

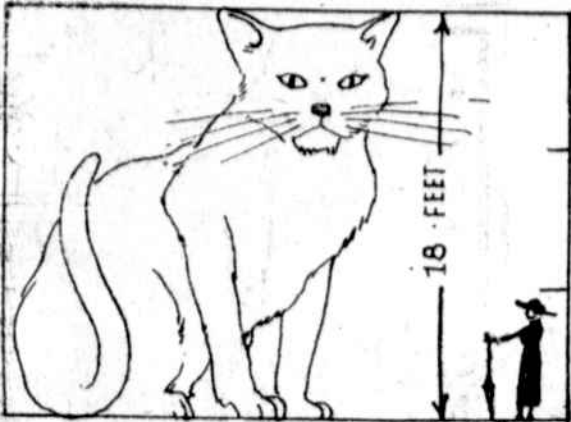
# Science Finds the Father of the Cat— 15,000,000 Years Old

A Complete Reconstruction of the Ceratosaurus, the Ancestor of the Cats, Made After Five Years' Work Upon Fossil Remains, and Now in the National Museum at Washington. In the Corner is Seen the Tarsius, Who Looks Somewhat as Our Ancestors of Five Million Years Ago Did. The Two Pictures Show the Comparative Size of the Cat's Forefather and Man's.



## How the Gentle Little House-Cat Grew Down from a Vicious, Predatory Monster

### While Our Tiny, Tailed and Furry Ancestors Were Growing Up Into Men and Women



How the Prehistoric Cat Was a Monster 18 Feet Tall While the Ancestors of Man Were Only Pygmies.

By Dr. W. H. Ballou.

THE remote ancestor of all the gentle little house cats, fence-roaming Toms, vociferous barnyard Romeos, blue-ribbon winners, and just cats—has been found petrified out in Colorado. He is fifteen million years old and so the kind of petrification is at once made plain. A five-year study of him and the evidence that he carried about with him of his habits recalls the opening lines of Langdon Smith's great poem, "Evolution":

When you were a tadpole and I was a fish, in the Paleozoic time,  
And side by side on the ebbing tide  
We sprawled through the ooze and slime,  
Or skittered with many a caudal flip  
Through the depths of the Cambrian fen,  
My heart was rife with the joy of life,  
For I loved you even then.

It recalls them because during the ages between the time that the petrified Colorado Tom roamed about Colorado and today when his furry descendants sit so contentedly at his or her charming mistress's feet, a change has occurred between cat and man as great as between the tadpole and fish of Langdon Smith's poem and man and woman.

In those days of the ancestor of the cats was a dinosaur, about 25 feet long and 12 feet high. Science has christened him Ceratosaurus, with the accent on the rat. It looked exactly like the reconstruction shown on this page, and it was about the fiercest, most cantankerous and devilish creature of its time—and that time was one which contained no striking examples of meekness or gentleness of any kind. The ancestor of man just then was kept busy keeping out of its way. Just what our ancestor looked like fifteen million years ago we do not know.

But five million years ago he was, evolutionists believe, somewhat like the little Tarsius whose picture you see at the top of the page in its exact proportions as compared with the first cat.

In the meantime, during the ten million years that had passed Ceratosaurus had haggled down through a long line of descendants most of his skeleton. He had changed into a ferocious cat to which science has given the name Oxyaena Lupina, because of the hyena and wolf-like lines of its body. This great feline, the first large carnivore of which we have fossil knowledge, contained all the ferocity of its dinosaur ancestor, and it was lucky for man that his ancestor was then as small and as quick as he was and could climb trees, because he would never have been able to battle with this beast. But the tailed fathers of man were then prowling around, mostly at night, and feeding on insects. This night habit and diminutive size kept them fairly safe from battles with such monsters.

Nevertheless, during this time there was inculcated in him a wholesome fear of the big carnivores, as well as the great snakes which he encountered in the trees, and this fear he handed down to his successors, so that when several lines of men and apes radiated from him fear of the cats and snakes was well established. The Oxyaena had, by the way, almost the dinosaur tail—that is, it was large where it joined the body, and his skull was much

nearer the reptile than is the cranium of modern cats. Also, by the way, the cat skull is the closest approach to the reptile skull of any of the mammals.

