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Some characteristics of a population of a Southern Spitz Dog, called the Zerdava, in the Eastern Black Sea Region of Turkey, as a part of biocultural diversity, possibly to be identified as a "Turkish Laika"

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Abstract

Zerdava, as it is called by the locals, is morphologically a spitz-type local dog breed from the Eastern Black Sea Region of Turkey, and is a part of its biocultural diversity. The breed is locally used as a guard dog and for hunting, especially wild boar. To identify the breed, two dogs are observed in detail for their behaviour; and structured and semi-structured interviews are conducted with the local breeders. According to the observations and interviews, this breed is very clear and consistent so as to be classified as related to northern Laika breeds. There are also many historically strong grounds for this. Mostly because of their recessive stable colour pattern and shape, it is impossible to ignore the fact that this is an original local breed and more than a regional variety. For this breed to be identified as a "**Turkish Laika,**" it is necessary to define the breed's northern past and Turkish present together.

Keywords: Biocultural Diversity, Zerdava, Local Dog Breeds, Turkish Laika

Introduction

The Zerdava dog breed attracted our attention because of the interesting aspects of ethnobiology, local breeds and dogs, especially in the course of writing a master's thesis on the local goat breed of the Western Taurus Mountains called the Honamlı Goat. In modern times, when all wild species will become extinct, when all sheep will be Merino, all cattle will be Holstein, all horses will be Thoroughbred, all goats will be Saanen and all dogs will be German Shepherds, humanity will have lost most of the beautiful colours of life. Now, we have two of these Zerdava dogs, so as not to lose the taste for this variety of colours, and to observe some more details of the breed.

The shortest and clearest definition of biocultural diversity is provided by the linkage between biodiversity and cultural diversity (Giovannini 2009). Local animal breeds can be treated as a document of human need and culture, like all human influences (Tullio-Altan 1996, Kroeber & Kluckhohn 1952) and reflects an historical and symbiotic relationship with humanity (Gandini, G. C., & Villa, E. 2003). The requirement for the protection of local breeds is also related to cultural requirements (Matassino and Cappuccio 1998).

Local breeds have an impact on folklore and handicrafts (Gandini, G. C., & Villa, E. 2003), such as dog collars with local designs, and also support local economies (Maijala et al. 1984) and are insurance for meeting future market demands (FAO 1998). Local breeds are very important for cultural landscaping (Council of Europe 1996) and also contribute to the conservation of natural areas (Ostermann 1998). Local breeds may also have a positive impact on rural ecotourism (Flamant et al. 1995).

TEK (Traditional Ecological Knowledge) is the accumulation of knowledge gathered in adaptive processes and transmitted to the wild through cultural transmission about the relationship of living things to other living things and their surroundings, including human beings (Berkes, Sacret ecology, 2012). Complementing the limited scientific monitoring information in such regions with traditional ecological knowledge is potentially workable and cost-effective (Moller et al. 2004) and this is what is being done now: the the correct identification of the Zerdava local dog breed through non-structured and semi-structured interviews with local dog keepers.

History & Origin of the Breed

In some popular journals of Turkey and among the hunters in Georgia (www.ochopintre.ge), the Zerdava local dog breed is mentioned in historical sources in connection with the old Georgian Kingdom or with the ancient Greek Empire (Pontus) because of the Georgian local dog breed called the ჩაქირა Chakira, but there is no solid evidence for this; and it may be simply wishful thinking. The Georgian ჩაქირა Chakira is similar in coat colour, but there are lots of breeds having the same coat colour pattern, such as the Springer Spaniel, German shorthaired pointer

and many more breeds, especially those bred for hunting. In the case of the ჩაქირა Chakira, the breed is said to be the Georgian Sighthound with cropped ears like salukis in the northern part of the middle east (Clark T. 2014) and the muzzle and legs are longer but the Zerdava is a spitz–type breed with a nearly equilateral triangular-shaped erect ear, curved tail to the dorsal line and square-shaped body. When I talked with some Georgian hunters directly, they knew Laika breeds but never use Laikas for hunting and they said it is not related to the ჩაქირა Chakira. In shape and behaviour Zerdavas are more related to the northern spitz-type Laika breeds. To be honest, it is not easy to be sure about the historical roots of the breed, because it is something not directly related to anything human-centered, such as a war or an agreement between two countries.

There is no certain and reliable information about the exact origin date and the roots of the breed. The best way to understand what this breed is historically related to is to understand what this breed is related to today. In short, to understand the history, we must understand the present and the change (Helm, A. A., 2001). Today, culturally, morphologically, physiologically and behaviourally, this breed is mostly closely related to the Spitz-type Northern Laika dog breeds and this reality is very evident from their history, culture, morphology, physiology, biology, and in their behaviour such as treeing. Also, erect-eared small dogs are generally called “Fino” among the Turkish public and the other local small Spitz breed of Trabzon is also called “Tonya Finosu” (Yılmaz, O., 2012). The name Fino is reminiscent of something related to the Finno-Karelian Laika.

This breed is very possibly a result of an interaction between Russian (at least northern populations) and local Anatolian Turkish populations living in the Eastern Black Sea Region.

It may sound strange when a local Anatolian breed is mentioned to be like a northern Siberian one, especially if there isn’t a similar type in the passage areas such as the Caucasus. However, for someone who is familiar with the concentration of historical, economic and cultural relations between the Anatolian Plateau and the Siberian Basin, this will not seem at all strange. Throughout history, there was a strong trade network between the peoples who lived in Anatolia and the cultures today in the territory of the Russian Federation. It is quite possible that animal species were brought along, together with fur, amber, slaves, swords, etc., the products collected from northern peoples along this trade route that some historians have called the "**Fur Road**".

