

STUDY ON THE COMPARATIVE MORPHOLOGY AND BEHAVIOR OF DALMATIAN AND GERMAN SHEPHERD PET DOGS LOCATED IN PUTALISADAK AND BALUATAR LOCALITY OF KATHMANDU

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Abstract

Men and animals are intimately bonded with one another. Keeping dogs as pet in home has been useful for different purposes like for companionship, protection, play-mate for children, as therapy aids for many psychosomatic diseases, for getting police and military services etc. In Nepal, research works on dogs have been done by the different researchers but most of them have been focused on stray dogs, dog bites, dog diseases etc. Some of the research on dogs have been done from the microbiological point of view. Research work based on comparative morphology and behavior on different breeds have yet to be done. The present study is aimed to make the comparative study of morphology and behavior of the **Dalmatian** and the **German shepherd** dogs as these are the breeds which are kept as pet in most of the houses in Nepal. Study on the comparative morphology and behavior on these two types of dogs may help a lot to the people not only for the pet selection, but also to create awareness to the dog conservation and management. The study also adds a milestone in understanding the sentiments of dogs along with other pet animals so as to deepen the men animal bond and take the mutual benefit as much as possible in this stressful world.

Key Words: Dalmatian dogs, German shepherd dogs, Morphology, Behaviour, comparative study

INTRODUCTION

So far as the research work on dogs is concerned, Inbal Brickner February 200, Frank and Frank (1982), studied domesticated dogs (Alaskan malamutes) and wolf pups which were raised in similar conditions in the home environment. The study showed distinct differences in both physical and social development. Klinghammer and Goodman (1985) studied the developmental difference between dogs and wolves and came to the conclusion that dogs could be socialized to human within first sixteen days of age but wolves should be removed from her mother for human socialization before fourteen days of age and they could no more be socialized by humans. . - *Sir John Lubbock. (1889, p.)* conducted the research work on dogs and realized the dog's loyalty and selfless behavior and stated, *"That the dog is a loyal, true, and affectionate friend must be gratefully admitted, but when we come to consider the psychical nature of the animal, the limits of our knowledge are almost immediately reached"*. Early farmers developed the flock guard type of dog terrier, northern herding and Southern dog (Wilcoz and walkowicz 1995).

Scientists on the basis of DNA evidence suggested that domestic dogs diverged from wolves in different places at different times beginning as long as 135 years ago (Vila *et al.*, 1997). The study of many research works on dog have been found to be done in the countries of European Union including Belgium and the peer reviewed articles were published. Most of the research works are found to be based on shelter dog's behavior. Among the different countries of Europe, Belgium was to meet the criteria of Animal Welfare regarding behavior evaluations as mentioned by Treaty of Amsterdam (1999). A study by Hare and Tomasello (1999) on domestic pet dogs demonstrated the ability of pet dogs to use the location and gestures of both humans and other dogs to help locate hidden food.

Martin and Bateson (2007) performed the research work on dogs according to the quality test criteria. A review of domestic dogs (*Canis familiaris*) done by Mar Udell (2008) throws light on the study of dog behavior and dog training. Valsecchi *et al* (2011) research work on dog's behavior evaluation was identified as the valuable work.

Most of the research works done at that time regarding dog behavior evaluations were not satisfactory as the survey done on dogs behavior showed difference in between field reality and the current scientific knowledge. So scientists realized the necessity of solid and accurate measures so as to conduct behavior evaluations of shelter dogs. (Zubinyi, Viranyi and Miklosi, 2007) conducted the research study based on the comparative development and behavior of wolf pups and mongrel dogs in their foster homes with humans as care takers. The conclusion was that all pups were individually assigned to a human caretaker. A study of peer reviewed summary of scientific literature related to a dog breed called Molosser dogs was conducted in Rome (Mar12,2015). Estimation of worldwide dog abundance are at around 500 million, in consideration with factors such as geography, climate, availability of food and shelter which influence local abundance (Wandeler *et al*, 1993 in Veitch, 2000). Feral, stray and domestic dogs are now found in most parts of the world and outnumber all other canids. Veitch (2000) suggests that the presence and abundance of dogs depends on the attitude of humans in that area towards dogs in general.