How, most people will ask, was this creature finally domesticated and made more or less the slave of man? Without going into the curious character of the cat, which makes it the most independent of our so-called pets, and evidence that it never was really tamed, but is still an absolutely wild creature which has cultivated enough sense to make believe that it is a pet, let me say that Cope, the great American paleontologist, considered this same question a real problem.

"How was it possible," he would often ask, "for our forefathers to domesticate and reduce in size so ferocious an animal as is the cat in its natural wilds?"

"Fear of cats," wrote the late Dr. Weir Mitchell, the distinguished neurologist, "is as inherent in the human race as fear of snakes."

Doctor Mitchell's monograph upon that most curious phenomenon known as "cat fear" is a classic. This "cat fear" is a remarkable idiosyncrasy of some people which enables them to know that a cat has been near even though twenty-four hours have passed. They can sense the presence of cats although unseen. The violent symptoms of "cat fear" are extreme nausea, cold perspiration, goose flesh and palpitation of the heart. These are all symptoms of the emotion called fear.

Doctor Mitchell found that all this was due to an effluvium, or odor, from the cat indistinguishable to most people, but recognized by those who were victims of cat fear. This effluvium is never recognized as an odor as such. The perception of it is shown by the curious physiological symptoms described.

It is legitimate to wonder if this effluvium is not a ghost of the dinosaur ancestor, and whether in it we have a survival reaching across millions of years, but so attenuated that a sensitivity as peculiar and perhaps as atavistic is necessary to prevent it.



Who Would Think That This Charming Lady and the Pretty Tabby She Holds Came Straight Down from the Two Curious Creatures Shown at the Top of This Page? But That Is Just What Evolutionists Say Happened.

size, of plaster or papier mache, exactly as the animal looked in life.

Don't imagine that restoration of a reptile that has been dead fifteen or twenty million years can be done in the same time or way that a sculptor would proceed to make a statue from life. In the first place, one may have to excavate for years and over a large area to get the other bones that go with the skull found in the first instance. Even parts of the skull may be widely separated. One must be sure not to mix any of the bones of other extinct species with those one is trying to put together.

Also, the bones have been hardened like concrete by thousands of tons of pressure of rocks during millions of years. If in the end all of the bones have not been found and separated from the matrix of rock other skeletons of the same species must be found or, at least, parts of them, to see what the missing bones look like and how they were joined to each other. If, finally, any parts are still missing, you must sketch and fill in these by use of your best wits, shading such substitution so that all may know which was found and which was imagined.

Dr. Gilmore tells us that he has restored a "fairly complete articulated skeleton," meaning that the bones were joined as in nature, and that they were found in the Upper Jurassic rocks in Garden Park, Colorado.

He would not tell you that Ceratosaurus was the ancestor of modern ferocious cats,

The Ancestor of the Cats Five Million Years Ago When It Had Grown Fur and Had Undergone Certain Other Changes. The Dinosaur Tail Is Still Evident. This is from a Painting by the Famous Painter Charles R. Knight, Just Completed for the American Museum of Natural History in New York City. The Primitive Cat Is Shown Devouring One of the Small Ancestors of All the Horses.



The First Cat to Be Domesticated, the Brazilian Form, Which Was a Hunting Pet of the Men of Half a Million Years Ago.

but he goes on and models his dinosaur in such an attitude that with a few touches it could be converted into a modern puma, or panther, devouring its prey. And as you work out the technique of his scientific description of the reptile into plain English you know that you have been studying the first attempts of nature to erect a cat.

Note that the tail of Ceratosaurus is very large at the very end, that the body tapers into it, instead of its being attached to the body in appearance, as in modern animals. The modification of his tail alone would require several millions of years. What was left of his snout horn was probably inherited from Tetraceratops, a small horned pre-reptile of a group called Pelycosaur, of the Permian-Carboniferous era, millions of years before his time. These were water animals, carnivores that needed a horn on the snout to dive under their prey and ram it. They at last got out on land where flesh was to be had for the taking with their sharp teeth and claws. The horn became a nuisance and some lines of their descendants worked to get rid of it. Ceratosaurus was on this line. He had the largest brain of all dinosaurs, big enough to vision prowling in wood and field on four legs with ability to capture fleet animals and devour them.

