RESEARCH ARTICLE

Some morphological traits of Tarsus Çatalburun breed of Turkish hunting dog

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Özet

Oğrak YZ, Yoldaş A, Urosevic M, Drobnjak D. Tarsus Çatalburun ırkı Türk av köpeklerinin bazı morfolojik özellikleri. **Eurasian J Vet Sci, 2014, 30, 1, 25-29**

Amaç: Çalışma yetiştirici elinde bulunan Tarsus Çatalburun ırkı Türk av köpeklerinin bazı morfolojik özelliklerini belirlemek amacıyla, anayurtları olan Tarsus ve Adana kentlerinde yapıldı.

Gereç ve Yöntem: Araştırmada, yaşları 2–6 arasında değişen 10'u dişi 12'si erkek olmak üzere toplam 22 Çatalburun köpeği kullanıldı. Cinsiyet gruplarının tüm değişkenler için karşılaştırmalarında Student-t testinden yararlanıldı.

Bulgular: Tarsus Çatalburun köpekleri ile ilgili ilklerden olan bu çalışmada, 13 farklı ölçüm yapıldı. Ölçümlerde cidago yüksekliği, sağrı yüksekliği, vücut uzunluğu, göğüs çevresi, göğüs genişliği, göğüs derinliği, ön incik çevresi, arka incik çevresi, baş uzunluğu, baş çevresi, baş genişliği, burun uzunluğu ve kulak uzunluğuna ait ortalama değerler sırasıyla, 50.78±1.02, 49.45±1.01, 54.29±0.93, 64.75±0.75, 15.75±0.24, 20.97±0.27, 11.93±0.22, 10.84±0.26, 26.95±0.29, 41.07±0.41, 11.36±0.12, 12.18±0.19 ve 17.95±0.25 cm olarak elde edildi. Cidago yüksekliği, sağrı yüksekliği, vücut uzunluğu, göğüs çevresi, arka incik çevresi ve baş uzunluğu arasındaki ortalamalarda dişi ve erkek köpekler arası farklılıklar istatistikî olarak önemli (P<0.01) bulundu.

Öneri: Tarsus Çatalburun köpeklerinin morfolojik yapılarının standardize edilebilmesi için kayıtlı ve sistematik yetiştiriciliği ile birlikte, bunların bütün özelliklerinin ele alındığı çok sayıda araştırmanın yapılması gerekli gözükmektedir.

Anahtar kelimeler: Tarsus Çatalburun, av köpeği, morfolojik özellikler.

Abstract

Ograk YZ, Yoldas A, Urosevic M, Drobnjak D. Some morphological traits of Tarsus Çatalburun breed of Turkish hunting dog. **Eurasian J Vet Sci, 2014, 30, 1, 25-29**

Aim: The present study was carried out to determine some morphological traits of Tarsus Çatalburun breed of Turkish hunting dogs under breeding condition in their homesteads, south Anatolian cities of Adana and Tarsus.

Materials and Methods: Twenty-two Çatalburun dogs (12 males and 10 females) ranging in age from 2 to 6 years were used. Gender differences for all variables were tested using Student-t test.

Results: This study, which used 13 measurements taken from different parts of the dogs, can be considered one of the first scientific studies about Tarsus Çatalburun dog. The means for wither height, rump height, body length, chest circumference, chest width, chest dept, front wrist circumference, back wrist circumference, head length, head circumference, head width, nozzle length and ear length were 50.78±1.02, 49.45±1.01, 54.29±0.93, 64.75±0.75, 15.75±0.24, 20.97±0.27, 11.93±0.22, 10.84±0.26, 26.95±0.29, 41.07±0.41, 11.36±0.12, 12.18±0.19 and 17.95±0.25 cm, respectively. There were significant differences (P<0.01) between the male and bitch dogs for the means of wither height, rump height, body length, chest circumference, back wrist circumference and head length.

Conclusions: Further studies need to be done in order to standardize the morphological characteristics of Tarsus Çatalburun dogs along with a pedigreed and systematic breeding program.

