The domestic livestock resources of Turkey: breed descriptions and status of guard and hunting dogs

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Abstract

The present day inhabitants of modern Turkey arrived in the country with the expansion of the Turkic Empire out from Centra Asia in the middle of the eleventh century. They travelled with their herds and flocks and with the guard and hunting dogs as part of their array of domestic animals. In the one thousand years since their arrival several specialized dog breeds have developed. This paper describes eleven such, five of which are molossers, one is a sighthound, two are scenthounds and two are small Spitz types. Two of the molossers (Kangal and Akbash) have local breed societies or associations, are officially registered and are well known and have breed societies internationally but are not recognized by the Fédération Cynologique Internationale (FCI). One molosser (Kars) is registered by the Turkish Standards Institute and another (Koyun) has been recently identified. The sighthound (Tazi) is similar to other Near and Middle East greyhounds. One scenthound (Tarsus Catalburun also known in English as Fork-nose and Turkish Pointer) is little known outside Turkey but is celebrated in its home area for its skills and is finding employment as a sniffer dog for narcotics, explosives and live and dead people and another (Turkish Chaser Dog of Zagar) has recently been officially registered. A Spitz-type (Dikkulak) is employed mainly as a household guard dog as is one other breed of indeterminate type. The Cynology Federation of Turkey was formed in 2006 and is a contract partner of the FCI (and considers there may be as many as twenty dog breeds as opposed to the ten here described). A Turkish NGO known as Let's Adopt tries to place street dogs. Turkey's Animal Welfare Act No. 5199 of 2004 seeks to protect animals from torture, abuse and maltreatment but with regard to dogs is mainly concerned with capture-neutering-return of stray street dogs.

Keywords: Working dogs, morphometry, breed societies, animal legislation, welfare

Introduction

Situated at the junction of Europe and Asia, Turkey is a geographic bridge that has been traversed by traders, travellers, treasure seekers and trespassers for thousands of years. It is thus also a cultural bridge imbued with the DNA of many civilizations. In part because of this history Turkey is repository to a rich array of domestic livestock resources that includes animals for food, for work and for companionship.

The present day inhabitants of Turkey arrived in the Asia Minor and Thrace with the expansion of the Turkic Empire out from Centra Asia in the middle of the eleventh century. They travelled with their herds and flocks and were accompanied by guard dogs that protected these livestock and hunting dogs that assisted in the search for food. In the one thousand years since the Turks arrived several dog breeds have developed. Turkish hunting dogs are analogous with those of much of Europe but the "shepherd" dogs of Turkey are guard dogs bred for and trained to protect the flocks and not to control the sheep.

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This review is part of a series of papers that will eventually cover most species of domestic livestock in Turkey (Wilson et al., 2011; Yilmaz et al., 2011; 2012a; 2012b; 2012c; 2012d). The paper builds in part on an earlier review (Reed, 1996) but provides information on breed organization, registration and welfare in addition to describing and providing other information on eleven identified types of which five are molossers, one is a sighthound, two are scenthounds and two are Spitz types.

Breed Organization and Registration

Köpek Irklari ve Kinoloji Federasyonu (KIF) (literally translated as the Federation of Dog Breeds and Cynology but which should be understood to mean the Turkish Kennel Club) was founded in September 2006. On its foundation it made an immediate application to the FCI (Fédération Cynologique Internationale) for membership although some founder representatives had made previous contact with the FCI. Under Article 4 of the Federation's constitution its aim is to support all activities necessary to ensure that national dog breeds are internationally recognized as the intellectual property of Turkey and that breeding, training and care of other dog breeds recognized by the FCI (and in fact of all dogs) are carried out in accordance with the standards prescribed by the FCI and similar organizations and that dogs in Turkey are treated with respect. The Federation hopes that the number of registered dogs will increase and that use of proper criteria for breeding and owning dogs in Turkey will be compulsory. The Federation also believes that once breeders, trainers and owners fully realize their responsibilities the problem of street dogs will be resolved and it is concentrating its efforts on achieving these objectives.

In 2011 the number of member associations of KIF was 21 although only two are of native Turkish breeds. Membership is projected to increase in the near future as new associations submit applications for admittance. Other breed clubs are working on their own foundation procedures with help and supervision from KIF. It has been decided that only one association will be accepted as a member organization on behalf of any dog breed.

