

Characteristics and Conformation of Domestic Cats and Cougars Compared

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Abstract

In the East, people are confusing housecats (Felis silvestris catus) with cougars (Puma concolor). The excitement of the event may easily distort the perception of size at a distance. Magnification through the use of optics can further enhance a size misconception, particularly if the cat is black. If size to the naked eye is illusionary, then one must resort to other characters, such as proportions and behavior, for distinguishing housecats from cougars. This paper compares the relative proportions, shape and carriage of the head, neck, ears, tail, and feet of the two species.

Key Words

body proportions, cougar, Felis silvestris catus, house cat, identification of cat species, Puma concolor, tail carriage.

Introduction

In the East, people are confusing housecats with cougars. The excitement of the event may easily distort the perception of size at a distance. Magnification through the use of optics can further enhance a size misconception, particularly if the cat is black. If size is illusionary, then one must resort to other characters, such as proportions and behavior, for distinguishing housecats from cougars. This paper will compare the two cat species.

Equipment and Methods of Study

The following equipment was used in the conformation analysis of cougars and housecats: a 35mm SLR with a 100-200mm zoom telephoto lens, slide projector and screen.

The simplest method is to study color photographs in various publications about cougars (Dutcher 1992; Fox 1974; Grambo 1999; Hansen 1992; McCall and Dutcher 1992; Savage 1993; Tinsley 1987). Although the photographs are excellent, they seldom show exactly the desired posture or behavior. For a study of cougar movements, the following videos by Disney Enterprises, Inc. were studied in detail: Charlie, The Lonesome Cougar and The Legend of Cougar Canyon. A third video published by NATURE, The Trail of the Cougar, was viewed. And lastly, Marty Stauffer's Predators of North America was viewed.

I visited various zoos and menageries that kept cougars. I took slide photographs of various poses and behaviors, and later studied them in detail on a screen, using two projectors to enhance comparative studies. Conversations with the keepers corroborated any observations and answered all questions. The zoos included: Space Farm Zoo in Beamerville, NJ, owned by Ralph Space; The Pocono Rattlesnake and Animal Farm in Marshall's Creek, PA, owned by John Lowris; Claws & Paws in Hamlin, PA, owned by

Vince Hall; and Cooper's Rock Mountain Lion Sanctuary near Bruceton Mills, WV, owned by Mark Jenkins.

There are numerous breeds and variations of the domestic cat, so it difficult to pinpoint characters that are found exclusively in that species. To limit parameters of variation, only the forms most likely to be found in feral and free-ranging cats will be discussed--short haired varieties including the American Short Hair (ASH), European Short Hair (ESH), and Oriental Short Hair (OSH).

OSHS are very slender cats whose features are elongated and angular, and believed to be of tropical origin. They would not survive our cold winters, and are not among the feral domestic cats.

ESHs are are muscular, compact, heavy-bodied cats with short rounded faces. They are bred to have a large, broad head with almost no neck attached to a large globose body. ASHs are similar to ESHs, but have somewhat longer legs and thinner tails. It is difficult to distinguish between them.

Comparison of Cougars with European and American Short-Haired Housecats

Head, Neck and Ears: The head of the cougar, although larger than the housecat's, is smaller in proportion to the overall body size. The cougar's head is oval, whereas, the housecat's is globose. The muzzle of the cougar is truncated and squared with a prominent chin. The housecat chin is small, making the muzzle appear tapered. The shortness of the muzzle enhances the globose shape of its head (Figure 1).

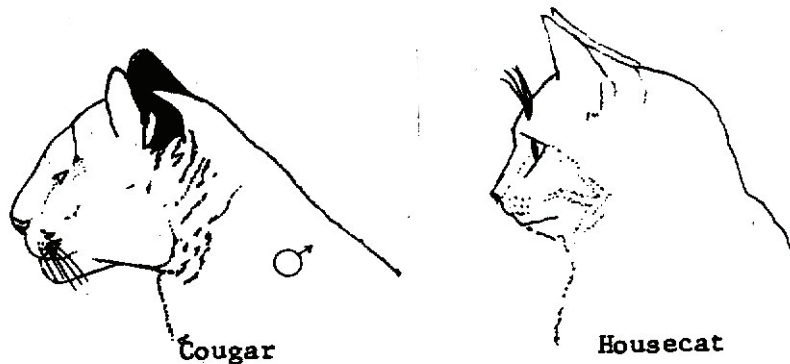


Figure 1. Head profiles of cougar and housecat.

