develop fever, nasal discharge, coughing, lethargy, reduced appetite, vomiting, and diarrhoea, in later stages seizures, twitching, or partial or complete paralysis. Distemper is often fatal. Currently there is no specific treatment. Puppies must be vaccinated against canine distemper. **Canine typhoid fever (Leptospirosis):** Leptospirosis is a bacterial disease of dogs that can affect the blood, liver, or kidneys. Bloody diarrhea and vomiting may occur. Currently there is no specific

treatment. Puppies must be vaccinated against canine distemper. **Canine parvoviral enteritis:** Parvoviral enteritis is probably the most common viral disease of dogs. Usually, the signs are severe vomiting and diarrhoea. The diarrhoea may contain blood. Other signs include lack of appetite, depression, and fever. Parvo can affect dogs of all ages, but is most common in dogs less than one year of age. Puppies less than five months of age are often the most severely affected and the most difficult to treat. The best way to protect your Kangal from this fatal virus is through vaccinations. **Hepatitis contagiosa canis:** It is a highly contagious type of hepatitis in canines, caused by an adenovirus; symptoms may be mild to severe and range from fever, vomiting, and abdominal pain to convulsions, hemorrhage, and death. Puppies must be vaccinated. **Canine Infectious laryngotracheitis:** It is a viral contagious respiratory disease caused by Canine Adenovirus Type 2 virus. **Infectious Tracheobronchitis (Kennel cough):** It is a highly contagious respiratory infection in dogs. It can infect all dogs, but affects puppies between the ages of 6 weeks and 6 months most severely. Kennel cough is characterized by the sudden appearance of a dry hacking cough in an otherwise healthy dog. It is a viral disease caused by the virus, Bordetella bronchiseptica. **Canine corona virus infection:** It is the second most common viral infection causing moderate to severe vomiting and diarrhea and can lead to dehydration. The symptoms of this disease include loss of appetite, depression, blood in stool, vomiting, and death. Prevention as with most diseases is vaccination. **Herpes virus infection:** Canine herpesvirus is a viral disease that affects many puppies, causing sporadic deaths. The virus lives in the reproductive and respiratory tracts of male and female dogs and can be sexually transmitted. Currently there is no specific treatment for canine herpes. All treatment is aimed at supportive care.

## Infertility

In general, offspring productivity is important in animal breeding. It precedes all productivities such as milk, meat, egg and labour because if animals cannot get offspring they cannot continue their generations. Infertilization may be taken place in the Kangal Dog breeding. It may have many reasons.

**Hereditary faults:** The main reason of hereditary faults is to breed dogs which are relatives of each other. Kangal Dogs do not breed with sibling-to-sibling, dam-to-son or sire-to-daughter unless they have to do so. Near relative mating can be seen in the case only instinctively to continue its generation if they cannot find any bitch for mating. The genotypes, namely the genetic structures of a couple rather resemble each other in comparison with other individuals who are not relative if the male and female dogs are near relatives. Numerous gene couples will become homozygote in the pups created from this mating due to resembling genotypes of their parents. The character defining the gene couple that has become homozygote may be recessive. The recessive character defining these gene couple is arisen out during the event of becoming homozygote if it belongs to any of hereditary fault of disease. Namely, the meeting chance with each other of genes having bad characters will be increased in case of mating with near relatives. This will cause to arisen out the hereditary fault of disease. Some hereditary faults are shown below. **Cryptorchidism:** It is defined as failure of testis to descend from its intra-abdominal location properly into the scrotum. **Position defects of legs:** More or less apart or jointed from the middle or lower part of legs. **Faulty bites:** Overshot bite and undershot bite other than the scissors bite when mouth is closed. **Tongue bond:** The top surface of the tongue is stuck to palate. Swallowing is difficult. **Short tail:** It is shorter than normal. **Dislocated hip:** According to a study carried out it is a hereditary fault seen 32% of Kangals. First symptoms are usually seen in the period of 4-9 months of age where growing is accelerated. Pain in hip, quick tire, being forced during



standing up, swinging waking, and slimming in hip section are the main symptoms. Final diagnosis is achieved by means of radiography. It has no therapy.

**Traffic accidents and fighting injuries:** The Kangal Dog may, time to time be injured by vehicle collision, hit to trees during running, or fighting with other dogs and/or predators. His/her mouth does not permit microorganisms to live, and it is hygienic. Small injuries and bites can be recovered by licking. S/he must be taken to a nearest vet if his/her injuries are serious or if s/he has broken bone.

**Precautions and preventive vaccination:** Vaccination must seriously and regularly be applied and followed. Dogs can be protected from all diseases through vaccination.

**Precautions for owners:** A healthy and well-cared for dog is unlikely to pass on a disease to humans. However, it is sensible to take precautions. Do not 'kiss' your dog or let him/her lick you when s/he is sick. A dog's nose and tongue are often put to very different purposes from humans. If you have been handling your puppy, wash your hands afterwards. Make sure his/her dishes are kept and washed separately from the rest of the family's. Do not let him sleep in your bed. Shake and wash or change his bedding regularly. Keep him clean by regular grooming.

#### **Administering dog medicines:**

People have been keeping dog companions ever since humankind began to domesticate animals. Unfortunately, though, such four-legged family members do get sick now and then. So you will be responsible to administer his/her medicines in time. But first let me give you a few important tips of warning.

1. Consult with your veterinary about the medicine and doses you should be giving your Kangals.
2. Read medicine labels carefully or follow vet's advices.

**Oral dog medications:** Experienced owners know very well how difficult to give oral medications to your dog is. The easiest way is to take advantage of the beast's gluttonous nature. Simply hide the powdered or capsuled remedy in your pup's favorite meat and let his/her gulp it down. Some mature dogs are very skilful to find out the pill hidden into the meat and keep it in their mouth. In addition, some particular medications will tell you that they should not be given along with food. In such cases you can force pills to a reluctant dog by grasping both sides of the animal's upper muzzle with one hand, and pressing the beast's lips against its upper teeth. This squeeze action will force the dog to open its mouth enough for you to pop a pill over its tongue. Larger capsules can be lubricated with a little butter or mineral oil. Then close your dog's jaws and hold them shut and slightly elevated until s/he finally swallows. You may also need to stroke Kangal's neck to encourage the gulping reflex. Liquid medications are usually easier to administer. Simply pull the dog's lower lip out on one side to form a cup, pour the liquid into and then tip the head slightly upward.