

Hello, my name is Ariane Akhand, I'm a first semester senior majoring in Latin and Biology, and I'll be presenting my honors thesis for Latin, "The Roman Dogma of Animal Breeding: "BARK"aeological Findings Reveal the Effects of Selective Pressures on Roman Dogs." Today, I will discuss hunting and herding dogs, guard dogs, and lap dogs in ancient Rome.

Roman dogs were beloved by their masters, to a degree similar to which dogs and owners bond today. Dogs were kept by their masters for varying purposes, and were often kept as hunting dogs, herding dogs, guard dogs, and lap dogs. Each job had various requirements that the dog had to be able to meet. Hunting and herding dogs must be fast, guard dogs must be intimidating, and lap dogs must be small. From these selective pressures, we can see the emergence of different categories of dogs in the ancient world. I say "categories" because they are not necessarily breeds in this case, as the Romans defined their dog breeds based on where a dog originated geographically, and not by traits shared amongst a group of similar dogs. It is commonly accepted that the Romans were the first peoples in Europe to develop the modern forms of selection we use in breeding today.

It is understood that the Romans had many different motivations for keeping dogs. A dog could follow a game animal's trail better than any human could. A dog could spend its entire day keeping watch over a flock of sheep, or its master's home. A dog had teeth, claws, and fast legs; and yet it also had soft fur and playful tendencies. It could be feared by intruders and doted on by its family. The Romans often praised dogs for their loyalty and faithfulness to their masters. They were adored by their owners, as is evident by a common word for pet, *deliciae*.

The majority of existing scholarship explores the roles of dogs in Rome and the views that the Romans had about dogs. Much less exists about the biology or physical and temperamental differences between ancient dogs. I have found that there is very little overlap between the few modern sources that do describe the biology of Roman dogs, and the modern sources that describe the Roman views on dogs. I plan to examine primary literature and archaeological sources from the Italian peninsula during the first century CE in order to compare the specific traits that were desirable in dogs to the specific traits that were observable in dogs, depending on what their individual functions were in Roman society. This work will demonstrate that the selection for certain dog traits in ancient Rome, those traits being adept for certain tasks, affected the actual observed traits in Roman dogs.

The vast majority of classical literature written about dogs was written about hunting dogs. While hunting dogs and herding dogs are similar in that their main task is to chase things, they do differ slightly. Hunting dogs, known as *canes venatici*, are intended to be used to chase game and follow scent trails. Herding dogs, known as *canes pastoralis*, are not intended to chase after sheep and keep them within a flock, as today's herding dogs do. Instead, Roman herding

dogs were kept in order to chase away wolves and other dangerous animals, thus protecting the sheep. In any case, it was very important for these dogs to be fast.

Columella, in his *De Re Rustica*, provides information solely on herding dogs, as he says that hunting dogs will draw a farmer away from his work and make him lazy. Columella advises the reader that the herding dog should be solid white, in order to distinguish the dog from wolves while it is out in the field, and that it should be particularly lean and fast so that it is able to chase other dogs away. He also says that herding dogs, like all working dogs, should have short tails, long fur, and droopy ears. These seemingly insignificant traits were likely sought out in order to help the dog in some way. Long fur may have aided in keeping the dog warm as it worked outside in the winter. These traits also may have been thought to indicate good health in a dog, as Columella does explain that docking a dog's tail prevents rabies. Pliny the Elder makes the same claim in the *Naturalis Historia*.

Columella describes the ideal temperament of the herding dog as well. He says that herding dogs must be loyal, vigilant, cautious, and not prone to wandering. He believes these traits are slightly innate, but dogs require training in order to encourage these behaviors.

Varro's required qualities for herding dogs, illustrated in his *Rerum Rusticarum*, appear to be more suited towards selecting a dog of good health. He advises the farmer to pay attention to the symmetry of the dog's nostrils, the dog's eye color, lip color, teeth, and texture of the paw pads. Then, he says that the herding dog should have a large, muscular body, big paws, a deep bark, and droopy ears. The dog should also be white in color, for the same reason described previously by Columella. He also describes the same loyal temperament that Columella did in *De Re Rustica*.