In Nepal, research work on pet dogs have been found to be done to some extent but most of them have been done from the microbial point of view. They are based on dog diseases including Rabies. Some of the research work have been found to be done on stray dog by the group of researchers. A group of researchers belonging to three main groups, entitled Animal Welfare Society, Project Human Nepal and Street Dog Lovers are involved in the study and management of street dogs which comprises care and safe Heaven for street dogs through rescue emergency treatments and community education. "Bhaktapur Animal Welfare Society" is helping provide safe Heaven to dogs by the process of emergency treatments, animal birth programmes, vaccinations, adoptions, and community education. These researchers are popularly known as Friends of Nepal's Street Dogs. Their motto is to see the change they want to see in the world. The present study on the "comparative morphology and behavior" of the two different types of dogs, Dalmatian dogs and German Shepherd dogs is expected to add a milestone in the research study on these two different types of dogs.

Introduction of Dalmatian dogs

Dalmatian dogs are one of the popular breeds of

dog. It was first of all originated at Dalmatia of Croatia in Europe. History of dogs reveals that Dalmatian dog's origin began several hundred years ago. Domestication of this popular breed of dog shows that it has been used in the form of coach dog besides its use in many areas like hunting, firehouse watching, circus performance etc. Having the characteristic black spots all over the white body it looks charming with the colour contraction of white body and black spots. Dog lovers in many countries of the world like these Dalmatians to keep them as their pet and develop human - animal friendship with these type of dogs. Its athletic nature and its other unique properties made it popularly known as the 'Star of Disney'. It has been found to be used also in films and movies and also as a part of family members in the home of dog lovers.



Figure1 Male (Densely spotted) and female Dalmatian dogs



Figure2 Dalmatian dog in Putalisadak locality of Kathmandu

Introduction of German shepherd dog

German shepherd dog breed, also known popularly as Alsatian dog, is originated in Germany. It is the new breed of dog which originated in 1899. They are well known as herding and working dogs with high degree of strength, intelligence, tranability and obedience. They are useful for disability assistance, search and rescue, police and military roles and in acting purposes. This is the second most popular breed of dog in U.S.A. and fourth most popular breed in United Kingdom. German shepherd dog are ranked the breed third for intelligence. They have the ability to understand the command after only five repetitions. They have the ability of learning quickly and interpreting instructions in comparison to other breeds. So they are selected for pet animals by many dog lovers.



Figure 3 German shepherd dog in Kathmandu, Baluatar locality



Figure 4 German shepherd dog in Baluatar locality of Kathmandu valley

MATERIALS AND METHOD

Pet owners of different locality of Kathmandu valley were asked about the dogs they kept, reason for selecting pets, type of feed(whether commercial, mixed or home-made) they gave to pet, time spent with pets, many behavioural aspects and morphological characters were also asked and observed and noted. Information was also collected by direct visit to the different kennel club in Kathmandu valley. Questions regarding Dalmatian dogs and German shepherd dogs were asked to the dog owners of the mentioned dogs. Direct visit to the owner's home of Dalmatian and German shepherd dogs was done many times from September 2015 to December 2015. Activity of Dalmatian dogs and

German shepherd dogs was observed many times by direct visit to the owners home. Owner's interaction with their respective pets along with the command and language used was also studied by direct observation. During frequent visit to the pets which were formerly unacquainted and used to bark started to be familiar and friendly in the course of visit. Activities like pet bathing, feeding, walking with them Questions were asked about the vaccines given, treatment of diseases when they got were also asked. Time they brought the pets in home, where from(kennel club, or friends home or from somewhere else), how they are feeling, their experience before and after keeping the pets, their attitude towards pet keeping, any particular event with pets etc was also asked and information was collected as much as possible from the different visit. Photograph of Dalmatian male and female as well as that of German shepherd dog was also taken by Samsung Galaxy smart phone by direct visit to the owner's home located in Putalisadak locality and Baluatar locality of Kathmanhedu city. Brochures of dogs were also collected from different kennel clubs and studied. Interview with the researchers of Animal Welfare Network Nepal (AWNN) was also asked during the field visit when I met them in Chitwan National Park of Nepal.