Keywords: Tarsus Çatalburun, hunting dog, morphological traits.

Introduction

Hunting and game management is an important sector in most European countries as it has long been a tradition. In fact in Czech Republic, the annual income from this sector is approximately 81.355.148 EUR (31.2% profit from the total cost of the hunting industry) (Feureisel 2012). Although the number of hunters in Republic of Serbia have been decreased due to the economic crisis during recent years, there are 77.128 hunters present (more than 1% of total population), which are mostly non-still members of the Hunting Association of Serbia (Lavadinovic et al 2012). So far hunting has been considered a hobby in Turkey. Nevertheless with the recent increase of the average income level in Turkey, hunting can be a professional sector in near future. Indeed the hunting dog is inseparable part of this industry just like the hunter and the game.

It is known that Tarsus Çatalburun hunting dog, which is thought to be around 200 to date, have been bred in Tarsus, a southern Anatolian town since 1930s. In addition to hunting, Çatalburun breed is competent in search and rescue, narcotic detection and law enforcement capabilities and is chosen by hunters for their intelligence, long standing silence and near perfect tracking abilities (Oğrak et al 2012). When raised as pet animal, they are calm and bark as little as possible and also it is not known that they bite children or injure them. Their most prominent signature is their typical nose which resembles a clear slice vertically in centre providing more humid nose surface thus contributing to better smelling (Sander 2001). They can track their prey both on land (95%) and while on air (75%) (Derbentli 2008). Coat colours of Tarsus Çatalburun can be in various colours but usually seen as mixed yellowish brown to black on white base which are covered with short, smooth and normal hair (Oğrak et al 2012).

According to only study that based on morphological characteristics of Çatalburun dog, wither height (WH), rump height (RH), body length (BL), chest circumference (CC), chest width (CW), chest depth (CD), wrist circumference (WC), head length (HL), head circumference(HC) and ear length (EL) for males and females were measured as follows:53.46, 48.81; 53.35, 51.31; 55.42, 52.19; 66.04, 62.09; 15.15, 15.50; 20.77, 20.55; 11.35, 9.88; 22.04, 20.50; 40.58, 36.75; and 15.35, 13.73 cm. In the same study measurements of index of format and index of bone for males and females were reported as 103.74 - 107.03 and 21.21 - 20.22, respectively (Kirmizibayrak and Takci 2006).

All breeds of dogs are classified and standardized by 10 distinct classes by Federation Cynologique International (FCI) which has 87 members worldwide. Turkey, which started FCI membership back in 2006, has proceded as Contract Member since 2011 and first indigenous dog breed of Turkey had been standardized as Turkish Kangal dog breed (Drobnjak 2012). Anatolia with its wide geography has many breeds of dogs which are not standardized and classified such as Tarsus Çatalburun breed.

Table 1.Some Body measurements of Tarsus Çatalburun dogs according to gender.

	Male		Bitch			Total	
Measures (cm)	n	Mean ± SE	n	Mean ± SE	T	P	n	Mean ± SE
Withers Height	12	53.37±1.28	10	47.66±0.98	3.42**	0.003	22	50.78±1.02
Rump Height	12	52.13±1.20	10	46.25±1.04	3.62**	0.002	22	49.45±1.01
Body Length	12	56.83±1.10	10	51.25±0.85	3.88***	0.001	22	54.29±0.93
Chest Circumference	12	66.83±0.87	10	62.25±0.70	4.00***	0.001	22	64.75±0.75
Chest Width	12	16.12±0.36	10	15.30±0.24	1.81^{ns}	0.085	22	15.75±0.24
Chest Depth	12	21.32±0.38	10	20.55±0.38	1.43^{ns}	0.170	22	20.97±0.27
Front Wrist Circumference	12	12.29±0.33	10	11.50±0.21	1.94^{ns}	0.067	22	11.93±0.22
Back Wrist Circumference	12	11.50±0.32	10	10.05±0.26	3.41**	0.003	22	10.84±0.26
Head Length	12	27.71±0.34	10	26.05±0.27	3.70***	0.001	22	26.95±0.29
Head Circumference	12	41.75±0.58	10	40.25±0.49	1.93^{ns}	0.068	22	41.07±0.41
Head Width	12	11.37±0.19	10	11.35±0.17	0.10^{ns}	0.923	22	11.36±0.12
Nozzle Length	12	12.46±0.23	10	11.85±0.28	1.68^{ns}	0.108	22	12.18±0.19
Ear Length	12	18.37±0.35	10	17.45±0.28	1.98^{ns}	0.062	22	17.95±0.25