The Siberian dog breed used for sledding attracted the attention of the North African traveller Ibn Battuta (born. 1304, Tangier, Marocco) during his visit to the "**Dark Country**" among the springs of the Volga River (İbn Battuta 1907:254-255, İbn Fadlan 2015, İbn Hurdazbih 2008, Şeşen, R. 2001, HEYD, W. 1975, İbn-i Battuta, Hraundal, T. J. 2013).

The trade of Anatolian societies with their northern neighbors (Vareg, Rus) continued throughout the Byzantine, Seljuk and Ottoman periods, although the names of the states changed. In particular, the adoption of Orthodoxy by the Russians around 1000 years ago and the start of the employment in the army of Byzantium of Rus as mercenary soldiers, led to the fact that every region of Anatolia became open to Russian and other northern immigrants. Similarly, throughout Byzantine history Slavs were settled in Byzantine lands (Acar, K. 2004, Androschuk, F. 2015, Barthold, V. 2006, Hårdh, B. 2016, Hårdh, B. 2007, Heath, I. & A. McBride, 1985, Sindbæk, S. M. 2015). Russians are Vikings here, especially eastern Vikings.

Even Ottoman-Russian relations were very much based upon trade rather than war and many Russian immigrants came and settled in the Ottoman lands after the reign of Peter the First. Russian Molokans were also very very good at animal breeding (Ziyaeddin F. Fındıkoğlu 1966). In addition, a large number of non-Russian people from Tsarist Russia settled in Ottoman lands. Especially Crimean Tatars and Caucasian Muslims were settled in Anatolia at different times in large numbers (Ahmet Halil – Mehmet Eröz, 1964). These people may have brought their pets with them. There were a dozen wars from 1700 to 1917 between the Ottomans and the Russians, and 1492 was the year that the first Russian Embassy was opened in Istanbul (TTK, 1992). Tatars have also had many overseas business activities through the Ottoman harbours of Trabzon, Samsun and Sinop with Kefe in the Crimea in the Black Sea (Bora Altay and Cem Korkut 2017). These towns are in the region of the Zerdava. Also, the Russian Cossacks were very active around the Black Sea (Golobutskii, V. A. 1956, 1979).

As a result, trade relations between Anatolia and Russia were not cut off at any time until the formation of Cold War conditions in 1947 (K. Gürün, 1991) and Trabzon is still a harbour town today and very open for trade across the Black Sea.

Moreover, the name Zerdava (зердав) is a Slavic name, and it means a mustelid species like weasel, marten or polecat. There are two possible reasons for it to be called by this name. One is their marten–like coat colour, and the other reason is their treeing behaviour, which can be still observed in the Zerdava when it hunts martens like the hunting Siberian Laika Breeds.

Zerdava is a primitive dog breed, retaining traits of its wild ancestor the wolf and Northern Laika breeds in some morphological traits and behaviour; but it is more closely related to Northern Laika breeds. The Zerdava is a versatile dog, but its use over time has changed to a guard dog rather than a hunting dog (O. Yılmaz).

The hunting Zerdava is a barking pointer, like other types of Laika breeds. From prehistoric times, dogs served native people as hunting assistants and as watch/guard dogs. In most populated and industrial parts of the region where the Zerdava was traditionally bred, specialized hunting breeds with lop ears, such as scent hounds, sighthounds and bird dogs, gradually replaced Zerdavas in Turkey. It is more possible to find traditional hunting Zerdava specimens in the remote and mountainous parts of the region. However, the Zerdava breed enjoys special advantages from its adaptation to ecological conditions and the most popular game in the region: wild boar (*Sus scrofa*). Wild boar is native to Turkey (Oliver, W. 2008) and they are not edible in the Muslim population. Maybe for this reason the wild boar population is larger than in neighbouring countries. They are being hunted in Turkey because of the damage they do to corn fields.

The Zerdava breed is very affectionate and devoted to the owner, but one problem is its loyalty to its first owner, like first love. They are efficient and versatile hunting dogs. Their wolf-like appearance, endurance at work, strong health, intelligence and ability to survive under conditions of minimal care, make them particularly attractive to many poor local hunters in the region. To preserve the valuable qualities of Zerdavas, they should be kept in the natural way.

Material & Methods

Observations of two Zerdavas concerning behaviour, and free listing interviews applied to the local dog keepers from the region. Free listings can be defined as a list of items and terms from the minds of people about the domain. Free listing is a semi-structured method and used to determine the content of a cultural domain (Sinha, R. 2003). Free listing was first used by psychologists in the 1950s (Bousfield & Barclay, 1950, Gravlee, C. C., et al. 2012). In the last 20 years, this has been used extensively in cognitive anthropology and marketing, psychology, community health and other disciplines (Gravlee, C. C., et al. 2012).

Free listing is the first step in cultural domain analysis where the cultural domain is digitally documented (Puri R. Watson C.W. 2010, Puri, R. K. 2011). Analysis was made using ANTHROPAC software (Borgatti 1999, 2011).

The number of informants is best determined during the study. If the average rank of the items does not change for each new informant that means the number of informants is sufficient (Sinha, R. 2003). As consensus concerning a cultural domain increases, the number of participants required will decrease (Sinha, R. 2003).