The cougar's neck is long. It may appear as long as the head, or slightly less, and it is obvious in the cat's profile. The housecat's neck is only about half the length of the head and is quite inconspicuous in the housecat's profile.

Housecat ears are variable in size and shape. Many of the breed standards stress bigger ears. One breed has folded ears, and another has looped. But in proportion to the

size of the head, the housecat's ears are larger, more pointed, and closer together than the cougars (Figure 2).

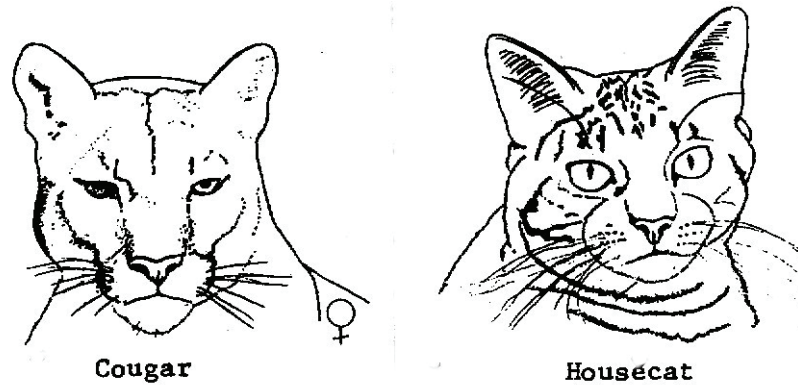


Figure 2. Comparison of ear shape.

Figure 3 shows a cougar and a housecat drawn to equal sizes to enhance their proportional differences. Note that the housecat has a larger head, shorter neck, and shorter tail. Dr. Fred Scott from Acadia University, Nova Scotia has come upon a method of measuring head to body proportions that seem successful in eliminating doubt between cougars and housecats. In his soon-to-be published paper (Scott in preparation), he applies numerical values to the proportional differences.

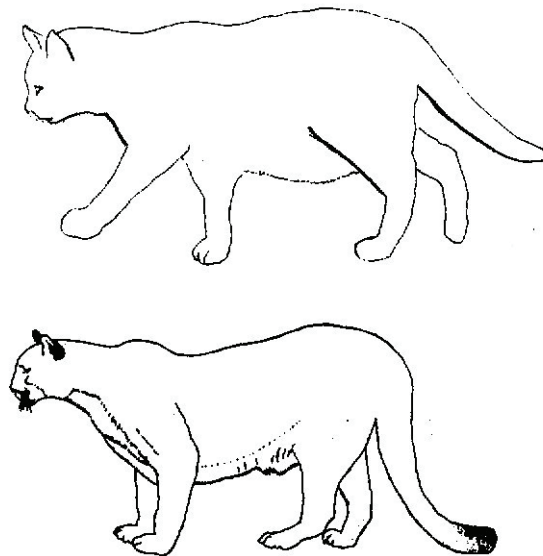


Figure 3. Head, body, and tail proportions of a housecat and a cougar. The drawings have been placed vertically to emphasize the proportional differences between the two cats. Also note differences of tail postures.

Tail Length and Carriage: The tail is second only to the head as an identifying character. There is so much to be said about cat tails, but in the case of cougars, not all of it can be completely verified in the wild due to their covert habits.

Proportions: Having access to two cooperative cougars and several housecats, I was able to obtain some body and tail measurements. These measurements were taken on living animals and are not the standard measurements taken on dead specimens destined for museum collections. From nose to tip of tail, one cougar was 85 inches, and the other was 78 inches. In both, the tails were 41% of the total length. There was a copious supply of pet housecats, but they did not like being measured. Ten were sampled. Their tail lengths averaged 36 to 37%. The cougar's tail is long enough to easily reach the ground with a slight excess. Since the housecat's tail equals its shoulder height, its tail tip barely extends to the ground. Obviously, the cougar's tail is proportionately longer.

Shape: The shape of the housecat tail is usually tapered to a long slender point, which becomes less evident as the hair length increases. The cougar tail is blunt with or without a strong upward terminal curl depending on its mood. The cougar tail tip does not taper to a slender point.