No similar guides for choosing a hunting dog exist in the Roman world, however, the Romans often read Greek authors, and it is understood that similar dogs existed in ancient Greece as did in ancient Rome. The Greek author Xenophon provides much information about choosing a hunting dog in his *Cynegeticus*. He advises the reader to choose a dog that is not too energetic, as energetic dogs will chase things without being directed, and will be unable to follow a single trail. He also advises the reader to choose a dog that is not too sluggish, as sluggish dogs will not be able to keep up with the game. He wrote that a dog's coat color can indicate their temperament. Very energetic dogs have solid coats, and very sluggish dogs have coats of multiple colors. He recommends choosing a dog with patches to ensure that the dog has a balanced energy level. Of course, he also says that the dog's temperament can be swayed to a degree with training.

Xenophon recommends that all hunting dogs should have short fur, a pointed snout, short ears, and a straight, long tail. He also says that a slender body shape is the best for hunting dogs, as slender dogs are faster than most, and will be able to chase rabbits and other game. He adds, however, that dogs intended to handle bigger game, such as boars, must be bigger and more muscular themselves. He says that these stronger dogs originate in India. Pliny the Elder

confirms this in his *Naturalis Historia*, where he says that the temperature of the air, and the abundance of water allows the animals in India to grow stronger than in most other places. He even claims to have seen an Indian dog kill a lion, and that the Indians at the time were attempting to cross breed this type of dog with a tiger in order to produce an even stronger dog.

Arguably, the most famous hunting dogs in the classical world were those of Actaeon, who was devoured by his own dogs after being turned into a stag, as punishment for seeing the goddess Diana bathe. The krater vase of the Death of Actaeon depicts Actaeon's hunting dogs as slim with short fur. The dogs also have pointed snouts, small upright ears, and thin, long tails. Many ancient statues and figurines depict hunting dogs in the same way; among these are the Acropolis dog, the statue of dogs playing, the figurine of the hunting dog at rest, and the red figure vase painting of the hunting dog scratching. A Roman copy of a Greek statue in the Vatican Museum features the goddess Diana accompanied by a dog with a pointed snout. As Diana is the goddess of the hunt, it is evident that this dog is specifically intended to be a hunting dog, and it fits the profile described by previous authors and displayed in other ancient representations. As this statue is a copy of a Greek original, it can be understood that the Romans were able to recognize Greek dogs. This is unsurprising, as there was much overlap between Greek and Roman dogs in the ancient world. They had similar appearances and held similar jobs.

One hunting dog figurine appears very different from the others. Excavated from north Britain, this dog is small and stout, with wiry fur and a short, curled tail. It looks very similar to our modern terrier. This dog was imported to continental Europe as a hunting dog for its keen sense of smell and was even endorsed by Claudian.

Archaeological records can provide an example of an actual herding dog. Animal bones have largely been tossed aside in archaeological digs in favor of cultural artifacts, but returning to them has proven to be quite beneficial. A set of dog bones dated around 79 CE, excavated in Pompeii in the 18th or 19th century, is believed to belong to a herding dog. All of the dog craniums discovered were classified in the following ways: Dolichocephalic, having a very pointed snout; brachycephalic, having a flat snout; and mesocephalic, being between dolichocephalic and brachycephalic. The dog bodies were classified as following: dolichomorphic, having a height greater than the width, mesomorphic, having a height nearly equal to the width, and brachymorphic, having a height shorter than the width. Based on the cranium size, the excavated herding dog was classified as a middle sized dog. The body type is mesomorphic. The characteristics of the dog's jaws and teeth are unusual, however, as the mandible is longer than is typical for the rows of teeth. This gives the dog an odd snout classification, displaying traits of a dolichocephalic, brachycephalic, and mesocephalic dog all at once.

The artistic depictions of hunting dogs are almost identical to the descriptions provided by Xenophon. All of these dogs have the long body, pointed snout, long tail, and short fur that is

recommended for this type of working dog. I would say that the single set of herding dog remains from Pompeii, the set that possessed an abnormal snout for a dog of its profession, is an anomaly. Because that dog also had the mesomorphic body shape of hunting dogs depicted in Roman art, I am led to believe that its owner attempted to choose a dog with the recommended body type for fast running. This can lead us to the claim that the Romans were particular about selecting for certain traits in these sorts of dogs, namely, a long, slim body and pointed snout. The stout dog from Britannia appears to have become popular in its own region for hunting as well, where it likely experienced selection in a way similar to the other hunting dogs and thus produced its own unique traits. The Romans succeeded in applying a great deal of selective pressure, as evidence for herding and hunting dogs with bodies outside of their set parameters are few and far between.

