

Dogs: From Domesticated Pets to their Wild Originality

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Abstract: *An increase in dog menace and dog bite by stray dogs in Indian cities and towns could be attributed to genetic changes because of cross breeding with ferocious hunter dogs which are being taken up by humans as captive pet dogs since it has become a craze to keep farm hunting dogs as pets in urban societies, especially in India. Moreover availability of waste food acts as a strong epigenetic factor to favour change which can be well observed and documented with a change in morphological and behavioural pattern where packs of robust stray dogs are seen roaming around, a typical wild feature of wolves to which dogs own their ancestry.*

Keywords: Reported dog bite cases, Pet dogs, Stray dogs, Dog lineage

Reports from various quarters and various cities in India are flashing a rise in number of dog bite cases. Stray dog menace in Chandigarh was reported by Press Trust of India, 2015 with nearly 500 dog bite cases every month [1]. The Punjab government discussed in The House that 37,305 children were reported to be grievously injured in attacks by stray dogs in past two years [2]. Times of India, 2016 wrote about an incidence of a 67 year old person being mauled to death after a street dog attacked him in a village in Bareilly and did report that in past one year six kids had died on the same account in parts of Bareilly [3]. Indian Express, 2016 regarding a data on dog bites indicated on an average 1000 cases every month in the city of Bangaluru. Between April and November 2015, 7754 cases came to light. According to available statistics with city express, frequency of such cases was 19488 (2014-15), 17933 (2013-14), 22913 (2012-13) and 22177 (2011-12), respectively [4]. Hindustan Times, 2013 reported a whooping increase in dog bite cases to 82247 in last decade. According to Municipal Health Department, Mumbai, 53051 cases were reported in 2001, 45183 in 2006 and 54661 cases came to light in 2007 [5].

From time immemorial the dog is considered to be a loyal and faithful companion of human beings and became a domestic animal ever since, with quite many references regarding this in the olden scripts. Taxonomically dog (*Canis familiaris*) has been placed in Family: Canidae, a position close to wolves since it is considered to derive its lineage from wolves. A recent whole-genome study of living wolves and dogs argued that domestication took place around 10,000 years ago during agricultural revolution, when wolves that scavenged at humanity's scrapheap became more accustomed to life with humans. Genomes of 12 wolves from around the world and of 60 dogs representing 14 diverse breeds were studied to find out signatures of domestication by analysing for sequences that showed the greatest differences and for sequences that were consistent across dog breeds but varied in wolves. About half of these studied regions involved genes pertaining to brain, revealing a behaviour which was less aggressive, more sociable and better able to read human behavioural cues as in dogs. Genes involved in digestion of fat and starch were better developed in dogs, an evolutionary phenomenon parallel to humans [6][7]. A whole -genome sequencing of multiple grey wolves, Chinese indigenous dogs and dogs of diverse breeds- a German shepherd, a Belgian malinois and a Tibetan mastiff show that the split between wolves

Chinese dogs and wolves occurred 32,000 years ago much earlier than previous estimates of when domestication began and also did suggest that domestication may have started in Asia rather than Middle East as other studies indicated. The study draws together humans and dogs and a parallel evolution was revealed to be apparent in genes for digestion and metabolism, neurological process and cancer [8]. Yet another study of mitochondrial DNA in 77 modern, 18 fossil dogs and 49 modern wolves put the site of domestication in Europe somewhere between 18,800 and 32,100 years ago. That's well before the agricultural revolution and suggests that wolves may have European hunter-gatherer as either hunting partners or scavengers [9].

Ten most dangerous breeds [10] which are domesticated world over and India include Dalmatian, Rottweiler, Pit Bulls, Doberman, German Shepherd, Boxer, Chow-Chow, Alaskan Malamutes, Huskier. The origin of Pit Bull is U.S., American Pit Bull Terrier, the American Staffordshire Terrier and the Staffordshire Terrier, and any cross breed between these three, weighing about 30-35 lbs. and 18-22 inches in height. It is a fearless dog, famous for being army and police dogs that take onto the prey until it is dead. Rottweiler's have their origin from Germany, 85-110 lbs. in weight and 23-27 inches in height. They are powerful dogs with strong jaws. They are extremely intelligent breed and make great guard dogs, but poor training can lead them to become disobedient. Pit Bull and Rottweiler are responsible for an estimated sixty percent of all dog fatalities. Dalmatians had their origin in Balkans, India, weigh 49-70 lbs and 20-24 inches high. These are very friendly and protective dogs, but being very powerful are too used as warriors, hunters and also shepherd dogs. Persa canario has its pedigree in Canary Island, Africa, weighs about 100-125 lbs and 25-26 inches in height. This breed was trained for hunting and war in 18th century. These animals have incredible power and are fearless animals. Chow - chow with their ancestry from China, weigh about 40-65 lbs. and 18-22 inches high. The chow- chows look lovable but the most aggressive breed in the world. They were also bred for hunting and helping shepherds.

A breed of German line, Doberman Pinschers weigh about 65-90 lbs. and 26-28 inches in height. Highly loyal and were bred to protect and defend. Alaskan Malamutes, a lineage of North America, weigh approximately 80-110 lbs. with a

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height of 23-28 inches. Basically a friendly dog but can be destructive if not constantly attended to and made to move or play out. A descendent of Siberian region, Huskies are highly energetic and intelligent dogs reaching to a height of 20-24 inches and weighing 35-55 lbs. Boxer dogs of German origin are strong and playful variety. A weight of 50-64 lbs. and height up to 20-25 inches adds to their aggressive looks and strength. German shepherds of German origin weighing 70-85 lbs. and measuring 20-26 inches, a preferred breed for its regular sharp looks, is highly ferocious, fearless and confident breed of dogs. The dogs were a constant companion of human being when it needed to go to the forest areas for hunting for its survival. Hunting dogs helped the human species to defend itself from the fierce wild creatures. As the culture underwent various transformations the hunting dogs were bred to create a variety of small cuddle and lap dogs.

With the lapse of time the dogs colonised the human localities and became a part of human ecosystem as stray dogs, which dominated the scene of urban and rural streets. The stray dogs especially in a country like India are seen to be usually meek, weak, emaciated and hungry lot with the body weight not more than 12-15 lbs. reaching a height of not more than 12-15 inches. Over a time period of last few years the stray dogs have turned out to be stronger and healthier weighing as good as 15-20 lbs., a gain in their average height is quite noticeable as well reaching on the average to 15-20 inches. A marked behavioural change is quite obvious, with the stray dogs moving around in packs, a typical wild character displayed by their line of wolf ancestry. This change could be attributed to domesticated breeds of dogs where people have once again shuffled their choice for wild hunting varieties of dog species. Out of the ten most ferocious breeds of dogs reported by National Geographic approximately maximum of them are being taken as pets by human society. In India with ever increasing population and urbanisation, the number of families with a captive dog is ever increasing and various breeds of wild hunt dogs are a common site in Indian urban and rural homes. These strong and robust dogs are although bred in their own pedigree line for the marketing strategy of kennel houses, do tend to go free and mingle with the local and stray population. Moreover, availability of large amount of waste food from marriage halls which have mushroomed in and around every small and big city and domestic garbage that too finds its dump in open grounds acts as a positive epigenetic factor for this morphological and behavioural change bringing an otherwise dormant wild character to the forefront where flocking together in a group increases the viability of species. Thereby, it can be attributed that because of this mingling of genes solitary stray dogs have acquired a change in their social pattern and tend to stick together in groups and move about the streets in packs, a characteristic of wolves to which they own their lineage, could possibly be a reason of an increasing dog menace and dog bites in Indian cities.

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