

SOME MORPHOLOGICAL CHARACTERISTICS OF TURKISH TAZI (SIGHT HOUND)

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ABSTRACT

This study was carried out to determine the distributions of body coat colour and the body measurements of the Turkish Tazi (Sighthound) comparing with some other sight hound breeds from different countries. To this end, a data of 122 (60 male and 62 female) Tazi were analyzed with the Minitab 15 statistical software program using ANOVA and Student's t-Test. Descriptive statistics for live weight (LW) 18.4 ± 0.19 , withers height (WH) 62 ± 0.35 , height at rump (HR) 62.2 ± 0.35 , body length (BL) 60.3 ± 0.39 , heart girth circumference (HGC) 63.3 ± 0.42 , chest depth (CD) 22.8 ± 0.27 , abdomen depth (AD) 14.3 ± 0.14 , chest width (CW) 17.3 ± 0.16 , haunch width (HW) 16.2 ± 0.12 , thigh width (TW) 21.9 ± 0.17 , tail length (TL) 44.8 ± 0.37 , limb length (LL) 39.2 ± 0.20 , cannon circumference (CC) 10.2 ± 0.07 , head length (HL) 23.7 ± 0.21 and ear length (EL) 12.3 ± 0.13 cm respectively. In this study the distributions of body coat color of the sampled Tazi, as percentages, for black was 35.2%, dun 25.4%, brown 12.3%, tan 10.7%, white 8.2% and pied 8.2% respectively.

Keywords: Turkish Tazi, sighthound, morphological trait, body measurement, coat colour.

INTRODUCTION

Dogs were the first domesticated animals around 12.000-15.000 years ago (Ostrander, 2008). The Turkish Tazi (Sighthound) is a breed that has been primarily bred for hunting. It hunts by using sight and speed, instead of scent and endurance as "scent hounds" do (en.wikipedia.org, 2011).

Some data reported for sighthound breeds from various countries is given in Table 1. According to reported weights and sizes, they can be categorized in three groups: big-, mid- and small-sized hounds for height at withers above 70 cm, between 51-70 cm and below 50 cm respectively.

Big-sized hounds are higher than 70 cm at withers and generally heavier than 40 kg live weight. Russian Borzoi (Russia), English Greyhound (UK), Irish Wolfhound (Ireland), Polish Greyhound (Poland) and Scottish Deerhound (UK) are thus big-sized hounds. Their original habitat are generally harsh, being forests and rugged areas; these dogs are therefore large and rough in appearance and have a good bone structure, rugged feet, thicker skin and coat against tough climates except for the English Greyhound which originated in a mild climate. Sight hounds do not have double coats unlike most of the other dog breeds. Instead to protect them from exposure, they have long, shaggy but not fluffy coats (en.wikipedia.org 2011, www.nationmaster.com 2011).

Mid-sized hounds are roughly between 51-70 cm at withers and 20-40 kg in weight. Their original habitat was a generally hot and dry climate except in the case of the Hungarian hounds. The Afghan Hound (Afghanistan),

Arabian Greyhound (Morocco), Galgo Espanol (Spain), Kyrgyz Taigan (Kyrgyzstan), Pharaoh Hound (Malta), Rampur Greyhound (India), Saluki, Sloughi (Middle East), Tuareg Greyhound (Western Sahel), and Turkish Tazi (Turkey) are moderate in size and weight. They have shorter coats than the big-size hounds. They are tolerant of hot, dry weather but not cold weather, and can chill in cool weather. It is accepted that, generally, they are genuine examples of sighthounds (Pugnetti 2001, Anonymous 2005, en.wikipedia.org 2011, www.greyhoundclubofamerica.org 2011 www.nationmaster.com 2011).

Small-sized are lower than 50 cm at withers and generally lighter than 20 kg live weight. Italian Greyhound (Italy) and Whippet (UK) are thus small-sized hounds. Their original habitat are generally plain areas. These dogs are small in appearance and have a thin bone structure.

The distribution of the Turkish Tazi is generally concentrated around the Central (Province of Konya) and Southeast (Province of Sanliurfa) Anatolia regions, but it can be seen in small quantities also in Igdir, Kars, Karaman, Ankara and Istanbul provinces. These dogs are reared for their superior hunting skills.

The Turkish Tazi also makes a good pet for humans because of its mild and affectionate character. It can get along well with children and other family pets, including cats. Although the Turkish Tazi is an extremely fast dog, it is not hyper-active. It is calm, loyal and tractable (Serpell 1996, Palika 2007, Yılmaz 2008, en.wikipedia.org 2011). Where the environment is concerned, they do not have an undercoat and therefore are less likely to resist cold weather. As a result,

especially in the cold season, owners find it advisable to cover their backs with a piece of cloth.