No information about the temperament of actual Roman hunting dogs has come to surface. I imagine that their temperaments would have lined up with the parameters set by Xenophon, as a hunting dog would be fairly unsuccessful without the discipline and focus that he emphasized. The Romans most likely would have trained their dogs as well, rather than relying on the dog's innate behaviors.

Guard dogs, known as *canes villatici*, were often kept both on farmlands and in urban areas. These dogs were typically chained at the entrance of the house during the daytime, and let free at night. Cato the Elder writes in his *De Agri Cultura* that keeping a dog chained in the daytime will make it more watchful and alert when it is unchained. Guard dogs were required to be fairly large, in order to intimidate intruders properly, and also to attack them if need be. A well known breed of dog used for guarding the house is the Molossian, a statue of which is shown here. As seen in the statue, this dog was much too big to be a lap dog, and not lean enough to be a successful hunting or herding dog.

Columella describes the ideal guard dog as having a large head, a broad chest, large paws, a short tail, droopy ears, and long fur. The guard dog should also be very large. It can be assumed that the long fur is a requirement in order to help make the dog appear larger than it is. Columella even advises the reader on the ideal temperament for the dog: not too friendly and not too savage. If the dog is too friendly, then it will welcome intruders. If the dog is too savage, then it will attack members of the household. These dogs should also be relatively quiet, and only bark if given a good reason to. Once again, Columella assures the reader that even if their dog does not possess all of these temperamental qualities right away, the dog is still able to be trained to have them. He goes on to say that the dog's speed is not a factor, because ideally, the dog will never travel very far from the farmhouse and enclosures. The dog can smell intruders from afar, and bark at them to scare them away, or attack them if they get too close to the property. The dog's first task is to not be attacked, and its second task is to attack if provoked.

Varro's described indicators of health for the herding dog carry over to the guard dog, though he, like Columella, advises that the guard dog should be substantially larger and more muscular than the herding dog, both to intimidate and attack intruders successfully.

Of course, the famous "*Cave Canum*" mosaic in the House of the Tragic Poet in Pompeii, features a guard dog. This dog is represented as chained, just as was prescribed for guard dogs. The dog's body is muscular and mostly black, and it has a short tail and short, bristly fur. The eruption of Mount Vesuvius has led to the preservation of many houses in Pompeii, many of which feature similar guard dog mosaics in their entryways. A few of these mosaics can be seen here. All of these dogs have muscular bodies, black fur, short tails, and upright ears. The statue of the Molossian is likely the image of a guard dog as well, this one having very similar characteristics to the guard dogs before it, the only difference being its droopy ears. It should be noted that Columella actually prescribed guard dogs to have droopy ears, so it is notable that very few depictions of guard dogs have this trait.

The cast of the dog having died in the eruption of Mount Vesuvius is also believed to have been that of a guard dog, as it was collared and chained in front of the entrance to the house, as a guard dog would have been. However, this dog appears to be rather slender compared to the mosaic guard dogs. This dog's body is similar to how hunting dogs have been described and depicted, as well as shorter than was prescribed, standing at nineteen inches. It also appears to have short fur, although, I am unsure if the dog actually had short fur in life, or if its long fur was merely flattened down by the ash.

The previously mentioned dog remains from the first century Pompeii are also thought to yield two guard dogs. These dogs were fairly large in life, with shoulder heights of 634 mm and 576 - 608 mm. No information is given about the cranium shapes that may classify the dogs further.

The majority of recommended guard dog features are reflected in artistic depictions of guard dogs. Most of the dogs are either mostly or entirely black, fairly large, and have short tails. The only trait that frequently differs from the recommendations is the length of the dogs' fur. All of the surviving depictions of guard dogs have short fur, whereas in Roman literature, it is prescribed to have long haired guard dogs, so as to make them appear larger to intruders. A possible explanation for this could be that the Romans simply valued other characteristics in guard dogs over the length of their fur, or, since there are no depictions of guard dogs with long fur at all, they actually disagreed with what the experts recommended for fur length. Long fur would have been more difficult to care for, after all.

