

CHIPPIPARAI BREED OF DOGS IN TAMIL NADU: AN ASSESSMENT OF PHYSICAL AND PERFORMANCE CHARACTERISTICS

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ABSTRACT

The Chippiparai dog, a unique medium-sized, sight-hound breed seen in south India, is studied to assess the distribution and breed characteristics. The breeding tract of this dog is Tirunelveli district of southern Tamil Nadu. The trademark features are fawn coat, black nostrils, black eyes, broad chest and tucked up abdomen. The overall means of body length, head length, muzzle length, tail length, height at withers, height at rump, chest girth, belly girth, ear length and ear width in adults were 60.90 ± 1.34 , 21 ± 0.39 , 9.56 ± 0.17 , 40.28 ± 0.77 , 59.56 ± 1.30 , 59.84 ± 1.38 , 60.36 ± 1.36 , 39.30 ± 0.75 , 10.92 ± 0.23 and 8.10 ± 0.18 cm respectively. Sex had significant effect ($P < 0.05$) on body length, and highly significant effect ($P < 0.01$) on height at withers and chest girth. This study shows that Chippiparai dog breed is a medium-sized indigenous sight hound dog of Tamil Nadu.

KEY WORDS: Chippiparai dog, distribution, morphology, morphometry, performance characteristics

INTRODUCTION

India is rich in canine genetic resource, besides the vast wealth of livestock germplasm. Indigenous canine breeds like Rajapalayam, Chippiparai, Mudhol Hound, Rampur Hound, Caravan Hound, Banjara Hound, Himalayan sheep dog, Alangu, Indian Spitz and Jonangi are well known. But due to inflow of exotic canine breeds, the indigenous dogs did not get any attention from scientists, dog breeders and pet owners. Chippiparai is one of the popular dog breeds in south India and one among the four indigenous breeds (the other breeds are Rajapalayam, Kombai and Kanni) available in the state of Tamil Nadu. It is a sight-hound type, utilized mainly for hunting. It is capable of great speed and can overtake a hare with ease. The Chippiparai breed of dog, known as the "Greyhound of the South" was thought to be a descendant of the Saluki (another sight hound) breed (Srinivasan, 2011). Bred by royal families in Chippiparai village near Madurai district of Tamil Nadu, it was kept as a symbol of royalty and dignity by the rulers of Tirunelveli and Madurai (Srinivasan, 2011). Not much of studies have been made so far about this wonderful breed. Hence the present study was undertaken to assess the breed characteristics using morphometric measurements and performance traits.

MATERIALS AND METHODS

The study was carried out during November 2013 in Tirunelveli district of southern Tamil Nadu where a total of 50 pet owners / villagers rearing these dogs were met. Age of the dog was recorded after careful personal interaction with the owners. Different physical traits like body colour, shape of face, eyes, nostrils, patches present on the body and morphology of ear, chest, abdomen and tail were recorded through observation as well as physical examination.

Morphometric measurements were recorded accurately in cm (with a precision of 0.5 cm) when the animal was in normal standing position using measuring tape. Different morphometric parameters such as body length (distance from point of shoulder to point of buttock), height at withers (distance between ground and withers at standing posture), chest girth (circumference

around the chest just after the front limb), belly girth (circumference around belly), length of head (from tip of nose to occipital), length of muzzle (from tip of nose to the line joining the edges of internal eye), ear length (distance from the end of external acoustic meatus to the tip of apex of ear), ear width (width at the base of the ear), height at rump (distance between ground and rump at standing posture) and length of tail (from the dorsal edge of base of the tail to its tip) were recorded as suggested by Gonzalez *et al.* (2011) and Leite *et al.* (2011). The data collected were subjected to standard statistical analyses as per Snedecor and Cochran (1989). Student's 't' test was carried out to find whether there was any significant difference in body length, height at withers and chest girth between sexes.