The objectives of this study were to determine body coat colour and some phenotypic characteristics of native Turkish Sighthound, the Tazi.

Table 1. Some sighthound breeds, origins and means of height and weight.

Breed	Origin	Withers Height (cm)			Live Weight (kg)		
		Overall	Male	Female	Overall	Male	Female
Afghan Hound ²	Afghanistan		61-73			20-27	
Afghan Hound ³	Afghanistan		68-74	63-69			
Afghan Hound ³	Afghanistan		64-69			23-27	
Afghan Hound ⁸	Afghanistan		69-74			26-34	
Arabian Greyhound ⁷	Morocco		66-72	61-68			
Borzoi ²	Russia		Min* 80	Min 66		45-54	
Borzoi ³	Russia	66-81			27-50		
Borzoi ⁷	Russia		75-85	68-78			
Borzoi ⁸	Russia		75,5	71		34-48	
Chart Polski ^{2,3}	Poland	69-81			30-43		
Chart Polski ⁷	Poland		68-75	70-80			
Galgo Espanol ²	Spain		66-71	64-69		27-30	23-25
Galgo Espanol ⁷	Spain		62-70	60-68			
Galgo Espanol ⁸	Spain	65-70			30		
Greyhound ²	UK		71-76	68-71		27-40	27-34
Greyhound ⁷	UK		71-76	68-71			
Greyhound ⁸	UK		71-78	69-71	27-32		
Hungarian Greyhound ⁷	Hungary		65-70	62-67			
Ibizan Hound ²	Spain	61-74			20-29		
Irish Wolfhound ²	Ireland	81-86		Min 71		Min 54,5	Min 41
Irish Wolfhound ⁷	Ireland	81-86	Min 79	Min 71		Min 54,5	Min 40,5
Irish Wolfhound ⁸	Ireland	81-86	79	71		54	40
Italian Greyhound ²	Italy	33-38			4-8		
Italian Greyhound ³	Italy	33-38			3-7		
Italian Greyhound ⁷	Italy	32-38			Max 5		
Italian Greyhound ⁸	Italy	32-38			Max 5		
Kyrgyz Taigan ²	Kyrgyzstan		Min 65	Min 60			
Magyar Agar ²	Hungary		65-70	62-67	22-31		
Magyar Agar ⁸	Hungary					27-31	22-26
Pharaoh Hound ²	Malta	53-64			18-27		
Pharaoh Hound ⁸	Malta		63-70	57-66			
Rampur Greyhound ²	India		60-75	55-60	27-30		
Saluki ^{2,3}	Middle Eastern	58-71			18-27		
Saluki ⁷	Middle Eastern	58-71					
Scottish Deerhound ²	Scotland		75-80	Min 70		40-50	35-43
Scottish Deerhound ⁷	Scotland		Min 76	Min 71		45,5	36,5
Scottish Deerhound ⁸	Scotland		76	71		39-48	30-36
Sloughi ²	North Africa		66-74	61-69			
Sloughi ⁸	North Africa	55-75			30-32		
Tuareg Sloughi ²	Western Sahel	61-74			15-25		
Tuareg Sloughi ⁷	Western Sahel		64-74	60-70		20-25	15-20
Turkish Tazi ¹⁰	Turkey	70			24		
Whippet ²	UK		47-51	44-47	7-14		
Whippet ⁷	UK		47-51	44-47			
Whippet ⁸	UK		47	44		8-12	5-9

* 'Min' indicates minimum size of the dog

MATERIALS AND METHODS

Experimental animals: The Tazi included in the study were surveyed in Igdır (39° 55'N; 44° 02'E), Kars (40° 36'N; 43° 06'E), Konya (37° 53'N; 32° 29'E) and Sanliurfa (37° 09'N; 38° 48'E) provinces in 2010 and 2011 (www.googleearth.com 2011). This study lasted from November 2010 to January 2011. Ages were determined from the reports of owners. The dogs were aged between 5 months and 5 years, grouped according to their age as 0-12 months, 13-24 months, 25-36 months and 36-60 months.