Since its inception the Federation has operated to the standards of an FCI member. It holds events around the country on request from associations and dog owners, helps with pedigree systems and registration. In early 2012 more than 3500 dogs were registered in the KIF Stud Book and the number is increasing day by day. The Federation works towards increasing the number and quality of Dog Shows which provide publicity. Shows are also social events that offer opportunities for owners to share knowledge, meet other owners, compete in a friendly atmosphere and help prospective owners to make a decision on choosing a breed type and a breeder. KIF Dog Shows differ from previous activities which were generally known as "Dog Shows" in terms of aims, functioning and internal discipline. They have introduced innovative concepts and practices to Turkey and, in spite of continuing problems with preparation before shows, completing enrolments and displaying appropriate behaviour (both owners and dogs) in accordance with show rules in rings, Turkish cynology and dog-breeding have made remarkable progress since the first dog show. It is hoped that these lessons will be applied in the International Dog Shows that are planned for the future.

The scientific and cynologic aim of the Federation is to provide breeders, owners and fanciers with genuine knowledge and a basis of assessment for appropriate improvement and breeding of all breeds. In the light of present knowledge and the size of the country KIF considers that Turkey may have as many as 20 breeds. As a further contribution to Turkish cynology the Federation has initiated studies on standards and genome mapping for several breeds with a view to registering them as Turkish intellectual property.

Legislation and Welfare

An Animal Breed Registration Committee located within the Ministry of Agriculture, Livestock and Food Policy is charged with the registration of native breeds. Published scientific studies related to particular breeds is gathered, scrutinized and analyzed by specialist researchers. From this standards are set and submitted by the Committee to the Turkish Standards Institute for the Breed Registration Committee for registration which is officially promulgated in the Government Gazette. By the end of 2011 four dog breeds had been thus registered (Anon., 2011).

Animal Protection Law No 5199 came into force in Turkey in 2004. The law and its accompanying regulations cover many issues relating to animal welfare, including wild animals, farm animals, companion animals (including street animals), laboratory animals, slaughterhouses, pet shops and animals involved in traffic accidents. The law enshrines a capture-neuter-release policy for street dogs and obliges all municipalities to put this policy into effect with support from Non Governmental Organizations and individual volunteers.

Sahip Çikalim (Let's Adopt) is an animal rights group founded in 2008. In accordance with Turkish legislation it supports a "no kill" policy for street dogs and adheres to the capture-neuter-release principle. It also attempts to rehouse dogs with suitable and carefully selected owners. Let's Adopt has already spread to Canada, France, Germany and the United States.

Breeds

Kangal (Karabash)

It is believed that the Kangal, a molosser flock guard dog, originated in Central Asia (Kirmizi, 1994; Qadiri, 1998; Yilmaz, 2007a; 2007b; Derbent and Yilmaz, 2008; Yilmaz, 2008) and is genetically distinct from other Turkish dogs (Koban, 2001; Togan, 2003; Altunok et al., 2005). The breed has historically been associated with the town of Kangal in Sivas Province in eastern Anatolia where Akkaraman sheep production is an important activity. Kangal is not, however, the original name of this breed but came into use in Turkey via discussions at the United Kingdom's Kennel Club in the 1970s (Broadhead, 2003; Reed, 2003). The original name of Karabash (Dikmen, 1936; Tellioglu, 1973; Oncul, 1983) means blackhead in Turkish and derives from the black muzzle. The Kangal can withstand the extremes of the cold harsh climate of its homeland. Courage, faithfulness and sensitivity are the foremost characteristics of the breed. It is a fearless and capable protector of its own flock, herd and its human family with whom it forms bonds yet it is a formidable fighter against large dogs and other predators (Daskiran, 1995; Pugnetti, 2001; Kazak and Bakir, 2002; Derbent and Yilmaz, 2008; Yilmaz, 2008, Yilmaz and Ertugrul, 2011a).

A strong, sturdy body, a black mask a black muzzle and black around the ears and around the eyes are characteristics of the Kangal (Figure 1). The tail hangs low and has a slightly upward and forward curl (Gulec, 1996; Galand, 1997; Yesilyurt, 1999; Kartay, 2002; Yilmaz, 2007a; 2007b). The true Kangal dog colour is solid dun or slightly paler shades of fawn or cream but never snow white ('boz' in Turkish) (Robinson, 1989; Yilmaz, 2007a; 2007b). Colour is an important breed trait and in Turkey non-standard colours or patterns are indicators of outside blood (Yilmaz, 2007a; 2007b; Derbent and Yilmaz, 2008; Yilmaz, 2008). The dense double coat is moderately short. Average mature live weights are 47.6 kg for males and 43.5 kg for females with shoulder heights of 75.9 cm for males and 73.3 cm for females (Yilmaz, 2007a).