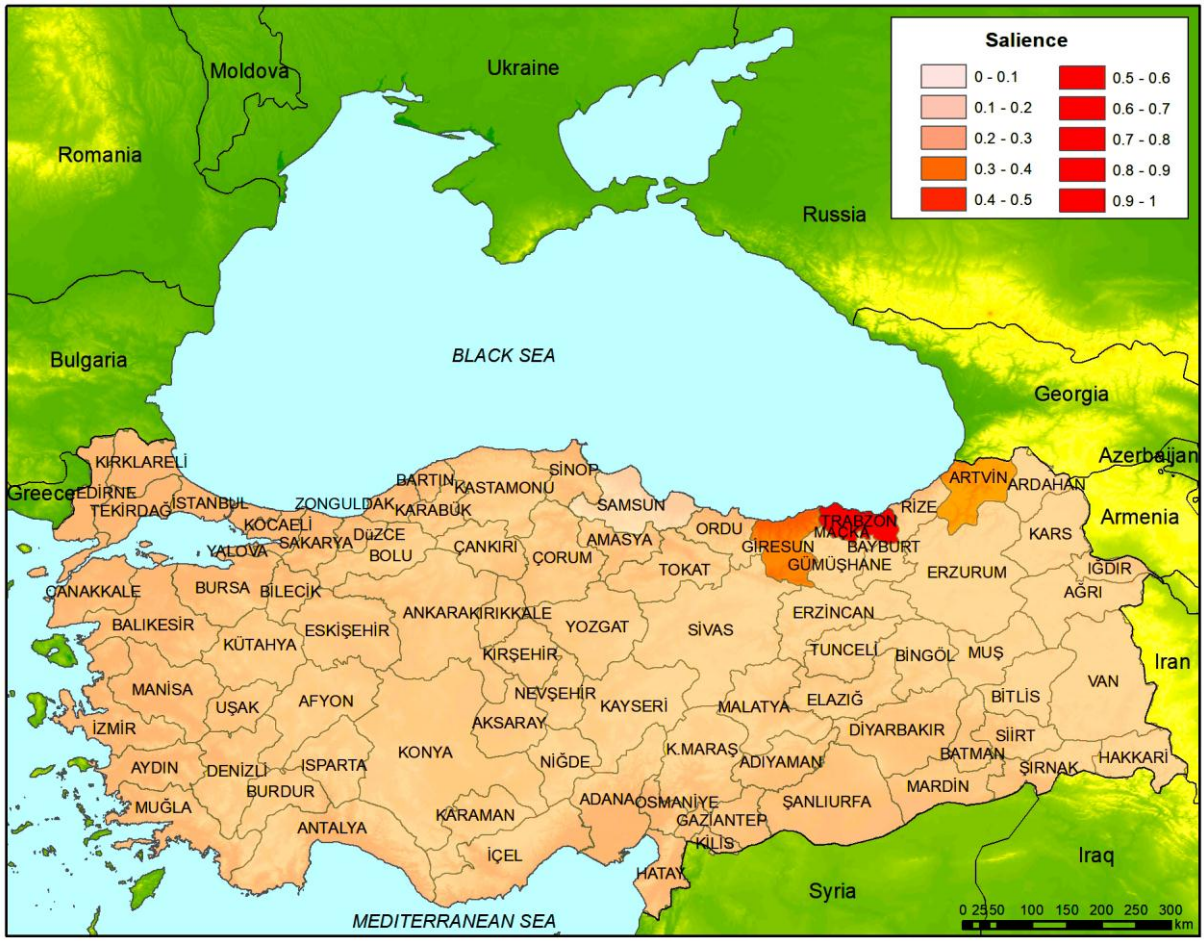
There is a relationship between frequency and the rank of the items (Bousfield & Barclay, 1950) and this relationship between frequency and rank is a strong negative correlation (Borgatti, S. P. 1999). The frequency and rank of the items create its salience (Romney & Dandrade, 1984). Accordingly, Smith sum is calculated as the cultural salience (Puri R. Watson C.W. 2010, Puri, R. K. 2011). This calculated salience number is named after Jerry Jerome Smith, from South

Florida University, Anthropology Department (Smith, J. J., & Borgatti, S. P. 1997, Borgatti., 1996, Smith, J.J. 1993).

Results

According to observations of two dogs and semi-structured/non-structured interviews with local breeders of the Zerdava, we obtained more data to contribute to the better understanding of this breed. Local people provide more local and locally sophisticated items (Sözüer, Ö. 2017).

Region



According to semi-structured free listing interviews with the local keepers, the map is prepared by the salience of the places. The red colour is darker in higher salience, excluding Georgia as mentioned before. Cultural salience values are entered in to the provincial boundaries of the vector data with ArcGIS 10.1 software (Gorr, W. L. 2013) and these values are displayed with gradient colouring on the Province polygons.