Measurements: Dogs were measured for live weight with a portable spring scale. Linear measures such as withers height (WH), height at rump (HR), body length (BL), chest depth (CD), abdomen depth (AD), chest width (CW), haunch width (HW), thigh width (TW) and limb length (LL) were measured using a measuring stick. Other linear measures such as heart girth circumference (HGC), tail length (TL), cannon circumference (CC), head length (HL) and ear length (EL) were measured using a graduated plastic tape (Yilmaz, 2007). AD and TW are not usual measurement taken for dogs, but sighthound dogs have some special breed characteristics on these traits. In sighthound anatomy, the chest is deeper and the abdomen is narrower than in other dog breeds. It is normally accepted that chest and abdomen depth are usable traits to evaluate the speed of a sighthound. Secondly speed factor in a sighthound depends on the strength of its hind legs. Sighthound hind legs are very much different from other dogs. A major difference lies in the proportions of the haunch and thigh of a sighthound, unlike other dog breeds. The sighthound thigh is wider, more muscled and developed; hence measuring only the haunch is not enough of an indicator to evaluate the hindquarters of a sighthound.

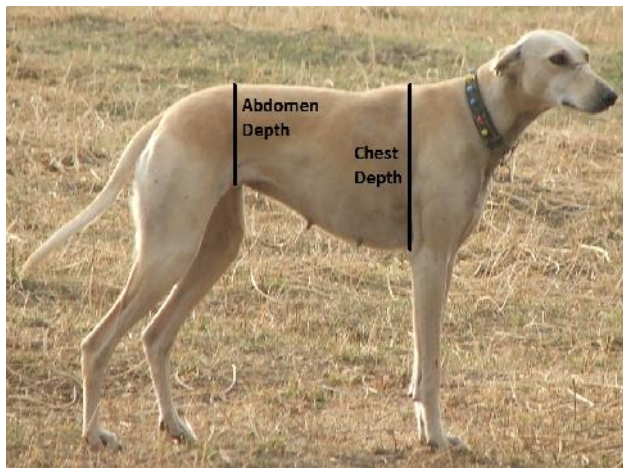


Figure 1. Chest and abdomen depth on a Tazi dog body.

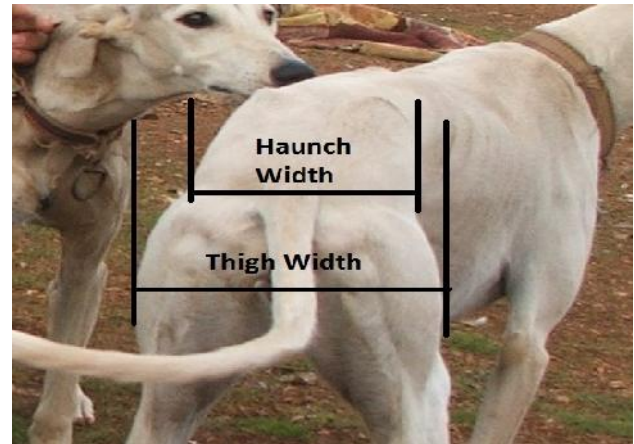


Figure 2. Haunch and thigh width on a Tazi dog body

Statistical analysis: Data were analyzed with the Minitab 15 statistical software program. Descriptive statistics for body dimensions were analyzed using ANOVA and Student's T-Test that also determined the impact of sex, region, body coat colour, and age group on the response variables of LW, WH, HR, BL, HGC, CD, AD, CW, HW, TW, TL, LL, CC, HL and EL (Anonymous, 2011).

RESULTS AND DISCUSSION

Descriptive statistics for live weight was (LW) 18.4 ± 0.19 , withers height (WH) 62 ± 0.35 , height at rump (HR) 62.2 ± 0.35 , body length (BL) 60.3 ± 0.39 , heart girth circumference (HGC) 63.3 ± 0.42 , chest depth (CD) 22.8 ± 0.27 , abdomen depth (AD) 14.3 ± 0.14 , chest width (CW) 17.3 ± 0.16 , haunch width (HW) 16.2 ± 0.12 , thigh width (TW) 21.9 ± 0.17 , tail length (TL) 44.8 ± 0.37 , limb length (LL) 39.2 ± 0.20 , cannon circumference (CC) 10.2 ± 0.07 , head length (HL) 23.7 ± 0.21 and ear length (EL) 12.3 ± 0.13 cm, respectively.

The effects of sex on phenotypic traits are given in Table 2. There were significant differences between male and female Tazis for LW, WH, HGC, and CC ($P < 0.01$) and HR, BL, CD, CW, and LL ($P < 0.05$) that the males were larger in all those traits.