Figure 1. Kangal dog and puppies at the Sivas annual breed show, 12 July 2002 (Photos: R.T. Wilson).

The Kangal was registered with the Turkish Standards Institute as Notification Number 11172 in 1997 (Anon., 1997a) and by the Breed Registration Committee of the Ministry of Agriculture and Rural Affair as Notification Number 2006/16 in the Government Gazette Number 26147 of 22 April 2006 (Anon., 2011). It is supported nationally by Çoban Köpeği Irki Derneği (Kangal Dog Club of Turkey) and government and academic institutions operate kennels where Kangal dogs are bred and pedigrees are carefully maintained. Its iconic status is confirmed by its appearance on Turkish postage stamps issued in 1973 and 1996 (and also of interest is the fact that on the 1973 stamp it is described as 'çoban köpeği' [= sheep dog] whereas in 1996 it has become coban köpeği [= Kangal dog]) (Figure 2). Outside Turkey the breed is supported in the UK by the Kangal Dog Trust and by Kangal Dogs International in the USA. Kangal dogs are recognized by the Kennel Club of the United Kingdom, the United Kennel Club of the USA and by the national kennel clubs of South Africa, New Zealand and Australia. The first Kangal litter was born in the United Kingdom in 1967 and purebred programmes were established in the USA in the 1980s. Kangals are bred in Germany mainly by immigrant Turkish workers and are registered as Anatolians but most are unregistered. There are Kangal clubs or breed societies in Belgium, Bulgaria, France, the Netherlands and Sweden. In Namibia, where Kangals have been introduced especially to guard sheep flocks, almost 300 dogs have been given to farmers by the Cheetah Conservation Fund since 1994 (Anon., 2010). The Turkish Kennel Club is petitioning the FCI for recognition of both Kangal and Akbash breeds.



Figure 2. Kangal dogs on Turkish postage stamps in 1973 and 1996 illustrating change of name (and note currency inflation from 0.25 per cent of a lira to 10 000 lira for a stamp)

Akbash

The Akbash is another molosser widely used as a flock guardian. The origin of this ancient breed is unclear but it is believed that, as for the Kangal, it originated in Central Asia (Qadiri 1998). The breed is now mainly found in the plains and mountains of Ankara, Afyon, Eskisehir and Konya Provinces.

Akbash translates as "white head" and the main colour is solid white (Yilmaz, 2006; 2007a; 2007b; Derbent and Yilmaz, 2008; Yilmaz, 2008). Purebred Akbash are free of pinto, skewbald or brindle markings or other indeterminate colours although a cream stripe from the ears to the rump is acceptable. Compared with the Kangal, the Akbash has a more refined appearance with a narrower muzzle and a softer coat with medium to long hair (Figure 3). Weight and height at the shoulders are similar to or slightly less than the Kangal with a mean weight of 44.9 kg and shoulder height of 75.3 cm (Yilmaz and Ertugrul, 2012a). Although the Kangal and Akbash resemble each other in some respects they are distinct breeds (Togan, 2003). The Akbash has a natural protective instinct and is equally as brave and faithful as the Kangal and possibly even more so in fighting with predators. Temperamentally it is calm, quiet, alert, courageous and independent. It is a very agile dog capable of jumping over obstacles as high as a man. Great stamina is coupled to great speed (Anon., 1997b; Kartay, 2008; Yilmaz, 2008).



Figure 3. Akbash dog in classic white and sharing guard duties with a Kangal (Photos: Orhan Yilmaz).

The Akbash was registered with the Turkish Standards Institute as Notification Number 12891 in November 2002 (Anon., 2002a) and with the Breed Registration Committee of the Ministry of Agriculture and Rural Affairs as Notification Number 2006/32 in the Government Gazette Number 26223 of 9 July 2006 (Anon., 2011). Akbas Çoban Köpeğini Koruma ve Araştirma Derneği (AKAD) (Akbash Shepherd Dog Conservation and Research Association) is the effective breed society in Turkey. It has links with and a representative on the board of Akbash Dogs International in the USA which is the successor to the North American Akbash Dogs Club. There are also members of Akbash Dogs International in Canada and the Netherlands.