Posture: The most flexible tail joint for both cats is the basal tail joint. The distal joints are, in comparison, only moderately flexible, slightly more so in the vertical axis than in the horizontal. However, the cougar's terminal tail joints show a slight degree more flexibility. In leopards, the flexible tail joint is used for grasping to a minor extent. No one has ever reported if the cougar, which frequently climbs trees, can use the end of its tail in the same manner. Brock (1968) witnessed many times that his pet cougar was superior to his pet ocelot in the trees.

It has never been reported that cougars WALK (as opposed to running and jumping) with perpendicularly erect tails like housecats often do. It is difficult to prove *never* for it takes only one instance to disprove never. But four people whom I consulted who have kept cougars for many years have never witnessed this behavior. Their tails may appear to be pseudo-erect during running and jumping, but never during walking or standing. A perpendicularly erect tail is one whose tail base joint forms a ninety-degree angle with the sacrum. A pseudo-erect tail may appear upright distally, but the basal angle is much less than ninety degrees so that the tail curves gradually upwards until it is perpendicular distally. Generally, housecats walk with their tails above the horizontal to perpendicular. Cougars generally walk with their tails held below the horizontal (Figure 4). Only on very rare occasions will it be carried horizontally while walking. Greeting behavior would most likely induce this posture (Figure 5). I observed pseudo-erect tail postures in the videos only for less than a second.

Housecats often walk with their tails erect. Cougars never do. According to Fox (1974), this posture is assumed during greeting in housecats. Whenever one is stroked, it always raises its tail in acceptance. Their basal joints are so flexible that their tails can be pulled forward to almost lie on their spines. A housecat never walks with its tail almost

dragging on the ground. Cougars often do this. The cougar tail base may only rise up to 45 degrees above the horizontal.

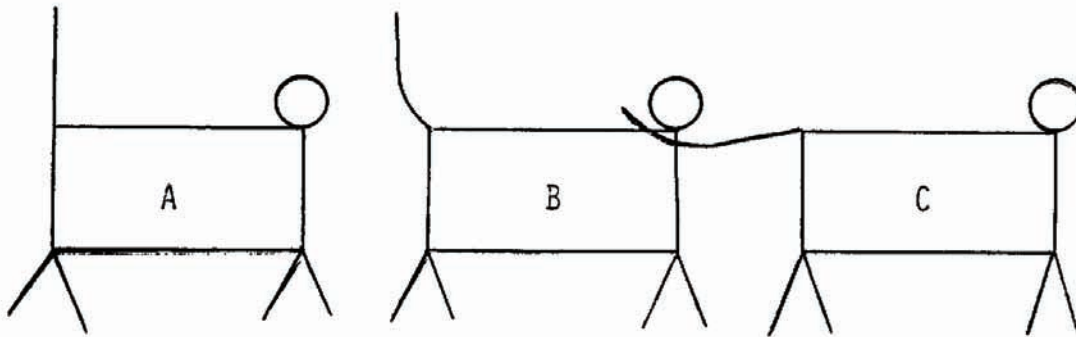


Figure 4. Tail Postures.

A) Perpendicularly Erect Tail: The tail base makes a right angle with the sacrum. This is seen only in housecats in North America.

B) Pseudo-erect Tail: The tail base is at a 45° angle with the sacrum. Cougars can only maintain this posture momentarily while running and jumping. It has never been observed during walking and standing.

C) Tail-up posture in a walking cougar. This may be observed in cougars expressing joy or greeting.



Figure 5. Cougars with Raised Tails. Photographs reproduced with the permission of Lynn Culver.

A) Two cougars displaying raised tails. These two cougars, Mercury and Tara, are kept in a five-acre enclosure. When their master enters, the cougars run up to greet him with raised tails. They are probably anticipating being fed. Raised tails are expressions of greeting and joy.



B) Tail up behavior during greeting. A cougar being hugged by its owner raises its tail. The elevation is never very high above the horizontal.

The two cat species display two different walking postures. Cougars walk with their spines straight or sagging downwards. Housecats mostly walk with their spines arched upwards (Figure 3). This is also carried over into their sitting postures. When housecats sit with their tails pointing straight back, their spines are strongly arched, almost to a right angle, and the tails make a right angle with the sacrum and the ground. When cougars sit with tails pointing straight back, the spine is almost straight and the tail makes a 135-degree angle with the sacrum and the ground (Figure 6). The McKenzie Taxidermy Supply Catalog (2005) illustrates two foam body forms demonstrating sitting postures -- both are straight-spined. What posture would the cougar's spine take should it sit with its tail curled forward? I have not observed this.

