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FROM A MILITARY EXPEDITION TO THE CABINET OF KING LOUIS XV
The amazing story about the birth of vertebrate paleontology in North America

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ABSTRACT

The French and Indian War confronting the North American colonies of the British Empire against those of the French, each side being supported by various Native American tribes, began with a dispute over control of the Forks of Ohio river. Some events that occurred in the summer of 1739 in this river, led to the birth of American vertebrate paleontology. In June of that year the major of Montreal Charles Le Moyne, Second Baron de Longueuil, was sent in a military expedition to aid the French colony of Mississippi, to repel the pro-British Chickasaw Indians who were besieging the area and blockading the Mississippi. During a stop of this military expedition along the lower Ohio River, a party of Abenaki Indian hunters' canoes went out searching for food to fed the army, camped along the river. When they arrived back, the Indians unloaded a strange cargo of an enormous fossilized femur, several huge molars, and a great ivory tusk. Later, and recognizing the importance of these fossils, Longueuil sailed crossing the Atlantic to France, reaching Paris in late 1740. The fossils were placed in Louis XV's cabinet of curiosities (*du cabinet du Roi*), under the direction of French naturalist Count Buffon and Louis Daubenton. A few years later, the fossils collected from the Ohio River by the unnamed Indian hunters in Longueuil's army, made scientific history, becoming the first American fossils ever studied by scientists, marking the official birth of the American vertebrate paleontology. Today, these famous fossils, belonging to *Mammut americanum* are still preserved in the collection of the Paleontology Laboratory at the National Museum of Natural History in Paris.

RESUMEN

De una expedición militar, al gabinete del rey Luis XV
La Increíble Historia del Nacimiento de la Paleontología de Vertebrados en Norteamérica

La guerra franco-indígena que enfrentó a las colonias norteamericanas del Imperio Británico contra las francesas, contó el apoyo de diversas tribus nativas americanas, comenzando de esta manera una disputa por el control del río Ohio. Acontecimientos ocurridos en el verano de 1739 en dicho río, propiciaron el nacimiento de la paleontología de vertebrados norteamericana. En junio de ese año, el alcalde de Montreal, Charles Le Moyne, segundo barón de Longueuil, fue enviado en una expedición militar para ayudar a la colonia francesa de Mississippi y repeler a los indígenas pro-británicos, que asediaban la zona. Durante una parada de esta expedición militar a lo largo del río Ohio inferior, un grupo de canoas de cazadores indígenas abenaki salió en busca de alimento para el ejército acampado. Al regresar, los indígenas descargaron un extraño cargamento: un enorme fémur fosilizado, varios molares enormes y un gran colmillo de marfil. Posteriormente, y reconociendo la importancia de estos fósiles, Longueuil navegó cruzando el Atlántico hacia Francia, llegando a París en 1740. Los fósiles fueron depositados en el gabinete de curiosidades de Luis XV (*du cabinet du Roi*), bajo la dirección del naturalista francés, el conde Buffon, y Louis Daubenton. Años más tarde, los fósiles recolectados en el río Ohio por los cazadores indígenas anónimos del ejército de Longueuil hicieron historia científica al convertirse en los primeros fósiles estadounidenses estudiados por científicos, marcando el nacimiento oficial de la paleontología de vertebrados norteamericana. Hoy en día, estos famosos fósiles, pertenecientes al *Mammut americanum*, aún se conservan en la colección del Laboratorio de Paleontología del Museo Nacional de Historia Natural de París.

Keywords: geology, paleontology, mammut, indigenous, Longueuil
Palabras clave: geología, paleontología, mamut, indígenas, Longueuil

Introduction

Dr. Adrienne Mayor in her interesting book "Fossil Legends of the First Americans" (MAYOR 2005) made a vivid description of some events that occurred in the summer of 1739 in the Ohio River, that led to the birth of American vertebrate paleontology. The protagonists: Charles Le Moyne, Second Baron de Longueuil - major of the government of Montreal; and an Indian hunting party (Algonquian-speaking Abenakis), that were part of a French military expedition traveling by lakes and rivers, from Quebec to New Orleans.