^{ns}Insignificant (p>0.05), *p<0.05, **p<0.01, ***p<0.001.

Therefore, the purpose of the present study was to measure some morphological traits of the Çatalburun breed thus helping to define and classify it as a distinct breed. This will also provide a solid ground for breeding and protection of this line which is relatively a small population.

Materials and Methods

Study area and samples

In the present study a total of 22 Tarsus Çatalburun (10 females and 12 males) ranging in from 2 to 6 years of age from town of Tarsus and city of Adana were used. The dogs were collected from independent hunters.

Data

The measurements were taken by an ordinary meter stick for WH, RH, CW, CD and HW and by a tape measure for BL, CC, FWC, BWC, HL, HC, NL and EL. The dogs' age, gender, coat and eye colours were also recorded. Points of measurements are shown in Figures 1-3 and discussed below (Özbeyaz 1994, Atasoy et al 2005, Drobnjak et al 2010):

-Withers Height: Range between ground level to highest peak of cidago.

-Rump Height: Range between ground level to highest level of sacrum.

-Body Length: Range between caput humeri to tuber ischii.

-Chest Circumference: Measurement taken around costae which is vertical to body axis starting aback of os scapulae.

-Chest Width: Horizontal measurement taken aback of caput humeri.

-Chest Depth: Vertical range between the highest peaks of cidago to os sternum.

-Head Length: Range between crista occipitalis to the sharp point of os incisium.

-Head Circumference: Area measurement taken from the widest parts of left and right arcus zygomaticus.

-Head Width: Horizontal measurement taken form the widest part of head in front of arcus zygomaticus.

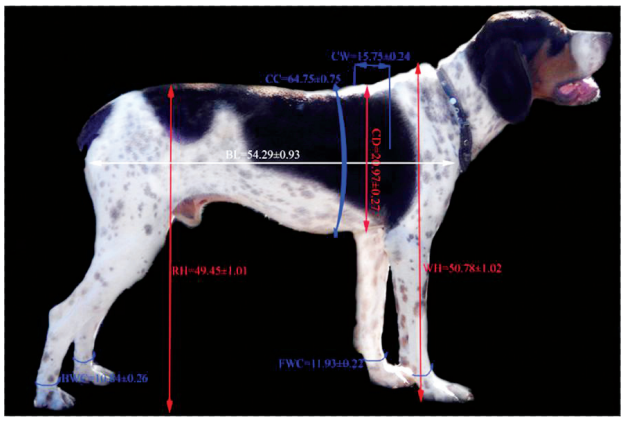

Figure 1. Some Body measurement points on Tarsus Çatalburun dog.

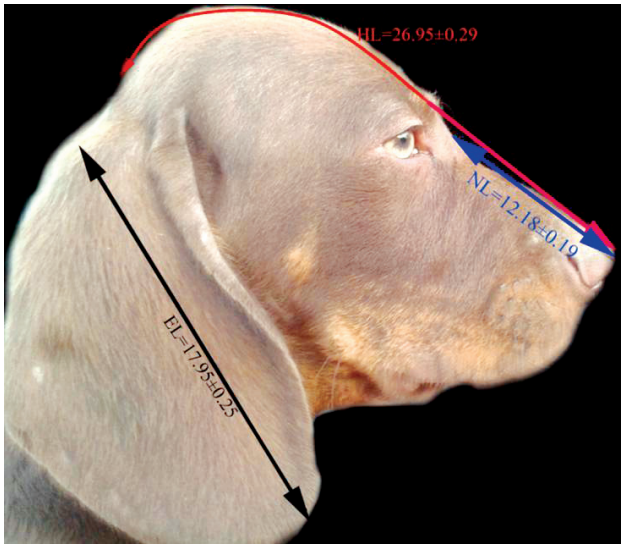

Figure 2. Head structure of Tarsus Çatalburun dog with some measurement points on the head (lateral view)

Figure 3. Shotgun like structure of the nose of Tarsus Çatalburun dog and some measurement points on the head (front view).