Kars (Caucasian)

This regional breed, another molosser type, was first defined in 1996 (Nelson and Nelson, 1996). It has several alternative names including 'killi' (shaggy) in Ardahan, Erzurum and Kars Provinces, 'sacakli' (fringed) in Ardahan Province and 'tuylu' (hairy) in Artvin Povince (Yilmaz, 2008) which localities are its main areas of distribution although it also extends to Igdir Province.

In appearance the Kars resembles the Caucasian Ovcharka (Mountain Dog). Its coat exhibits many colours and patterns including black, agouti, mixtures of black and brown, white, piebald, white with grey patches, reddish brown and grey (Figure 4). White markings are very common in otherwise solid colour dogs. Also common are white forequarters, chests and neck collars. The head is usually dark. The normal long coat – there are some short-coated dogs – is important under severe winter conditions but when shed it gives the dog a dishevelled motley appearance. The hairs on the neck and the back of the hindquarters are long and this mane makes it appear larger from the front. The Kars is a somewhat smaller dog than either the Kangal or the Akbash with a mean weight of 44.6 kg and a mean height at the shoulder of 72.4 cm (Kirmizibayrak, 2004; Yilmaz, 2012a). Local anecdotes relate that a small group of Kars can cope with and even kill a smaller-sized bear. In general the Kars is a "one-man dog" but it is an ideal courageous and faithful guard dog (Yilmaz, 2006; 2007a; 2007b; 2008).



Figure 4. A typical reddish-brown Kars dog in attentive pose and a grey-white dog on flock guard duty (Photos: Orhan Yilmaz).

The Kars was registered with the Turkish Standards Institute as Notification Number 12892 in November 2002 (Anon., 2002b) but is not registered with the Breed Registration Committee of the Ministry of Agriculture and Rural Affairs .

Rize Koyun

Newly described (Yilmaz and Ertugrul 2012b) from Rize Province on the eastern shore of the Black Sea in northeast Turkey the Rize Koyun is a flock and herd guardian dog of molosser type. Koyun dogs are also present in Ordu Province to the west of Rize.

The dog is met in various colours but dark grey is the most common (Figure 5). Bi-coloured animals also occur. Rize Koyun have a solid body structure and strong legs which make for easy traverses of the hilly areas of the Canik Mountains where they are found. The tail is normally pendent but is raised when the dog adopts an alert posture. Shoulder heights of dogs are about 70 cm and those of bitches about 1-2 cm lower. The Rize Koyun is not a pet and in addition to guardian duties it assists its owners in giving vociferous or even physical warning of the presence of intruding people or animals (Yilmaz and Ertugrul, 2012b).



Figure 5. A long-coated grey Rize Koyun dog (Photo: Orhan Yilmaz).

Karaman

Found mainly in Karaman, Konya and Aksaray Provinces in Central Anatolia where the herding of Akkaraman sheep is widespread, the Karaman is Turkey's fifth type of molosser flock guardian dog¹.

In some respects the breed resembles the Kangal (Karabash) type. The Karaman occurs in many different coat colours and patterns with black being the most common (Figure 6). Karaman dogs have a sturdy body constitution and strong legs and are adapted to the harsh climate and geographic conditions of Central Anatolia (Yilmaz 2006).

¹ The Karaman dog is widespread in Macedonia which was formerly part of the Ottoman Empire and whither many Turks emigrated along with their domestic livestock. Family names in parts of Greece and Macedonia reflect this heritage including politicians (e.g. Konstantin Karamanlis, 4 times Prime Minister and twice President of Greece and his nephew Kostas Karamanlis who was Prime Minister from 2005-2009). Other domestic species of Karaman Turks include Akkaraman (White Karaman) and Morkaraman (Red Karaman) sheep



Figure 6. A black Karaman with its proud woman owner and a brindle wearing a protective collar (Photos: Orhan Yilmaz).

Tazi

The Turkish Tazi is a classic sighthound-greyhound (Figure 7) that is generally concentrated in Konya Province in Central Anatolia and in Sanliurfa Province in Southeast Anatolia (Yilmaz and Ertugrul, 2011b). There are smaller numbers in Igdir, Kars, Karaman, Ankara and Istanbul Provinces. It is asserted that the Turkish Tazi is descended from the Kirghiz Taigan and was brought to Anatolia by Turks during the Great Migration (Yilmaz and Ertugrul, 2011b). It also resembles but is larger than the Saluki. The breed is historically better documented than many other Turkish breeds despite being fewer in number (du Mont, 1699; Yilmaz, 2007a; 2007b). One of the Sehzades (Sultan's son) of Sultan Suleiman the Magnificent was illustrated in a miniature dated from the 16th Century hunting with greyhounds.