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The French and Indian War

The French and Indian War (Figure1), was one of many French-British conflicts fought during the Second Hundred Years' War (1689-1815). Between 1700 and 1750, the colonial populations of Canada and Louisiana increased significantly, forcing expansion into the Ohio River Valley region. During this period, the French strengthened military ties and existing trade relationships with numerous Indian groups, sparking competition with the British for indigenous allies. The struggle for control over North America (Figure 2), developed into the French and Indian War (1754–1763), which confronted the North American colonies of the British Empire against those of the French, each side being supported by various Native American tribes (BRITANNICA 2025). At the beginning of the war, the French colonies were home to approximately 60,000 settlers, whereas the British colonies boasted nearly 2 million inhabitants. Outnumbered, the French relied significantly on their native allies to combat the British forces.

Figure 1. *Painting depiction of a battle between British and the French colonist. The French and Indian War was a fight for supremacy of the Ohio Valley.* Source: https://www.pbs.org/video/the-french-and-indian-war-nrw6um/

The French colonists were supported by the Wabanaki Confederacy members: Abenaki, Mi'kmaq, Algonquin, Lenni Lenape, Passamaquoddy, Penobscot, and some others like Ojibwa, Ottawa, Shawnee, and the Wendat tribe. The British colonists were supported several times by the Iroquois, Catawba, Chickasaw, and Cherokee tribes. Most of the fighting took place primarily along the frontiers between New France and the British colonies, from Newfoundland in the north, to the Province of Virginia in the south. It began with a dispute over control of the confluence of the Allegheny River and Monongahela River called the Forks of Ohio, and the site of the French Fort Duquesne (the hill where the famous Fort Duquesne battle was fought in 1758, is today called Grant Street, in the city of Pittsburgh).

Figure 2. *Map showing the different claims just before the French and Indian War. Source: Library of the US Congress.* https://www.loc.gov/resource/g3701sm.gct00483/?sp=11

The Expedition

In June 1739 the town major of Montreal Charles Le Moyne, Second Baron de Longueuil (1687-1755), was sent by Governor Charles de Beauharnois (1671-1749) to Louisiana to aid the founder and governor of that colony, Jean-Baptiste Le Moyne de Bienville (1680-1767), Longueuil's uncle. Le Moyne Longueuil's mission was to help repel the pro-British Chickasaw Indians who were besieging New Orleans and blockading the Mississippi. During the beginning of 1739, Longueuil (Figure 3 and 4) spent his time recruiting Indian men for his army in southern Quebec, most probably with the assistance of Jesuit missionaries. At that time, the christianized Abenaki people were the French's strongest and most dependable allies, in opposition to the Iroquois and Hurons, who were their enemies. Given this context, if indigenous individuals in Le Moyne's army were recruited by the Jesuits, it is highly probable that they were predominantly Abenakis (MAYOR 2005).

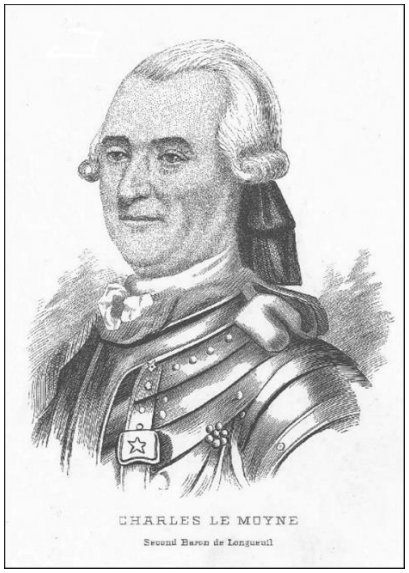

Figure 3. *Portrait of Charles Le Moyne, Second Baron de Longueuil - Archives de Montréal.* Source: https://www.biographi.ca/en/bio/le_moyne_de_longueuil_charles_1687_1755_3E.html#lg=1&slide=0