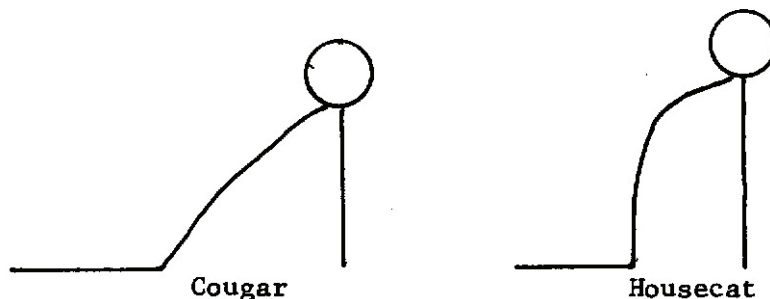


Figure 6. Diagram of Sitting Postures. If the two cats sit with their tails extended straight back, the cougar sits with an almost straight spine with a 135° angle between the tail and spine. The housecat sits with an arched spine with a 90° angle between tail and spine.

Feet: Another thing to observe is the size of the feet. Housecats have little feet in proportion to their body sizes. The wild cats of North America all have large feet. At a distance, this may be difficult to discern. In housecats, the width of the front paw is less than half of the facial width. In the cougars, the paws are large and the width is greater than half the facial width, measuring between the outer ear attachments (Figure 7).

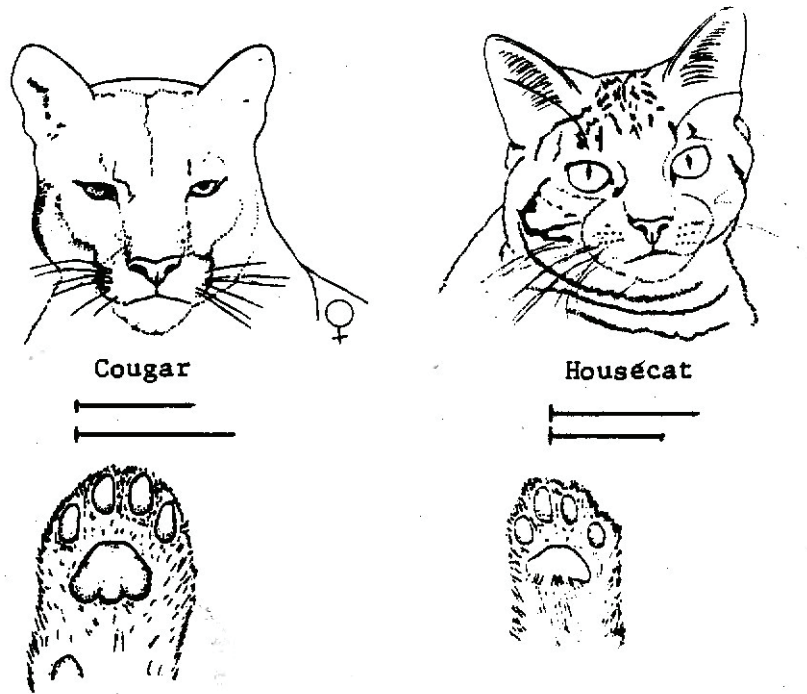


Figure 7. Feet and Facial Widths. The top lines between the faces and paws represent half the facial widths. The lower lines represent the widths of the paws. In wild cats, the feet are wider than half the facial widths.

Summary

ESH and ASH housecats are distinguished from cougars by the following features: shorter, rounded heads with almost no necks; pointed ears; short, tapered muzzles; faces with abrupt changes in incline between the nose and forehead; upwardly arched spines; and a shorter tail usually tapering to a point.

In comparison to the housecat, the cougar is a long slender cat with a small head and long neck. It walks with a slight sag in its spine while carrying its tail low. It lacks the ability to hold its tail perpendicularly erect even while urinating. The housecat is a chunky bodied cat with a proportionately large head and short neck, walks with an arched spine, and carries its tail well above the ground. It often walks with a perpendicularly erect tail. It is the only free roaming cat in North America that does this.

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