Figure 7. A Turkish Tazi dog in prime condition without and with rug (Photos: Orhan Yilmaz).

The Turkish Tazi possesses long forequarters and hindquarters, a slim body, a thin tail without hairs, a long and slender skull, a long neck, deep chest and a flexible and curved spine. Coat colour is very variable with black (35.2 per cent), being most common followed by dun (25.4 per cent), brown (12.3 per cent), tan (10.7 per cent), white (8.2 per cent) and pied (8.2 per cent). Body weights are about 18.4 kilograms and height at shoulder about 62 cm (Yilmaz and Ertugrul, 2011b). These dogs are reared for their superior skills, mainly in wetlands in Central and South Anatolia, in hunting quail, partridge, rabbits and foxes (Yilmaz and Ertugrul, 2011b). The Turkish Tazi is extremely fast (speeds of up to 65 km/hr over 1 km) but it is not hyperactive (Serpell, 1996; Palika, 2007). The Tazi makes a good pet because of its loyal, mild and affectionate character and gets along well with children and other family pets including cats. The thin coat renders the Tazi susceptible to cold weather and, as with greyhounds elsewhere, most owners cover their dogs with a rug in winter.

Tarsus Catalburun (Fork-nose)

The Catalburun is one two recognized scenthounds in Turkey. In English it is known as the Tarsus Fork-nose or less often as the Turkish Pointer. The breed is mainly located in Mersin (formerly known as Icel) Province in the extreme northwest of Asian Turkey in the Mediterranean Region (Dincer, 2006).

Catalburuns have a fully split essentially double nose that is quite a rare feature in dog breeds and arises from the nostrils being separated vertically by a band of skin and fur dividing the nose all the way to the upper lips (Figure 8). The hair is short and the coat is of various colours, brown being the most common (52.7 per cent) followed by brown and white (23.6 per cent), black and white (14.6 per cent) and black (9.1 per cent). Live weights average 21.7 kg and height at shoulders 48.5 cm (Yilmaz and Ertugrul 2012c). The Catalburun has a very acute sense of smell that is arguably heightened by the peculiar nose structure and is therefore particularly good at hunting by scent and indicating the prey as a pointer dog. In addition to traditional hunting the Tarsus is being increasingly used by the police as a sniffer dog for narcotics, explosives and for finding living and dead people. The dog tends to be hunted as a singleton rather than in couples or packs. Tarsus dogs are very friendly and get along well with humans in addition to other dogs but are not suitable as pets in confined spaces as they prefer lots of space (Dincer, 2006).





Figure 8. Tarsus Catalburun or Turkish Pointer showing classic "fork-nose" (Photos: Orhan Yilmaz)

Turk Izci Kopegi Zagar (Turkish Chaser Dog of Zagar)

The Turk Izci Kopegi Zagar is a hunting and pointing scenthound. Alternative names are 'tavsanci' (hare hunter), 'izsüren' (chaser), 'kopay', 'kopoy' and 'cakir'². It is bred by Yoruk people in Thrace Region and in Bursa, Manisa, Izmir, Aydin, Denizli, Mugla and Afyon Provinces and is noted for its ability as a hunter of hares, usually in pairs or small groups. The coat is short and fine and generally black or tan or a mixture of the two colours (Figure 9). Shoulder heights are about 52.2 cm in males and 48.8 cm in females. Male adult weight is about 19.5 kg whereas that of the female is about 17.6 kg. It is a smart, loyal and energetic breed and said to be resistant to bad management and poor food.



Figure 9. Typical black and tan Turk Izci Kopegi Zagar (Turkish Chaser Dog of Zagar) (Photo: Dogan Kartay).

² This breed appears to have affinities with the Greek scenthound Hellenikos Ichnilatis which has been known for thousands of years, originally as the ancient laconikoi (later: lagonikoi, where lagos = hare). The Greek breed is registered with the FCI and several registries in the USA.

The Zagar does not have a breed society but was registered with the Breeds Registration Committee of the Ministry of Agriculture and Rural Affairs as Notification Number 2011/38 in the Government Gazette Number 28036 of 25 August 2011 (Anon., 2011).