Among Turkish Tazi all colour patterns can be seen but generally dark coat colours were common. The most common body coat colour, about 60% in total, was black and dun. White and pied were the rarest body coat colours.

Results of present study revealed that Turkish Tazis are mid-size dogs. They are lighter in weight than Russian Borzoi (Russia), Irish Wolfhound (Ireland), Chart Polski (Poland), Galgo Espanol (Spain), English Greyhound (UK), Magyar Agar (Hungary), Scottish Deerhound (UK), Sloughi (North Africa), and Turkish Tazi (Turkey). The weight category for Turkish Tazis obtained from this study agreed with those for the

Maltese Pharaoh Hound, Middle Eastern Saluki and Western Sahel Tuareg Sloughi. The English Whippet and Italian Greyhound were lighter than the Turkish Tazi.

Table 2. Phenotypic traits (mean \pm S.E.) of Tazis for different sex.

Traits	Overall (n=122)	Male (n=60)	Female (n=62)
	$\bar{X} \pm S_x$	$\bar{X} \pm S_x$	$\bar{X} \pm S_x$
LW (kg)	18.4 \pm 0.19	19.0 \pm 0.25a	17.8 \pm 0.28b
WH (cm)	62.0 \pm 0.35	63.1 \pm 0.47a	61.0 \pm 0.48b
HR (cm)	62.2 \pm 0.35	63.1 \pm 0.50a	61.4 \pm 0.4b
BL (cm)	60.3 \pm 0.39	61.3 \pm 0.53a	59.4 \pm 0.55b
HGC(cm)	63.3 \pm 0.42	64.5 \pm 0.56a	62.2 \pm 0.59b
CD (cm)	22.8 \pm 0.27	23.3 \pm 0.35a	22.2 \pm 0.39b
AD (cm)	14.3 \pm 0.14	14.5 \pm 0.20a*	14.1 \pm 0.20a
CW (cm)	16.2 \pm 0.16	17.7 \pm 0.22a	17.0 \pm 0.22b
HW (cm)	16.2 \pm 0.12	16.3 \pm 0.15a	16.1 \pm 0.18a
TW (cm)	21.9 \pm 0.17	22.0 \pm 0.24a	21.8 \pm 0.23a
TL (cm)	44.8 \pm 0.37	45.0 \pm 0.5a	44.6 \pm 0.51a
LL (cm)	39.2 \pm 0.20	39.8 \pm 0.26a	38.7 \pm 0.29b
CC (cm)	10.2 \pm 0.07	10.5 \pm 0.10a	10.0 \pm 0.08b
HL (cm)	23.7 \pm 0.21	23.9 \pm 0.33a	23.4 \pm 0.28a
EL (cm)	12.3 \pm 0.13	12.4 \pm 0.18a	12.2 \pm 0.18a

There were no significant differences between means bearing the same superscripts in the same line

In this study 122 Turkish Tazi were measured and their body coat colours were divided into black, dun, brown, cream, white and piebald. The frequencies of these are listed in Table 3 below.

Average withers height (62 cm) obtained in this study is shorter than for the Russian Borzoi, Irish Wolfhound, Afghan Hound, Arabian Greyhound, Chart

Table 3. Distributions of the phenotypic traits of Tazis for different body coat colour.