RESULTS AND DISCUSSION

Breeding tract

The main breeding tract of Chippiparai dogs was found to be in Tirunelveli district. The dogs were also bred in and around Tirunelveli district, in areas such as Ukkirankottai, Kaduvetti, Alagiapandiapuram, Venkateswarapuram and Vagaikulam. About 75 villagers in the tract breed the Chippiparai dogs. More than 200 Chippiparai dogs are being reared in the main breeding tract itself. The breeding tract where the dogs are bred is having a subtropical climate and generally dry. The elevation of the tract ranges from 70 to 500 m above mean sea level (MSL). The average annual rainfall is 736.5 mm with major contribution from northeast monsoon (429.8 mm) followed by summer rains (141.9 mm) and south west monsoon (92.6 mm). The relative humidity ranges between 44.6 and 76.5 per cent. The mean minimum temperature varies from 21°C to 27.5°C and mean maximum temperature from 28°C to 38.5°C. The majority of the study area consists of black and red soil.

Morphology

The predominant body colour of Chippiparai dog is fawn (Figs. 1 and 2) and occasionally brown or grey coloured animals are also found. The skin is tight and grey in colour. Their coat is short and smooth. They have a conical shaped head which is fawn in colour with black nostrils, black eyes and light brown eye lashes. Occasionally some black eye lashed dogs are also observed. The ears are semi-drooping. The neck is long and moderately muscular. They also have a compact body with broad chest and tucked up abdomen giving an appearance of hound type dog. Legs are long, moderately muscular and strong. This helped them to be fast runners and eventually good hunters. The tail is too long and mostly set low with a slightly upward and forward curl. Our findings are in agreement with an earlier study by Ravimurugan and Kumaravelu (2008) who also reported that Chippiparai was a medium-sized, fawn-coloured dog with tucked up belly. Srinivasan (2011) also reported that Chippiparai was a medium-sized dog with a very tucked up belly, very deep chest,



Fig 1. Chippiparai male dog



Fig 2. Chippiparai female dog with young stock

long-curved tail and the typical color was a fawn, reddish brown, slight black tinged coat, silver-grey, with very limited or no white markings.

Morphometric measurements

The means for various body measurements are furnished in Table 1. The overall means for the principal body measurements such as body length, height at withers and chest girth were found to be 60.90 ± 1.34 , 59.56 ± 1.30 and 60.36 ± 1.36 cm respectively. The tail length averaged 40.28 ± 0.77 cm. The mean ear length recorded for Chippiparai dogs was 10.92 ± 0.23 cm; while mean ear width was found to be 8.10 ± 0.18 cm. The head length and muzzle length averaged 21 ± 0.39 and 9.56 ± 0.17 cm respectively. The height at rump as well as belly girth were also measured which were found to be 59.84 ± 1.38 and 39.30 ± 0.75 cm respectively. There was a highly significant ($P < 0.01$) difference between sexes for height at withers and chest girth and significant ($P < 0.05$) difference for body length.

Table 1. Mean + S.E. of body measurements (in cm) of adult Chippiparai dogs

Sl.No.	Morphometric variable	Male	Female	Overall
1	Body length	$63.90^{*} \pm 1.60$ (10.94) [19]	$58.05^{*} \pm 1.95$ (15.05) [20]	60.90 ± 1.34 (13.75) [39]
2	Length of head	22.21 ± 0.47 (9.32) [19]	19.85 ± 0.51 (11.59) [20]	21 ± 0.39 (11.77) [39]
3	Muzzle length	10.00 ± 0.24 (10.54) [19]	9.15 ± 0.22 (10.79) [20]	9.56 ± 0.17 (11.45) [39]
4	Tail length	42.47 ± 0.65 (6.67) [19]	38.2 ± 1.20 (14.12) [20]	40.28 ± 0.77 (11.92) [39]
5	Height at withers	$63.0^{**} \pm 1.25$ (8.64) [19]	$56.3^{**} \pm 2.00$ (15.90) [20]	59.56 ± 1.30 (13.60) [39]
6	Height at rump	62.41 ± 1.75 (11.91) [18]	57.35 ± 1.99 (15.59) [20]	59.84 ± 1.38 (14.21) [38]
7	Chest girth	$63.94^{**} \pm 1.53$ (10.45) [19]	$56.95^{**} \pm 1.97$ (15.46) [20]	60.36 ± 1.36 (14.11) [39]
8	Belly girth	40.95 ± 0.93 (9.95) [19]	37.75 ± 1.06 (12.60) [20]	39.30 ± 0.75 (11.88) [39]
9	Ear length	11.56 ± 0.31 (10.92) [16]	10.40 ± 0.28 (12.24) [20]	10.92 ± 0.23 (12.65) [36]
10	Ear width	8.56 ± 0.22 (10.19) [16]	7.72 ± 0.25 (14.31) [20]	8.10 ± 0.18 (13.35) [36]