Table 2. Comparative body index values of Tarsus Çatalburun dogs according to gender.

		Indexes				
Gender	n	Index of Format	Index of Chest Dept	Index of Massiveness	Index of Head	Index of Bone
Male	12	106.48	39.95	125.22	40.03	23.03
Bitch	10	107.53	43.12	130.61	43.57	24.13
Total	22	106.91	41.30	127.51	42.15	23.49

-Nozzle Lenght: Range between eye arches to nose point

-Ear Length: Vertical range between ear points to depth.

-Front Wrist Circumference: Area measurement taken from the thinnest point of metacarpi.

-Back Wrist Circumference: Area measurement taken from the thinnest point of metatarsi.

Body index values were calculated using mean values of the measurements in the formulas shown below (Drobnjak et al 2010, Drobnjak et al 2012):

$$\text{Index of Format} = \frac{\text{Body Length}}{\text{Withers Height}} \times 100$$

$$\text{Index of Chest Dept} = \frac{\text{Chest Dept}}{\text{Withers Height}} \times 100$$

$$\text{Index of Massivenes s} = \frac{\text{Chest Circumfere nce}}{\text{Withers Height}} \times 100$$

$$\text{Index of Head} = \frac{\text{Head Width}}{\text{Withers Height}} \times 100$$

$$\text{Index of Bone} = \frac{\text{Front Wris t Circumfere nce}}{\text{Withers Height}} \times 100$$

First the homogeneities of intergroup variance were evaluated with Levene test and later gender comparison for all measurements were done using Student-t test (SPSS 14., SPSS Inc., Chicago, Illinois, USA) was used to analyze the data. Differences were significant at $P<0.05$.

Results

In the present study, eye colours of entire Tarsus Çatalburun dogs were brown whereas coat colours were brown-white (12, 54.5%), brown (6, 27.3%) and black-white (4, 18.2%). Gender comparisons of measurements are shown in Table 1. Significant gender difference was seen for WH, RH, BL, CC, BWC and HL variables ($P<0.01$).

Calculated mean body index values are shown in Table 2.

Discussion

Mean values were generally similar to the values measured in a only study done by Kirmizibayrak and Takci(2006), but the head and ear lengths of the present study were slightly higher. Differences between these two traits are thought to be due to the measurement sensitivity.

When Table 2 examined females are shaped more like rectangular compared to males according to shape indexes. Again, chest depth and chest width indexes state that females have more developed chest capacity. When head indexes are examined the Çatalburun breed is seen or considered as dolichocephalic. While males are fully dolichocephalic females have slightly shorter (3.54%) head structure which resembles partial mesaticephalical. The female bone indexes were increased as compared to the male bone indexes. Aside form head indexes; the reason for why all other indexes were measured higher in females could have been due to theshorter height of shoulder to ground level in females. Of the shape and bone indexes, three other indexe values except shape index for females were higher than those of reported by Kirmizibayrak and Takci (2006).

In developed countries such as UK and Canada, approximately one-third of household own a dog (Perrin 2009, Murray et al 2010), however, this ratio is uncertain in Turkey. It is seen that the number of pet increase in Turkey day by day depending on the annual growth per capita revenue. Tarsus Çatalburun dogs can be a suitable pet animal due to their small structure and friendly behaviour as well as being a game animal.

Conclusion

As a conclusion the exact number of this breed, which is favoured by hunters in their homesteads, is not known. It is, therefore, controlled or pedigreed pure breeding within the breed should be practiced with a good selection programs. Further studies also need to be done in order to understand Tarsus Çatalburuns better.

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