The expedition of 442 men, composed of 123 French soldiers and 319 Native American warriors departing from Quebec, was commanded by Charles Le Moyne de Longueuil himself (LACHANCE 2003). The fleet of war canoes left Montreal paddling down the St. Lawrence River, Lake Ontario, Oswego River, Lake Erie, Lake Chautauqua (which was reached late in August). Then they turned southward to the Allegheny river, followed it to the Ohio river, near the place where Fort Duquesne later stood. After that, they descended the Ohio heading for the Mississippi River. Their original target destination was the French port of New Orleans, to aid the governor of that French colony (MAYOR 2005).

Figure 4. *Autograph signature of Charles Le Moyne, Second Baron de Longueuil.* Source: https://recherche-collection-search.bac-lac.gc.ca/eng/Home/Record?app=fonandcol&IdNumber=4313185&ecopy=e010957220-v8

One night, during a stop along the lower Ohio River, a party of Indian hunters' canoes returned to feed the army of French Canadians and Indians camped along the river (in what is now Kentucky territory). The canoes were laden with more than fresh wild meat. A bunch of curious soldiers gather around to watch the Indians as they unload a strange cargo: an enormous fossilized femur, nearly as tall as a man, several huge molars, and a great ivory tusk. According to an early French map indicating the "place where elephant bones were found" in 1739, the Indians went hunting on the southern side of the lower Ohio River. They were in the area of the rapids, some miles east of modern-day Louisville, Kentucky. Le Moyne de Longueuil's fossil locality was mapped by Gaspard Joseph Chaussegros de Lery (1721-1797) an 18-year-old engineer who accompanied the expedition, and it was recorded on a manuscript drawn up (Figure 5), from de Lery's data in 1740 by Philippe de Hautmesnil de Mandeville, Sieur de Larigny, a senior infantry captain with the Louisiana regiment (CASAS 2025).

Figure 5. *Partial map of the Ohio River, drawn in 1740 by Philippe de Hautmesnil de Mandeville, Sieur de Larigny, from an approximate traverse by Gaspard Joseph Chaussegros de Lery in 1739.*
The site of the discovery of fossil bones by Longueuil's Indian group in 1739 is shown with a red dot in this manuscript map. Original from: "Depot des Cartes et Plans de la Marine, Service Hydrographique" Paris. Source: Image from the public Library and Archives of Canada (LAC). https://heritage.bnf.fr/france-ameriques/en/depot-cartes-et-plans-marine

After the perilous journey traveling down the Ohio and Mississippi rivers, and withstanding attacks by the Chickasaws, ultimately the fossils arrived safely to Fort Assumption, on the Mississippi River, near the present site of Memphis, where Longueuil's army joined the Louisiana troops under Bienville. At the end, Le Moyne de Longueuil's expedition was considered a military failure. The Chickasaws defeated the French and Indian armies, and the French ultimately surrendered to the English later in 1763. After the conclusion of the Chickasaw Campaign in the spring of 1740, Le Moyne de Longueuil went on to New Orleans, taking the fossils with him. Recognizing the importance of these fossils, they sailed crossing the Atlantic to France, reaching Paris in late 1740. The fossils were placed in Louis XV's (1710-1774) cabinet of curiosities (*du cabinet du Roi*), under the direction of the famous French naturalist George-Louis Leclerc, Count Buffon (1707-1788). A few years later, the big bone, molars, and tusk collected from the Ohio River by the unnamed Indian hunters in Longueuil's army, made scientific history, becoming the first American fossils ever studied by scientists (MAYOR 2005), marking the official birth of the American vertebrate paleontology.