Trait	Black	Dun	Brown	Tan	White	Pied
	$\bar{X} \pm S_x$	$\bar{X} \pm S_x$	$\bar{X} \pm S_x$	$\bar{X} \pm S_x$	$\bar{X} \pm S_x$	$\bar{X} \pm S_x$
	(n=43) 35.2%	(n=31) 25.4%	(n=15) 12.3%	(n=13) 10.7%	(n=10) 8.2%	(n=10) 8.2%
LW (kg)	17.7 \pm 0.31a*	19.1 \pm 0.43a	18.5 \pm 0.36a	18.5 \pm 0.35a	18.6 \pm 0.63a	18.7 \pm 0.96a
WH (cm)	60.8 \pm 0.56a	63.3 \pm 0.81a	62.1 \pm 0.57a	62.3 \pm 0.85a	63.4 \pm 1.13a	61.2 \pm 1.51a
HR (cm)	61.0 \pm 0.58a	63.3 \pm 1.89a	63.2 \pm 0.74a	62.4 \pm 0.89a	63.5 \pm 0.99a	61.4 \pm 1.37a
BL (cm)	59.1 \pm 0.67a	61.3 \pm 0.89a	61.8 \pm 0.87a	60.3 \pm 0.95a	61.6 \pm 0.95a	59.0 \pm 1.45a
HGC(cm)	61.9 \pm 0.69a	64.4 \pm 0.95a	64.1 \pm 0.97a	65.2 \pm 1.32a	63.6 \pm 0.88a	61.9 \pm 1.15a
CD (cm)	21.7 \pm 0.44b	24.1 \pm 0.62a	23.3 \pm 0.46ab	22.5 \pm 0.65ab	23.6 \pm 0.65ab	22.2 \pm 0.98ab
AD (cm)	13.9 \pm 0.26a	14.5 \pm 0.26a	14.5 \pm 0.36a	15.0 \pm 0.41a	13.8 \pm 0.39a	14.6 \pm 0.54a
CW (cm)	17.1 \pm 0.28a	17.5 \pm 0.32a	17.4 \pm 0.30a	17.7 \pm 0.58a	17.4 \pm 0.68a	17.4 \pm 0.26a
HW (cm)	16.0 \pm 0.20a	16.3 \pm 0.26a	16.5 \pm 0.38a	16.4 \pm 0.23a	16.2 \pm 0.33a	16.1 \pm 0.35a
TW (cm)	22.1 \pm 0.31a	21.5 \pm 0.33a	21.7 \pm 0.27a	22.5 \pm 0.55a	22.0 \pm 0.75a	22.1 \pm 0.41a
TL (cm)	45.2 \pm 0.62abc	43.3 \pm 0.73d	47.6 \pm 0.98a	43.1 \pm 0.85cd	46.5 \pm 1.05ab	43.7 \pm 1.14bcd
LL (cm)	39.1 \pm 0.33a	39.3 \pm 0.46a	38.8 \pm 0.43a	39.8 \pm 0.51a	39.8 \pm 0.73a	39.0 \pm 0.73a
CC (cm)	10.2 \pm 0.12a	10.3 \pm 0.13a	10.4 \pm 0.19a	10.2 \pm 0.23a	10.1 \pm 0.28a	10.0 \pm 0.26a
HL (cm)	23.7 \pm 0.34a	24.5 \pm 0.42a	23.2 \pm 0.60a	24.6 \pm 0.61a	21.6 \pm 0.70a	22.9 \pm 0.68a
EL (cm)	12.7 \pm 0.19b	12.5 \pm 0.24ab	11.8 \pm 0.32ab	12.2 \pm 0.39ab	11.5 \pm 0.51b	11.5 \pm 0.51b

There were no significant differences between means bearing the same superscripts in same line .

The impacts of region on live weight and body sizes are also given in Table 4. The Tazi in East of Turkey were significantly different from others on measurements for BL, LL and EL (P<0.05).

Polski, Galgo Espanol, English Greyhound, Ibizan Hound, Kyrgyz Taigan, Magyar Agar, Scottish Deerhound, Sloughi, and earlier measurements for the Turkish Tazi (Tepeli, 2003). With respect to height at withers, the Turkish Tazi is found to be similar in size to the Maltese Pharaoh Hound, Indian Rampour Greyhound, Middle Eastern Saluki and Western Sahel Tuareg Sloughi, but higher than the English Whippet and Italian Greyhound. Concerning the height at rump in the Tazi hound, there has only been one result reported¹⁰: 68 cm for the Turkish Tazi. This is higher than the result (62.2 cm) from this study.

In this study the mean of body length was found to be 60.3 cm, longer than the result (49.9 cm) of the previous research by Tepeli (2003). In that research, all the linear measurements, except that for body length, were on average higher than those obtained in the present research.

There were significant (P<0.05) differences between this study's results and those of the previous research (Tepeli, 2003) for the means of heart girth circumference: 63.3 and 73.8 cm respectively.

The smallest difference between the results of this study and those of the earlier research (Tepeli 2003) concerned head length which, at was 23.7 and 25.6 cm respectively.

In conclusion, the overall results of the current study reveal that the Turkish Tazi is a mid-size sighthound dog. After 12 months, body growth rate decelerates and after 24 months of age there is only a minor growth rate. This suggests that Turkish Tazis reach the mature body weight and size around 2 years of age. Black and dun colours are in the majority.

Table 4. Phenotypic traits of Tazis for different region.