Category	Item	Frequency (%)	Average Rank	Salience
ALL TOWNS	ALL TOWNS All towns	25	3,5	0,108
ARTVIN	ARTVIN Arhavi Artvin Georgia Hopa	75	4	0,351
EASTERN BLACK SEA	EASTERN BLACK SEA Highlands	12,5	3	0,089
GİRESUN	GIRESUN Eynesil Giresun Keşap Tirebolu	62,5	2,4	0,474
RIZE	RIZE Rize	25	4	0,104
SAMSUN	SAMSUN Samsun	12,5	4	0,05
TRABZON	TRABZON Akçaabat Araklı Maçka Of Sürmene Tonya Trabzon Trabzon and provinces Vakfıkebir	100	1	1

Appearance:

Its appearance includes traits of the Northern Spitz breeds, different from the rest of the local Turkish breeds. The Zerdava is a medium to small sized dog with a compact body and with erect, small and nearly equilateral ears, in type on average between those of the Spitz and European Shepherds. The tail generally curls over the dorsal line of the body. But like all local breeds there

is a wide variation (Fao 2012): for example, the tail of the second female Zerdava observed is not so much curved. There are a few drop–eared ones according to a wide variation in the population (Fao 2012). The neck and shoulders are strongly developed. Males are a little bit larger than females: observed male is 17 kg, and the female is 11 – 13 kg. The paws are comparatively large and they are reminiscent of a Grey Wolf (*Canis lupus*) (Halfpenny, J. C. 1986). The withers is higher than the rump but the sacrum does not slope like the GSD's (American Kennel Club). The deep rib cage and the body structure of the males are more square-shaped, and the females are slightly rangy. The other important point is that the dogs in Maçka town are larger than those in the other towns in the region (Yılmaz, O. 2012). Also according to interviews, Maçka is especially said to be the centre of this breed's region.

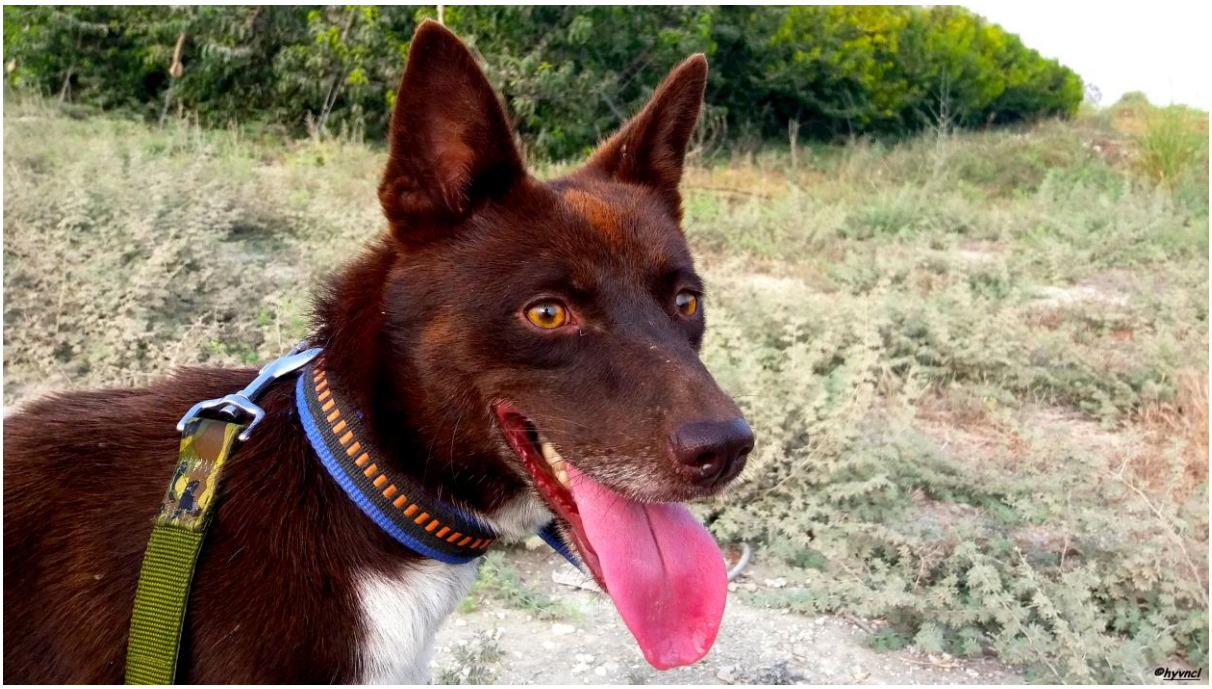
Coat:

There are many, too many hunting dog breeds' coats in the colours of the Zerdava. The colour that is almost the breed colour is that of a typical German Short-haired Pointer (or Kurzhaar in German). The coat may be of solid liver or a combination of liver and white, such as liver and white ticked except white tip of tail, liver, brown (chocolate) patched and white, ticked, or liver roan (American Kennel Club). Ticking on the white parts is of the same colour as the body. These liver colours possibly stem from the old type of Russo-European Laika (Beregovoy, V.) or Finno–Karelian Laika.

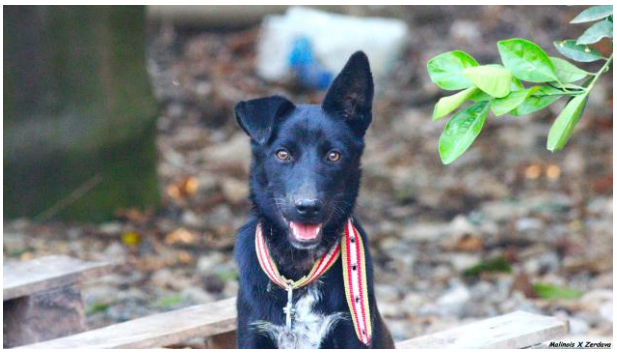
In the first days after birth, the brown colour of the pups is darker, closer to black, and the white parts are without ticking.