Dikkulak (Erect-ear)

The Turkish Dikkulak (Erect-ear) dog is a typical Spitz type of small compact body size with erect ears (Figure 10). It is also known as the 'çivikulak' (nail ear) and 'zagar' (badger). Dikkulak dogs are raised in the same area as the Kangal in Agri, Ardahan, Erzurum, Igdir and Kars Provinces (Yilmaz and Ertugrul, 2011c). In appearance the Dikkulak resembles the Pembrokeshire Welsh Corgi that is beloved of Her Majesty Elizabeth the Second, by the Grace of God of the United Kingdom of Great Britain and Northern Ireland and of Her other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith".



Figure 10. The Turkish Dikkulak (erect ear) dog is a classic Spitz type (Phot: Orhan Yilmaz).

The coat colour is variable with some 29.5 per cent being white, 23.0 per cent black, 19.7 per cent brown and white, 18.0 per cent brown and 9.8 per cent tan. Live weight averages 10.6 kg with the height at the shoulder being 27.8 cm (Yilmaz and Ertugrul 2011c). Spitz types were originally bred as cattle dogs but in Turkey the Dikkulak is used as a small size watch dog. Although incapable of attacking or restraining intruders they bark loudly to alert their owners of unwarranted intrusion. In its watchdog role the Dikkulak is either tethered or allowed to run loose in an enclosure area (Yilmaz 2008).

Tonya Finosu (Fino of Tonya)

Not much is known of the history of the Fino of Tonya, which is sometimes also known as 'kobi', but some owners claim that this dog was brought to Turkey from Ukraine by sailors on ships that used to ply regularly between the two countries. The Tonya Finosu is a spitz type dog similar to the German White Spitz, Japanese Spitz and Volpino Italiano (Yilmaz and Ertugrul, 2012d).

White is the only colour of this dog (Figure 11). This is a rather tall dog (shoulder height 41.1 cm) for its weight (9.7 kg) (Yilmaz 2008, Yilmaz 2012b). It is mainly kept as a vociferous watch dog and is suspicious of intruders. At home, however, it is playful, energetic and friendly to children.



Figure 11. The Tonya Finosu (Fino of Tonya) is another classic Spitz type that is found only as a white dog (Phot: Orhan Yilmaz).

Zerdava

Zerdava dogs, sometimes also known as 'kapi', are bred around Trabzon, Artvin, Giresun and Rize Provinces close to the Black Sea. There is little information on the breed's history but some owners believe it originally came from Georgia.

The Zerdava has a unique colour pattern. The base is black but the chest, the extremities of the legs and the tip of the of tail are white with more or less pronounced small dark spots (Figure 12). The white-coloured and spotted area around the neck is called 'peskir' (= hand towel) and the small dark spots themselves are known as 'pul' (= stamp). The eyes are yellowish-brown rather than brown. Shoulder height averages 51.2 cm (Yilmaz 2012c). The Zerdava was originally a brave, energetic and agile hunting dog of smaller prey and vermin such as wild pig, foxes and jackals and according to owners would pursue a lure or scent for several days. In the twenty-first century, however, its main role is that of a watch dog.



Figure 12. Zerdava dog exhibiting classic colour markings of black and white (Photo: Orhan Yilmaz).

Zerdava dogs are themselves hunted by wolves which may account in part for declining numbers in recent times (Orhan Yilmaz, personal observation).

Discussion

The Kangal and the Akbash are the two major dog breeds of Turkey. Not only are they widespread in the country but also elsewhere in the world where they continue to be used as guard dogs in addition to their new role as "fashion accessories".

None of the other breeds is widespread within Turkey and these are generally little known outside the country. Turkish dog owners complain that local breeds are in constant decline. This anecdotal evidence is supported by the records of the Turkish Dog Federation in which only two of 21 member associations are of native breeds. The Turkish Dog Federation is, however, providing support to nascent groups of owners who wish to promote and increase the populations of local breeds. Four native breeds of dog in total have been registered either with the Turkish Standards Institute or the Breed Registration Committee but in general there is little Government (at either national or regional level) support for dog breeding although support is provided for other domestic animal species through its "In Vitro Conservation and Preliminary Molecular identification of some Turkish Domestic Animal Genetic Resources (TURKHAYGEN-I)" (Arat, 2011). There are possibilities that an extension of TUKHAYGEN into a second phase will include some dog breeds but most support will need to come from the private sector via breeders groups and as individuals. As household incomes in Turkey are likely to rise in the future and aspirations for a more "modern" lifestyle increase the prognosis for the important cultural and genetic resource that is the dog is not too negative.

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