RESULTS, FINDINGS AND DISCUSSION

During the field survey questions were asked to the dog owners about the reason behind pet keeping and the respondent's answer was different, one hundred sixty people answered due to fear of thief, sixty people told due to animal love, 20 of them said that it was for companionship and 40 respondents told that it was for all the reason given by the previously answered questions.

Reason for keeping pet dog

Data was represented by the figure mentioned below

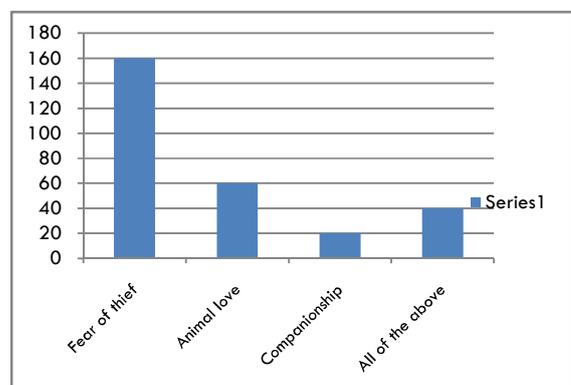


Figure- 5

Breeds of dog found in Nepal: From Visit to the kennel club located in the different locality of Kathmandu valley and the information collected from kennel club and brochures obtained from there, following breeds of dog have been found in Kathmandu as the pets.

During the study different kennel club were visited and information of different types of breeds of dogs found in Kathmandu valley were of the following types:

Mixed breeds 229, Spitz 15, GSD 15, Lhapso Apso 5, Labrador 6, Bulldogs 2 and Boxers 2. The data were represented by bar diagram mentioned below.

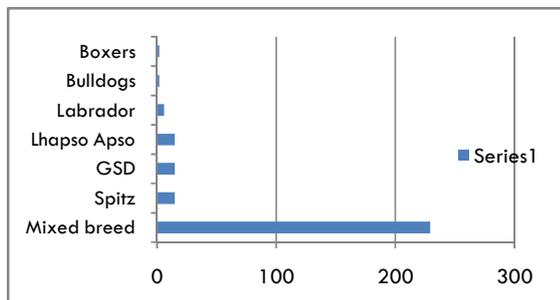


Figure- 6

Age of the Dalmatian and German shepherd dogs surveyed

Study was focused on following two different types of dogs, Dalmatian(male and female), and German shepherd in the two different localities of Kathmandu valley, Dalmatian in Putalisadak and German shepherd in Baluatar. Dalmatian male of the age 3 years old, Dalmatian female 2.5 years and German shepherd dog of 5 year

Table 1 showing the morphological and physical characters of the Dalmatian dogs

Height	Weight	Length	Body size	colour	texture	Coat	Feet	Toes	Nails	Ears
(19 to 24) inches or (48 to 58) cm	(40 to 70) pounds	As long from fore-chest to buttocks as it is tall at the withers.	Medium	White	smooth	Size of fur spots Short, fine and dense stiff hairs usually black-coloured.	Round	Arched	white	

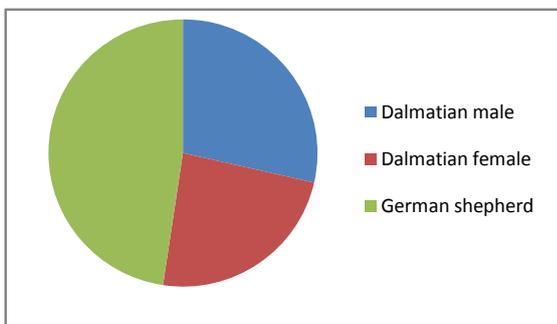


Figure- 7

Table 2 showing the morphological and physical features of German shepherd dog

Height in cm	Weight in kg	colour	coat	Hair	Life span	Litter size
(60 to 65) cm of male	Male(30 to 40)	Tanned with black	Outer coat: Close and dense, sheds all the year. Inner coat: Under-coat is thick. Does not shed as outer one	Long as well as short	9 to 13 years	4 to 9