Traits	Southeast (n=62)	Central (n=41)	East (n=19)
	$\bar{X} \pm S_{\bar{X}}$	$\bar{X} \pm S_{\bar{X}}$	$\bar{X} \pm S_{\bar{X}}$
LW (kg)	18.6 ± 0.26a*	18.4 ± 0.31a	17.6 ± 0.65a
WH (cm)	62.5 ± 0.49a	62.0 ± 0.44a	60.4 ± 1.23a
HR (cm)	62.8 ± 0.48a	62.1 ± 0.50a	60.6 ± 1.18a
BL (cm)	60.9 ± 0.54b	60.7 ± 0.55b	57.7 ± 1.24a
HGC(cm)	63.5 ± 0.57a	63.9 ± 0.64a	61.5 ± 1.30a
CD (cm)	22.8 ± 0.36a	23.1 ± 0.41a	21.9 ± 0.90a
AD (cm)	14.4 ± 0.21a	13.9 ± 0.21a	14.5 ± 0.39a
CW (cm)	17.3 ± 0.20a	17.4 ± 0.25a	17.3 ± 0.55a
HW (cm)	16.1 ± 0.16a	16.4 ± 0.18a	16.2 ± 0.39a
TW (cm)	21.7 ± 0.23a	22.3 ± 0.26a	21.7 ± 0.55a
TL (cm)	44.6 ± 0.41a	45.7 ± 0.79a	43.3 ± 0.89a
LL (cm)	39.7 ± 0.25b	38.9 ± 0.31ab	38.4 ± 0.69a
CC (cm)	10.3 ± 0.09a	10.2 ± 0.11a	10.0 ± 0.34a
HL (cm)	23.8 ± 0.29a	24.0 ± 0.36a	22.7 ± 0.59a
EL (cm)	12.2 ± 0.17ab	12.8 ± 0.19b	11.5 ± 0.36a

a, b: P<0.05.

* There were no significant differences between means showed in same letters of alphabet in same line and factor group.

The means of juvenile (0-12 months) Tazis were significantly different from older ones on the traits of WH, HR, BL, HGC, CD, CW, HW and CC (P<0.05) as seen in Table 5. After 12 months there were only minor differences for body growth and dimensions.

Table 5. Phenotypic traits of Tazis for different age.

Traits	0-12 (n=49)	13-24 (n=35)	25-36 (n=19)	36-60 (n=19)
	$\bar{X} \pm S_{\bar{X}}$	$\bar{X} \pm S_{\bar{X}}$	$\bar{X} \pm S_{\bar{X}}$	$\bar{X} \pm S_{\bar{X}}$
LW (kg)	17,8 ± 0,34a*	18,7 ± 0,37a	18,9 ± 0,29a	18,9 ± 0,43a
WH (cm)	60,8 ± 0,64a	62,9 ± 0,63b	62,7 ± 0,68b	62,7 ± 0,51b
HR (cm)	61,0 ± 0,63a	63,1 ± 0,63b	63,3 ± 0,75b	62,6 ± 0,63b
BL (cm)	59,0 ± 0,67a	61,5 ± 0,72b	61,2 ± 0,94b	60,9 ± 0,61b
HGC(cm)	61,1 ± 0,65a	65,1 ± 0,73b	63,5 ± 0,68ab	65,3 ± 1,01b
CD (cm)	21,8 ± 0,47a	23,7 ± 0,50b	22,5 ± 0,53ab	23,6 ± 0,40b
AD (cm)	13,9 ± 0,22a	14,5 ± 0,22a	14,7 ± 0,42a	14,4 ± 0,40a
CW (cm)	16,7 ± 0,18a	17,8 ± 0,35b	17,4 ± 0,27ab	18,1 ± 0,47b
HW (cm)	15,5 ± 0,18a	16,5 ± 0,15b	16,4 ± 0,26b	17,2 ± 0,31c
TW (cm)	21,3 ± 0,26a	22,1 ± 0,30a	21,5 ± 0,28a	23,5 ± 0,42a
TL (cm)	44,5 ± 0,64a	44,7 ± 0,60a	44,8 ± 0,77a	45,7 ± 1,05a
LL (cm)	39,0 ± 0,31a	39,2 ± 0,44a	40,2 ± 0,36a	39,1 ± 0,41a
CC (cm)	9,9 ± 0,13a	10,4 ± 0,11ab	10,6 ± 0,11b	10,3 ± 0,15ab
HL (cm)	23,8 ± 0,34a	23,7 ± 0,38a	22,8 ± 0,68a	24,1 ± 0,40a
EL (cm)	12,5 ± 0,17a	12,1 ± 0,24a	11,8 ± 0,37a	12,4 ± 0,36a

a, b: P<0.05, c: P<0.01.

* There were no significant differences between means showed in same letters of alphabet in same line and factor group.

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