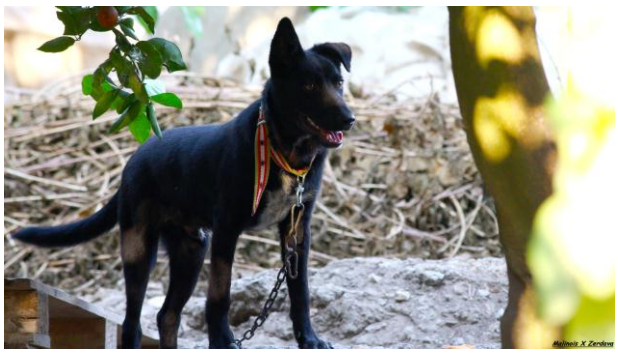
Although the coat quality varies individually, dogs raised in localities with a cold climate have a longer and thicker coat than dogs that live in a warm or hot climate or which are kept most of the time indoors; in short, the structure of the coat depends upon the ecological climate. This is especially observed with Zerdavas becoming popular and kept inside the house in the big towns as companions/pets. This was very obvious in dogs observed when we brought them to Adana, to the Mediterranean climate of the southern part of Turkey. Guard hairs on the neck, around the head and shoulders are particularly long and stiff and together with a very thick undercoat form a ruff framing the dog's face. On the neck, shoulders and around the head the hair is longer, forming a ruff, which is particularly developed in males. On the tail, the guard hairs and undercoat are also longer and thicker than on the rest of the body. In winter, in dogs living in regions with a cold climate, hair grows between the toes. On the tail the hair is longer, particularly on the lower side.

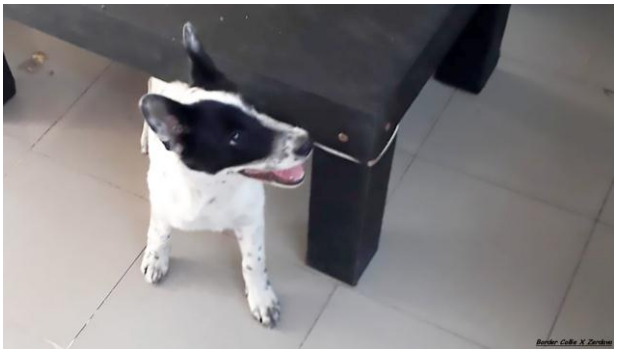
They have brown noses, the skin around the eyes and nostrils, and the eyes in harmony with the coat colour, but sometimes the eyes can be bluish in pups. The female dog observed is like that. Eyes are almond shaped. The corners of the eyes are pulled back as a result of tense facial muscles as in the Malinois breed (Demirbaş, Y. S. 2012). They are clean and without, or with very little odour.

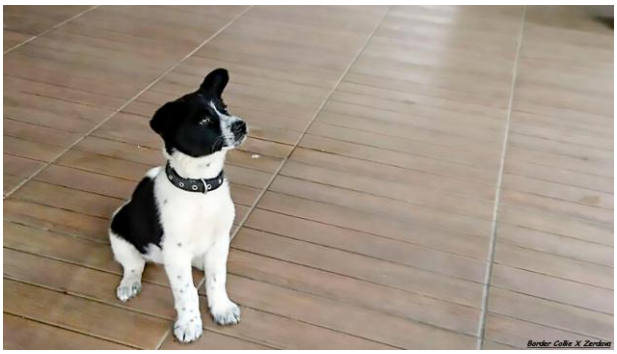


Heredity of the main liver brown coat colour is obviously recessive and ticks on the white patches are dominant when the colours of the hybrids of the Zerdava and the other breeds are observed. In the photos, hybrids of the Zerdava are seen in order with local Kopays, German Shepherd, Malinois and Border Collie:









Breeding

Zerdava dogs mature by the age of 8 – 11 months, generally have one oestrus per year, and on average give birth to 5 puppies per litter.

Most of them have one and some of them have two oestruses per year. This is the only breed in Turkey to have one oestrus, and this is consistent with Laika breeds, like lots of other traits but

this is a physiological rather than a morphological trait. This relationship is more possible than that with wolves. But two oestruses take more than a year. Females are capable of digging a den for whelping and are good mothers. For instance, an observed female did this succesfully. They take care of their puppies and some even regurgitate meat for their puppies. Usually everything is done well without the assistance of a veterinarian or the owner. Sometimes they are not such good mothers, maybe because of inbreeding or health problems.

From observations, this breed has some breeding problems, such as a low rate of conception, stillbirths and false pregnancies. This is very possibly a result of inbreeding. Also newborn puppies are sometimes too weak to survive; this is also because of inbreeding. Some informants say there is no breeding season but some say the beginning of summer is the season of heat.

Barking

Observations showed that the Zerdava barks comparatively less than European breeds but barks when it has a reason, and is a more excitable breed than the Anatolian shepherd dogs during the day. Also watchdogs bark very often. It barks more when chained. They are silent generally when tracking but not every time; some of them bark like other hounds. They are also silent in their treeing behaviour. But the reason is not clear: whether this is original behaviour or just because treeing behaviour is weakened due to change over time and usage.

Attitude to humans

The Zerdava can be an affectionate and friendly family dog. In general it is aloof and mistrustful of strangers. Some dogs first bark and then wag their tails when greeting guests and allow themselves to be petted (especially females). Many Zerdavas are aloof with strange people, avoid hands, and watch with suspicion. The majority of them bark at strangers approaching the house. Some dogs guard their masters with raised hackles on the back in a show of aggression, and this is very salient especially among males; females are generally shyer. They are always alert and agile (Yılmaz, O. 2012). They don’t prefer industrial dry dog pellets to eat.