Table 3 Differences in morphological and physical features between Dalmatian dogs and German shepherd dogs

Dalmatian dogs	German shepherd dogs
Locality in Kathmandu where it is studied - Putalisadak road locality	Locality in Kathmandu where it is studied - Baluwater.
-Originated in Dalmatia of Croatia	-Originated in Germany
-White coloured with black spots	-Variety of colours and generally with tanned black
-Single and white coated with short hairs	-Double coated with two different types of hairs outer coat with long hairs and inner coat with shorter and thicker hairs
Medium sized	Medium sized to large sized
Smooth head which is extended with the deep chest.	Head with domed forehead
White coloured long nose	Black- coloured nose
- Absence of muzzle.	- Muzzle present with black colour
-Ears are thin and taper towards the tip. They are set close to the head.	- Ears are erect and large in size. They are parallel in position and pulled back during movement.
Eyes are medium-sized, round in shape and brown in colour.	-Eyes are black and almond- shaped.
Neck is moderate in length	Longer in length when excited and lowered when it is in great speed.
Tail is tapered not bushy	- Tail is bushy.
Feet round with arched toes.	Feet are round with hard sole.
- More indoor loving	-Both indoor and outdoor loving.
- Likes to be in company with people or another dog	-Not necessarily needing company.
- Attention seeking. Needs people's attention.	-No need of attention. Seems to be self-assured.

Field survey of pet dogs specified on the morphology and behavior has been accomplished and the research on these two different types of pet dogs gives the message to the animal and pet keeping people to continue the research on the pets in coming future also and create awareness to the society to help in animal conservation as well as in deepening the men animal bond by improving the quality of management of pet dogs.

Table- 4 Differences in behavior and activity

Dalmatian dogs	German shepherd dogs
-Need company to be happy, like to be socialized in human family - More indoor loving.	-No need of company. - Both in-door and out- door loving.
-Have high degree of obedience. Moderate intelligence. - Need daily brisk walk and sufficient care along with human pet-owners.	- Moderate In obedience, But high degree of intelligence - Not necessary of sufficient cares as they are self confident and have self assured look.
-Highly energetic and athletic in nature and need to play with human kids.	- Have high degree of intelligence and detective skill. - Capable to learn different tasks in comparison to other breeds. Capable to learn different tasks like guarding, rescuing and searching roles. So also known as guard dogs and searching dogs.
- Capable to understand human signals and languages and even socialize with human family.	- Also used as messenger dog to understand the message and conduct as the message.
- No such ability of understanding the message and conducting the works according to the message.	
-Have strength but not as high as German shepherd. -Not used as rescue dogs.	-High degree of strength. -Also used as rescue dogs.
-Does not perform the role of the police.	-Performs the role of a police. So also known as police dog.
-Bred not for their intelligence but for their active and family loving nature.	-Bred mainly for their intelligence rather than for their family loving and companionship maintaining nature.
Not capable of interpreting instructions.	Capable to interpret instructions..
No such ability of extraordinary intelligence.	Capable to follow the army rules and other tasks related with intelligence.
Not capable of performing police and army related tasks.	Able to perform the tasks of police and armies. So also known as army or police dog.
Not used for parachuting from air-craft and anti-tank weapons.	Can be trained by military to parachute from air- craft or anti - tanked weapons.