Smaller dogs were primarily kept for pleasure in ancient Rome. Lap dogs were very popular as pets. These little dogs were the delights of their owners because of their attractiveness and charm. A known breed of lap dog was the Melitean, originating from the island of Malta.

Most accounts of these lap dogs describe them as having long fur, a pointed snout, and a squeaky bark. Meliteans were also often given to travelers as presents to keep them company on their long journeys. Pliny the Elder even claims that a Melitean will relieve one of their pain when placed on the sufferer's stomach.

No Roman literature providing the guidelines of the ideal characteristics of a lap dog has been discovered. It is likely that since this dog did not hold a high stakes position in its owner's household, little scrutiny was placed upon its traits. Of course, the qualities that indicate good health, such as bright eyes and strong teeth, as described by Columella and Varro, likely would have been taken into consideration when selecting a lap dog. We do have much surviving literature describing various lap dogs in Roman life, as well as many vase paintings, statues, and frescoes depicting them.

Most of the recovered depictions of lap dogs feature them with a pointed snout and pointed ears. A Greek red figure vase from the National Museum in Copenhagen depicts a boy accompanied by a small dog, likely a lap dog. This dog has the characteristic pointed snout and ears, but appears to have short fur and a curled tail. This Greek vase shows a man walking with a Melitean dog, which were often kept as lap dogs in Rome. The Melitean has long fur, a pointed snout, upright ears, and a long tail. This tomb from fourth century BCE Attica is dedicated to a young girl, Melisto. The tomb features the girl playing with a dog, likely a lap dog. This dog is small in stature, and has a pointed snout, long fur, a curled tail, and floppy ears. This tomb did not contain any dog bones, but, as discussed below, dog bones have been recovered elsewhere.

The first century Pompeii remains mentioned previously can offer some more information about the appearances of real Roman lap dogs. The excavated remains contained three small sized dogs, thought to have been lap dogs. One of these dogs was dolichocephalic, another was brachycephalic, and the last was unable to be classified by cranium shape. We do not need to rely on archaeological evidence for the appearances of Roman lap dogs, however, as many authors chose to write about them and thus have provided us with the key characteristics of the little dogs.

Martial's epigram 1.109 is a satirical poem about a friend's lap dog, named Issa. Issa's name is a sort of "baby talk" for the Latin word *ipsa* and can be translated as Missy, for full immersion in the poem. In this poem, he exaggerates Issa's characteristics, but from it, we can gain some insight into Issa's basic physical traits, as well as how she was perceived by the world around her.

From this, we can note Issa's small stature, as she must be picked up from the bed and placed down to go to the bathroom. Martial also describes her as being spoiled, as everyone who meets her dotes on her, despite the words *nequior* and *queritur* also being attributed to her. This suggests that the temperament of lap dogs was not quite as rigidly enforced to be as vigilant, quiet, or cautious as the temperaments of the dogs discussed previously. It is likely that this

“naughty” lap dog temperament remained through a lack of training, and was possibly encouraged by rewarding the dog with pets and praise often when it misbehaved, as the misbehaviors may have been seen as much more appealing when done by a lap dog than if they had been done by a larger dog.

The notion that lap dogs were spoiled in Rome is further evidenced by archaeological findings. Upon analyzing recovered dog bones from the Mediterranean, it can be concluded that smaller dogs in Rome received more intense care from their owners than larger dogs did. An excavated lap dog in Carthage was found to have many health problems, including osteoarthritis, dislocation of the right femur, and spondylosis deformans. However, the advanced stages of bone growth, deformation, and regrowth suggest that this dog lived a very active, mobile, and long life despite its health problems. This dog had also lost most of its teeth before its death, and the teeth remaining upon excavation had a very thick buildup of tartar, as can be seen here. The dog was likely unable to chew its food due to its lack of teeth, and the lack of chewing meant that tartar was not routinely being disrupted, allowing it to build up to such a degree. Modern veterinary data support the claim that dogs whose diets are comprised mainly of soft foods or table scraps have more advanced tartar buildup than dogs whose diets are composed of hard foods. While this dog could have had a diet of bread, milk, whey, and broth, as was advised by Roman authors of farming guides, the stable nitrogen isotope figures obtained from the dog’s bones indicate that its diet was mostly meat. This leads us to the conclusion that the dog’s owners mashed up its food before feeding it, and they likely did this for many years before the dog’s death. This indicates that very much effort was put into the care of this dog. Perhaps Martial’s exaggeration of pampered Issa is closer to the truth than initially thought.