Figures in parentheses indicate per cent co-efficient of variation

Figures in square brackets indicate number of observations

* - Significant ($P < 0.05$); ** - Highly significant ($P < 0.01$)

The mean body length, height at rump as well as withers suggest that Chippiparai is a medium-sized dog. As per Yilmaz (2007), the Chippiparai possessing a mean height of 59.56 cm falls within the range of 51 to 70 cm, specified for a medium-sized dog. The mean belly girth as well as chest girth indicate that it could be classified under hound type of dogs. It was reported that in sight hound anatomy, the chest is deeper and the abdomen is narrower than in other dog breeds (Yilmaz and Ertugrul, 2011). It is normally accepted that the chest and abdomen depth are very important traits

to evaluate speed of sight hound. Secondly speed factor in sight hound depends on strength of its hind legs (Yilmaz and Ertugrul, 2011). Therefore, Chippiparai dogs with deep chest, narrow abdomen and strong legs can thus be considered as a sight hound.

Average height (59.56 ± 1.30 cm) of Chippiparai recorded in the present study is similar to the height of other canine breeds such as Rampur Greyhound (60-75 cm; India), Saluki (58-71cm; Middle Eastern), Afghan Hound (61-73 cm; Afghan), Arabian Greyhound (61-72 cm; Morocco) and Pharaoh Hound (53-64 cm; Malta) dogs, as reported by Yilmaz and Ertugrul (2011). While the Chippiparai is taller than Italian Greyhound (33-38 cm; Italy) and Whippet (47-51cm; UK) dogs, they are shorter than that of other hound breeds viz. Borzoi (66-81cm; Russia), Greyhound (69-78 cm; UK), Irish Wolfhound (81-86 cm; Ireland), and Turkish Tazi (70 cm; Turkey) (Yilmaz and Ertugrul, 2011).

Performance characteristics and husbandry practices

Breeding of Chippiparai dogs is done by natural service. In a single whelping, four to ten puppies are delivered. The age at first heat in female dogs ranged from 12 to 15 months. They are first allowed for mating at around 18 months of age and the age at first whelping ranged from 20 to 26 months. Usually in a year, single whelping takes place with a whelping interval of 10 to 12 months. Even though some of the villagers maintained separate male dogs for breeding, use of male from the same litter for breeding has become the practice which would result in considerable amount of inbreeding. Most of these dogs are fed twice a day with rice, milk and egg while a few are fed once in a day only. Non-vegetarian food is provided occasionally depending on the availability and economic level of farmers. No scientific housing is provided for them. However, a separate enclosure is provided by some prominent breeders.

Deworming of pups is done once in a month initially. Later, the interval is increased and adult dogs are dewormed once in three to six months. Antirabies vaccination is regularly done while multicomponent vaccines against canine distemper, parvo, leptospirosis etc. are not administered due to the high cost. These dogs are resistant to most of the communicable diseases. They are hardier and resistant to diseases compared to the foreign breeds as they evolved over the years braving the managemental practices and climate of the breeding tract. These dogs are preferred more by the villagers as they are more heat tolerant and good hunters. They are agile and had great stamina coupled with great speed. These dogs are frequently (once in a week) taken for hunting hare in the nearby forest. Only minimal cost is required to maintain this breed. They are loyal and affectionate towards the owner and gets along well with children and other family pet such as cat; but at the same time is alert against strangers.

The present study shows that Chippiparai is a unique breed, distinct from other dog breeds. It is a good companion animal as well as a courageous and faithful guard dog. This study shows that the population size of Chippiparai dog breed is very small in the breeding tract. Even though it is not reducing at an alarming rate, the small population size prompts us to initiate steps towards conservation of this unique canine germplasm. Further, the pet owners and dog breeders of this native breed should be encouraged for increasing the population size and to conserve this unique dog breed.

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IMPORTANT ANNOUNCEMENT

On behalf of the editorial board, I am pleased to announce the title change of "The Indian Journal of Field Veterinarians (IJFV , ISSN : 0973 - 3175)" to "The Indian Journal of Veterinary Sciences and Biotechnology (IJVSB; ISSN : 2394-0 247)" with effect from 01.01.2015.

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