They always seek their first owner. Secondly, they always tend to escape; but it is not clear if it is to search for the first owner or for the first place. In interviews, informants who own their dogs as a pack or from their infancy say they do not escape.

Puppies must be socialized with people; otherwise they can be very shy or very agressive and avoid being handled by people, even by their owners. For example, when our last female adult Zerdava was kept at home, she behaved more like a cat than a dog and comparatively without a problem at home, but communicating with her owner just for toilet purposes and food. They always keep a distance from people, but it is not clear if this behaviour is because of the character of the breed or the traditional breeding culture of the Anatolian Turkish people. According to observations, other native breeds of Turkey like the Kangal dogs are also not as close as European breeds to people, especially in terms of eye contact. When informants are

speaking about the traits of the breed, they often speak about the traits they desire rather than the traits they have, especially about aggression, because guarding agression is a desired behaviour by the local keepers. These dogs are called “Adamcı.”

Attitude to other dogs

Comunicating with other dogs is always much better than comunicating with people, except maybe with their first owner. According to zookeeping and wildlife conservation experiences, this behaviour is very similar when compared with wild canines like wolves, jackals and foxes. Eye contact with people is less than that of European breeds, especially if you are not the first owner of the dog.

Usually they don’t start fights with dogs they meet far away from home. This makes them suitable for being taken for a walk in a city park and in other places open to people with their dogs. But they’re a little bit territorial and display aggressiveness towards unfamiliar dogs coming into their place; however, it is not correct to say they are fighters. Mostly they fight for females on heat and for food.

The interesting thing is when they are together as a pack, with other breeds, mostly they are the leader of the pack. Generally in rural areas these dogs from other breeds are much larger native molossoid shepherd dogs and it is funny to see the smaller Zerdava as the leader of the pack.

Attitude to domesticated and wild animals

Poultry are most tempting. If raised in the presence of farm animals since puppyhood, this could be little bit safer for the poultry, and the Zerdavas even guard them sometimes, but it is never as safe as with the local shepherd dogs. They are always keen to kill, especially poultry from neighbouring farms at least, or when they are transported to somewhere different. This is one of the most common reasons for Zerdavas being killed in rural regions.

An interesting and funny thing is that two observed Zerdavas were tracking the cats silently like wild game and finding them. They also find the nests of blackbirds in the city. The most interesting thing observed is the treeing behaviour after fruit bats (*Rousettus aegyptiacus*) at night; they have a scent, as they are mammals, and fly like birds. Zerdavas really enjoyed treeing after fruit bats.

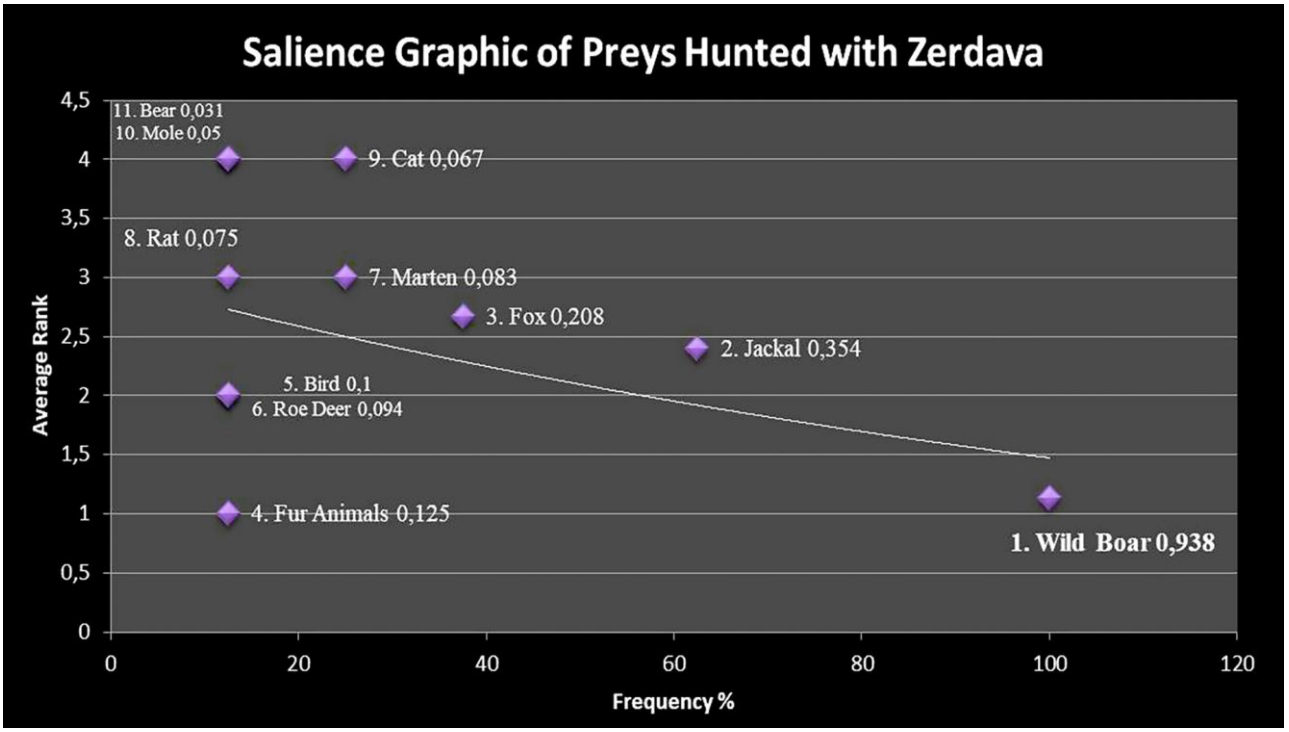
According to interviews with local breeders, they mostly like to follow by sniffing the air more than tracks on the ground, not only for arboreal animals but even for wild boar.