Food had much to do with the evolutionary modifications by which the reptiles of the past merged into the animals of the present day. Sexual attraction, however, was an even more potent factor. Every animal that exists, male and female, from the lordly lion down to the crawling snake, prinks up to the best of its ability to please the eye of its mate. Thus the goldfish was tickled to death when the Japanese succeeded in making him several gorgeous tails in place of one. What has been done for the stallion with a curry-comb and clippers he has utilized to increase his speed and hence his beauty

in the eye of his mates. You might say that the domestic porker does not prink up. That is because it is fed and fattened to infinite laziness. The wild hog, even our razor-back, prinks up just like other mammals in its forest fastnesses.

Ceratosaurus got his name because he was a lizard with ceratin, or horn-like substance on the top of his nose. He was also a typical Theropod, because he walked on his toes. He had short fore legs and long hind legs and sharp cutting teeth. These are characteristics of many mammals today. The longer the hind legs of a horse the weightier his kick and the more his pushing power behind for speed. The long hind legs of the kangaroo make for his sixty miles an hour. Our savage cats, same as Ceratosaurus, specialize in shorter, stouter fore legs to give weight to a blow of a paw, and longer hind legs with more massive hips to hit the ground more firmly, dig in with the claws and push harder in bursts of speed of pursuit or for safety.

In 1907 Charles E. Fitch, walking on his brother's ranch near Canon City, Colorado, stumbled on what he supposed was a section of a petrified tree at the base of a high sandstone cliff. The find was placed on exhibition at a local newspaper office. Professor Mudge, then State Geologist of Kansas, later visiting there, saw the specimen and recognized in it a portion of a thigh bone of some gigantic prehistoric reptile. The late Professor O. C. Marsh, of Yale, was notified and made a quick trip to Canon City.

It took eight years to rather enough of the rest of the skeleton to make a recognizable reptile—hard work at that. On such material as could be got together Marsh was able to set up a new family of dinosaurs, which he called Ceratosauridae, a new genus which he termed Ceratosaurus, and a new species which he named Nasricornis. Later, Marsh died before the full fruits of his work could be realized.

It was not until 1915 that a nearly complete skeleton of Ceratosaurus was received at the National Museum in Washington. The World War was on and men of science were drafted into research councils. So, it was exactly September 15,

1920, before Dr. Gilmore was able to show the world a near perfect mounted skeleton, accompanied by a life-size model of the reptile as he undoubtedly looked and acted in life.

Ceratosaurus reptiles ranged from 15 to 25 feet in length. The type skeleton is 22 feet long and 12 feet high. As a carnivore its particular prey is believed to have been the herbivorous dinosaur, Claosaurus, which had numerous teeth by which it could strip, macerate and devour soft vegetation. These dinosaurs had a known range of some 800 miles along the eastern slope of the Rockies, but later finds of fossils may extend it. Professor Marsh stated:

"The skull was very large in proportion to the rest of the skeleton, the back part being most elevated and widest. The face was long, tapering gradually to the muzzle. Seen from above, it resembled that of a crocodile in outline." Marsh thought the reptile had a large, long, sharp horn on top of the nose. Gilmore, however, in his life-like restoration, shows merely a hump, or, rather, a vestige, as if the reptile, scornful its use as a weapon, was trying to discard it altogether, exactly what his successors and assigns achieved.

Marsh found that Ceratosaurus had the largest brain case, proportionately, of all carnivorous dinosaurs, "far exceeding those of herbivorous dinosaurs." This is exactly what was repeated when mammals arrived. The cat family are the brainiest of mammals.

Our bay esters are generally rather stupid, excepting the horse—some horses—like their ancestral first herbivorous reptiles.

Ceratosaurus did much for the teeth of modern felines. He or his forefathers worked at a reduction in their number. The result was two rows of sharp-cutting teeth, fifteen to each row. In addition there were three functional teeth, lying detached between the jaws. The front teeth were robust and recurved, the others diminishing in size backwards. In my opinion the functional teeth were the same as we see in snakes and sharks, that is, teeth that form behind, then push forward and take the place of those destroyed in front.