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References

- American Kennel Club. (2014). Breed Matters. Retrieved from: <http://www.akc.org/breeds/index.cfm> 61.
- Animals and Society Institute: Dog Bites: Problems and Solutions (Revised 2014).
- Burns M. 1952. *The genetics of the dog*. Commonwealth Agricultural Bureaux, Farnham, Royal, Slough, Bucks, United Kingdom. CDC. Web-based Injury Statistics Query and Reporting System (WISQARS) [Online].
- E Vance H.E. 1993. *Miller's anatomy of the dog*. W.B. Saunders, Philadelphia, Pennsylvania.
- Favier R.P. Mol J A, Kooistra H.S. and Rijuberk A. 2001. Large body size in the dog is associated with transient GH excess at a young age. *J. Endocrinol.* 170: 479-484
- Feldman E.C. and Nelson R.W. 2004. *Canine and feline endocrinology and reproduction*, 3rd edition. Saunders, St Louis, Missouri.
- Friends Of Nepal's Street Dogs., Street Dogs, BSB: 063541. Facebook page, friend sofnepalstreetdogs@gmail.com
- Gershman K.A., Sacks J.J. and Wright J.C. (1994). Which dogs bite? A case-control study of risk factors. *Pediatrics.* 93:913-917.
- Goto, Imamura K, Miura Y. Ogawa T. and Hamada, H. 1987. The Mexican hairless dog, its morphology and inheritance. *Jikken Dobutsu* **36**: 87-90.
- Hald B. and Madsen M. (1997). Healthy puppies and kittens as carriers of *Campylobacter* spp., with special reference to *Campylobacter upsaliensis*. *Journal of Clinical Microbiology.* 35: 3351-3352.
- Hare B., Brown M., Williamson C. and Tomasello M. (2002). The domestication of social cognition in dogs. *Science.* 298: 1634-1636.
- Hyattsville, MD, National Center for Health statistics (2013). Health, United States, 2012: with special feature on Emergency Care.
- Incidence of dog bite injuries treated in emergency departments. *Injuries.Jama: The Journal of the American Medical Association,* 281(3), 232-233.
- Krebs J.W., Smith J.S. Rupprecht C.E. and Childs J.E. (1997). Public veterinary medicine: Public health: Rabies surveillance in the United States during 1996. *Journal of the American Veterinary Medical Association.* 211: 1525-1539.
- Leonard J.A., Wayne R.K., Wheeler J., Valadez R., Guillen S. and Vila C. (2002). Ancient DNA evidence for old world origin of new world dogs. *Science.* 298: 1613-1616.
- Moreno J. and Alvar J. (2002). Canine leishmaniasis: Epidemiological risk and the experimental model. *Trends in Parasitology.* 18: 399-405. <http://journals.bmn.com/journals/list/latest?icod e=pt>
- National Canine Research Council (2007). The Pit Bull Paparazzi. Retrieved from: <http://nationalcanineresearchcouncil.com/uploaded files/tiny mce/7%20Media%20 Bias.pdf..>
- Olsen S.J. 1985. *Origins of the domestic dog: The fossil record*. University of Arizona Press. Ott, S. A., Schalke, E., von Gaertner, A., & Hackbarth, H. (2008). Is there a difference? Comparison of golden retrievers and dogs affected by breed-specific legislation regarding

- aggressive behavior. *Journal of Veterinary Behavior*, 3(3): 134-140. 6.
19. Pain S. (1997). The plague dogs. *New Science*. 154: 32-37.
 20. Sacks, J. J., Kresnow, M., & Houston, B. (1996). Dog bites: how big a problem? *Injury Prevention*, 2(1), 52-54.
 21. Schalke, E., Ott, S., Hirschfeld, J., Hackbarth, H. (2010) Assessment of a Bull Terrier bloodline regarding possible hypertrophic aggressive behaviour in situations of dog-dog contact of the temperament test of Lower Saxony. *Berl Munch Tierarztl Wochenschr.* 123(5-6):192-1976
 22. Scott, J. P., & Fuller J. L. (1965). *Genetics and the Social Behavior of the Dog*. Chicago, IL: University of Chicago Press. Taborsky M. (1988). Kiwis and dog predation: observations in Waitangi State Forest. *Notornis*. 35: 197-202.
 23. Triggs B., Brunner H. and Cukken J.M. (1984). The food of fox, dog and cat in Croajingalong National Park, South- Eastern Victoria. *Australian Wildlife Research*. 11: 419-491.
 24. Voith, V. L., Ingram, E., Mitsouras, K., & Irizarry, K. (2009). Comparison of adoption agency identification and DNA breed identification of dogs, *Journal of Applied Animal Welfare Science*, 12(3), 253-262.
 25. Weiss, H. B., Friedman, D. I., & Coben, J. H, Incidence of dog bite injuries treated in emergency departments. *Journal of the American Medical Association* 1998; 279:51-3.