Some local terms among local Zerdava keepers

- **Adamcı:** Guarding dog for the owner
- **Kapı Köpeği:** Watchdog for the owner's place
- **Sesli:** Dog's bark during the search and tracking like drop–eared hounds
- **Hasım Köpeği:** Enemy dog to show the guarding aggression of the breed
- **Çukur Zağarı:** Other name of the Zerdava with "Piç Zağar"
- **Pullu:** Ticking on the legs and the other white parts

Hunting

Hunting action with Zerdava dogs is based on utility and mostly for wild boar (*Sus scrofa*). Sometimes they are said to be used for hunting something else, but this is less than for boar. Even by hunters, their treeing behaviour is ignored, but it still exists according to observations, though this style of hunting is not well–known among Turkish hunters. Maybe for this reason, squirrel is not mentioned and marten has a very low priority as a prey item. These two species are arboreal and treeing behaviour is needed to hunt them. Such prey is not edible. Brown Bear (*Ursus arctos*) hunting is banned in Turkey but they find them and bark; and sometimes they are used to keep them away from the farm fields, especially around the rural areas of Rize province.



ITEM	FREQUENCY (%)	AVERAGE RANK	SALIENCE
Wild Boar	100	1,13	0,938
Jackal	62,5	2,4	0,354
Fox	37,5	2,67	0,208
Fur Animals	12,5	1	0,125
Birds	12,5	2	0,1
Roe Deer	12,5	2	0,094
Marten	25	3	0,083
Rat	12,5	3	0,075
Cat	25	4	0,067
Mole	12,5	4	0,05
Brown Bear	12,5	4	0,031

Like other Laika breeds, the Zerdava does not bark during the search and chase (not always), but it starts barking only when the game is found. Sometimes for this reason (silent tracking), some dogs are shot by mistake during wild boar hunting.

Two or three Zerdavas raised and hunting together make a perfect wild boar hunting pack. Wild boar hunting Zerdavas pick up fresh boar's tracks and chase silently and fast. When the boar is sighted, they start barking and sometimes they bite hard from behind.

Usually a complete wild boar hunting pack consists of one or two Zerdavas and some more drop-eared local hounds like beagles. These hounds are called Kopay and they are mostly black and tan coloured. They are said to be better than Zerdavas in tracking from the ground, but Zerdavas are faster and braver and more aggressive than Kopays when the boar is sighted. Zerdavas are also wounded less by boars than Kopays, possibly never, because of their agility. The mixes of Zerdava and hounds are also favoured by hunters.

Major causes of death

They are being killed by sheep dogs, because of their aggression towards the wolf-like erect-eared breeds (Öncül, O. 1983); by wolves (Yılmaz, O. 2012); by farmers to protect their livestock; accidentally by hunters when silent tracking; by wild boar when hunting; and from canine distemper virus. Some informants claim that vaccinations do not work for canine distemper in this breed.

Causes of Decline

Informants say Zerdavas were more common in the past, and are less so now because of inbreeding in small localities, the above-mentioned causes of death, the import of "cultivated" breeds, physiological breeding problems and a comparatively slow rate of reproduction.

Discussion

Utilization

Their medium to small size is a certain advantage, as it allows them to be kept indoors, and for transportation. These dogs are versatile and always eager to learn something new. For hunting, they are being used mostly for wild boar hunting. Because of their agility they are never injured by wild boar. They are all very alert and make perfect natural guard dogs. It is also potentially possible for them to be herding dogs in the style of European shepherd dogs. In Turkey they have never been tried for sledging but this is also potentially possible. They combine the skills of the guard dog and the hunting dog.

Local hunters classify them into two types: long-legged and short-legged. Too big dogs often loose agility (Beregovoy, V.), so local hunters in Turkey prefer short-legged and medium to small sized dogs. But small dogs are also possibly the result of inbreeding. The reasons of that preference are: the short-legged ones are never injured by wild boar, they are more agile, more energetic and require less food. All these reasons are also consistent with modern service dog preferences.

Another reason for their becoming watchdogs instead of hunting is the import of "cultivated" hunting breeds like European Pointers, Brachs, etc. But sometimes, locally proven boar-tracking Zerdavas are highly valued amongst the local hunters and can be sold for high prices. It is impossible to have an idea about the total number of individuals of the breed in the region.

Their attractive appearance and friendly temperament make them good family dogs in apartments in the big cities, and they are becoming more and more popular over time especially for people from the Black Sea region living in different cities outside the region, because of their homesickness and associations. In their own region, the owners of these dogs are rural people and they are more used for hunting. They are also tolerant with children. They can make a good companion dog for a hiking trip but always stray far for sometime. There is no information concerning their swimming skills as a result of their mountainous environment and use.

Some genetic analysis needs to be made to better identify the breed. Local and rural dogs need to be observed and researched over a wider area in the Black Sea region, as more similar specimens in rural parts of Samsun province were observed as seen in the picture:

Research studies, comparative morphometric measurements (especially wolf-like primitive traits like size of paws and teeth or mono oestrus ones) and analyses, and genetic analyses must also be channelled in the direction of the result of free listing interviews, and results of free listings must be tested. Also other local hunting dog breeds mentioned in this article like kopays, baraks, local sight hounds and ჩაქირა Chakiras must be studied and identified scientifically.