The bones of smaller dogs were also found to have sustained more injuries overall than the bones of larger dogs. It is suggested that these injuries are due to the temperament of the smaller dog; a temperament of having more energy than other dogs. This idea also aligns with Martial’s depiction of Issa, as even though she is comically portrayed as an overly polite dog, he also notes that she frequently gets into trouble, being *nequior*.

Little information is provided by Roman authors about how the ideal lap dog should appear and behave. Some may argue that Martial provides the description of the dainty, polite, adorable lap dog that one should seek, but I believe that Martial’s Issa is merely a reaction to his observation of how people around him were treating their lap dogs. Nevertheless, I do feel that there is merit in his interpretation of Issa’s temperament, as archaeological records have shown that smaller dogs such as Issa would have had more energy than other dogs, and their owners likely would have been more lax with them than they would have been with dogs that were less physically appealing.

Roman lap dogs are often compared to the Maltese by modern historians. However, most depictions and remains of Roman lap dogs are dolichocephalic, having a very pointed snout, rather than the relatively flatter face of the mesocephalic Maltese. This pointed face and their

small stature appear to be the staples of Roman lap dogs. Despite the commonalities between depictions of lap dogs, many variations are also present. Lap dogs are shown to have different tail lengths and shapes, fur lengths, and ear shapes.

Due to the observed variety in lap dog traits as are shown in Roman art, it can be concluded that there was little selective pressure on the lap dog, apart from their size, head shape, and possibly their color. These dogs were bred for entertainment, and their owners did not depend on them for food, money, or safety as they would have with working dogs, so it is not unreasonable to think that there was less rigidity in selecting for their traits. Also, because these lap dogs were for personal enjoyment, it is likely that traits were selected based on an individual's preference at a litter by litter basis, yielding a higher diversity in traits overall.

It has been shown that the Roman preferences for certain dog traits, as they varied based on the dog's purpose, did play a role in the expression of those traits observed in dogs. However, this relationship between preferred and observed traits is evident in different degrees, depending on the type of dog.

The hunting and herding dogs were found to have been strongly influenced in their traits by the Roman preferences for certain characteristics. The ideal traits for hunting and herding dogs were very specific: those traits being a slim body, pointed snout, long tail, and even temperament. All of these traits were observed in archaeological records and artistic depictions of these dogs, with the exception being the hunting dog from north Britain, bred to be shorter and have a different body shape, but an extremely acute sense of smell. It is not surprising that the observed hunting and herding dog traits followed the recommendations for dogs so closely, as anything too far outside of the set parameters would yield an unsuccessful working dog.

The guard dogs were found to have been influenced in their traits by Roman preferences as well, but not quite to the degree that the hunting and herding dogs were. The guard dogs were recommended to be very large and muscular, dark in color, and have short tails. These traits were observed in nearly all archaeological records and artistic depictions of these dogs, however, a steady contradiction was also present. None of the observed dogs had the long fur that was prescribed. It is possible that the selection process was less rigorous for guard dogs, as the Romans likely would have made trade offs for other traits, such as choosing a stronger dog over a dog with longer fur.

Roman preferences were found to have little influence over the traits of lap dogs. This can be concluded from the sheer variety that is present in their depictions and remains. The only constants are their small size and pointed snout. There are no recommendations for selecting a lap dog in known Roman literature, so it is likely that this variety is due to individual owners choosing a dog based on their own personal preferences for how the dog should look and behave. As the lap dog was a personal animal and not a working animal, the Romans would have had more freedom in selecting a lap dog than in selecting a herding, hunting, or guard dog.



Thank you for listening, have a great day!