Conclusion

These dogs must be defined correctly before their commercialization at the beginning of their period of popularity. Largely because of their recessive stable colour pattern and shape, it is impossible to ignore the fact that this is an original local breed, more than a regional variety. These dogs seem to be a relict landrace population of Northern Laika Breeds. But also have some standard breed traits especially in their stated coat colour possibly because of narrow

ranged distribution. For example they never have a white line on their muzzle. The Black Sea region is the most forested area of Turkey. This made the area suitable to be tried for hunting by the treeing behaviour of the Zerdava in the past by the Russians or other northern people. Most of the native dog breeds in Turkey are drop-eared, but all of the few erect-eared breeds are from the northern part of the country (Yılmaz, O. 2012). In this situation, this dog should be identified as a Turkish Laika, and this seems to be the correct definition of the breed, historically, culturally, behaviourally, morphologically, physiologically, biologically and factually. There are still very similar Laika specimens to the Zerdava in Russia (Ivi. 2015) as seen in the picture:

Their recessive coat colour pattern, breeding problems, isolated mountainous regions and inbreeding show a consistency with each other. Geography plays a mainly limiting rather than a creative role (Helm, A. A. 2001). Some very careful and sophisticated controlled interbreeding studies may be necessary for the sustainability and the use of this dog for the future, due to some undesired adaptation traits and health problems.

Their hunting skills can be used for data collecting and photography for wildlife conservation and science, for future sustainable use (WD4C 2015, Dahlgren 2012). Treeing behaviour can be very important, especially for pointing, indicating some silent arboreal species such as owls, and we are planning to train our dog for that. Wasser, 2012, has a similar study, but to find the owl pellets from the ground. Traditional Accipiter Hawking and mushroom sniffing are another alternative in usages of these dogs in their own region.

Zerdavas can also be very useful in their own region to keep brown bears (*Ursus arctos*) away from farms and beehives because there is serious conflict with bears in the Eastern Black Sea region. There are very succesful projects for this using Karelian Bear Dogs and these dogs are very similar in their behaviour to the Zerdava (Hunt, C. 2003). This is aready being done spontaneously in an unplanned way in farm and beehive fields, especially in rural areas around Rize and its districts, according to non-structured interviews.

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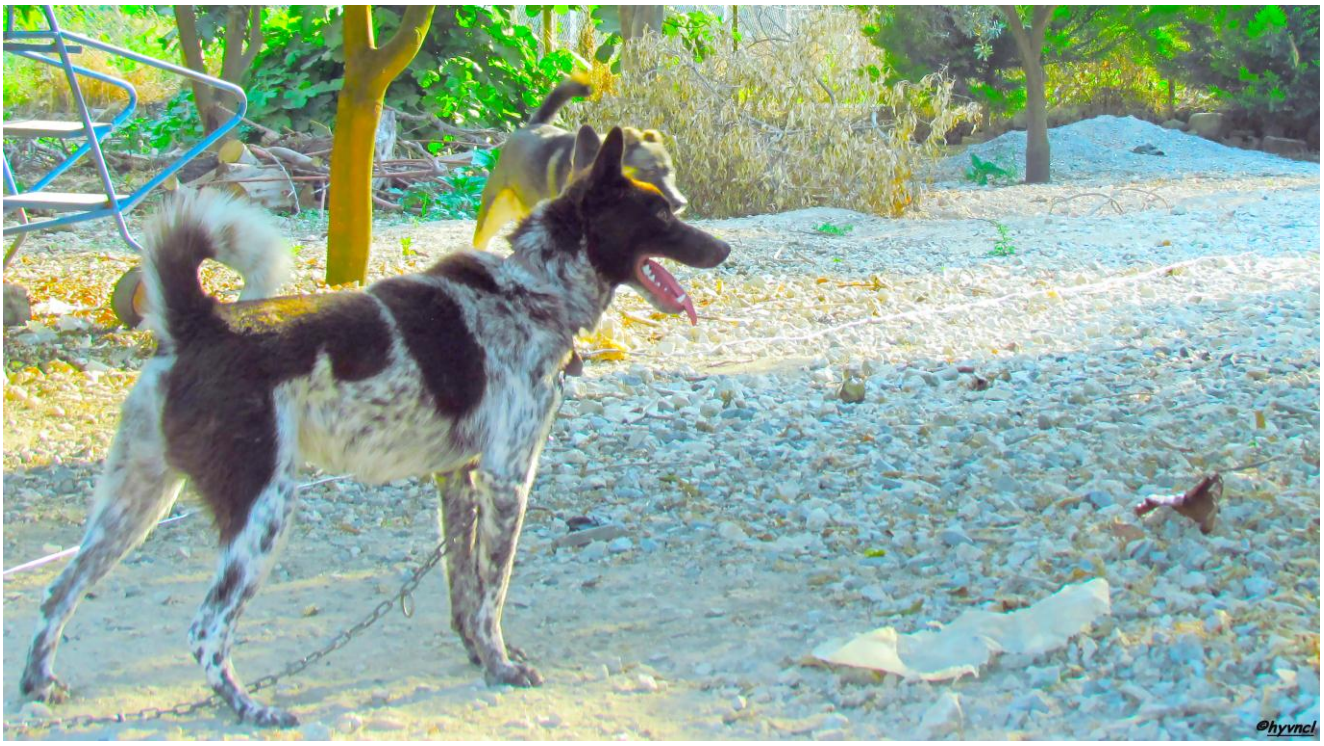
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