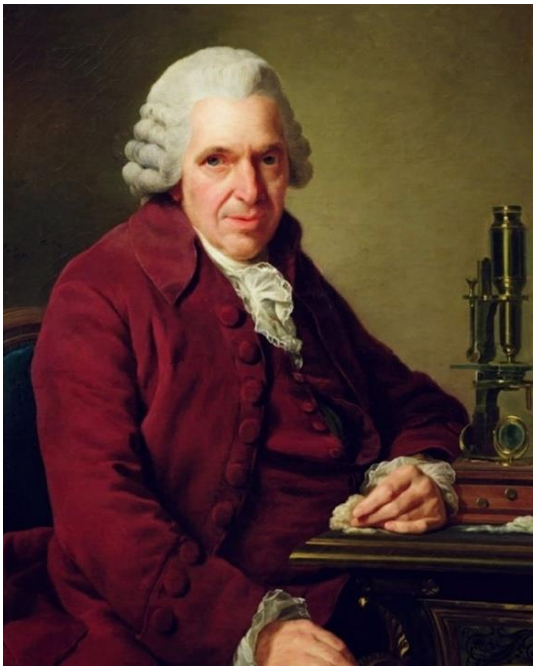

Figure 6. *Portrait of French naturalist Louis Jean-Marie Daubenton (1716-1800) by Alexander Roslin (1791). Musée des Beaux-Arts. Orléans, France.* Source: https://upload.wikimedia.org/wikipedia/commons/d/da/Louis_Jean-Marie_Daubenton_-_Alexander_Roslin.jpg

The study of the American fossils

In 1762, Louis Jean-Marie Daubenton (1716-1800) a member of the French Academy of Sciences (1744), keeper and demonstrator of the King's cabinet in the *Jardin du Roi*, and elected member of the American Philosophical Society, read his scientific paper on the Ohio fossils to the French Royal Academy (MAYOR 2005). Dealing primarily with the femur taken to France by Le Moyne de Longueuil. Daubenton (Figure 6) attempted to elucidate its relative relationships with a figure (DAUBENTON 1764a), in which this femur, one from a Siberian mammoth, and one from a recent elephant, were compared (Figure 7). This comparative method for identifying fossils is a procedure that seems quite obvious now, but it was long in being adopted by the scientific community. It is one of the most basic principles in the rise of vertebrate paleontology, and it may fairly be dated from Daubenton.

Daubenton credited the anonymous Indians ("*les Sauvages*") as the finders, mentioning the events of their discovery and establishing the comparative procedure for identifying those vertebrate fossils. He also recognized the femur and tusks as elephantine, but the molars were wrongly interpreted as belonging to a species of carnivorous hippopotamus (TASSY 2002). More and more fossils from the New World were studied and compared over the next century. However, it was not until the late eighteenth century that it was definitively established that the large bone and the molars discovered by the Indian hunters belonged to a distinct herbivorous species related to the elephant, specifically the extinct North American mastodon (*Mammut americanum*).

So, the discovery made by the Indians in 1739, that led to Daubenton's publications (DAUBENTON 1764a, 1764b and 1764c), should be hailed in the annals of scientific history as the beginning of the American paleontology. In 1821, the great French naturalist Jean Léopold Nicolas Frédéric, Baron Cuvier, known as Georges Cuvier (1769-1832), also credited the Indian hunters in Le Moyne de Longueuil's army, with the discover of the first specimens of the "*mammouth d'Amérique*". From the beginning, Daubenton and Cuvier included the so-called "*les Sauvages*" as part of the discovery (MAYOR 2005). It is clear that for thousands of years, the Indians collected fossils for their own uses. For Native American cultures, "bones" often hold a significant spiritual meaning, representing the essence of life, connection to the animal world, and sometimes even the afterlife, with different tribes utilizing bones for tools, ornaments, and ritualistic practices due to their durability and symbolic value. Essentially, bones were seen as a tangible

reminder of the life force within an animal, making them highly revered. But in this epoch, European scientists were still struggling to understand the meaning of these petrified remains of large and unknown creatures.

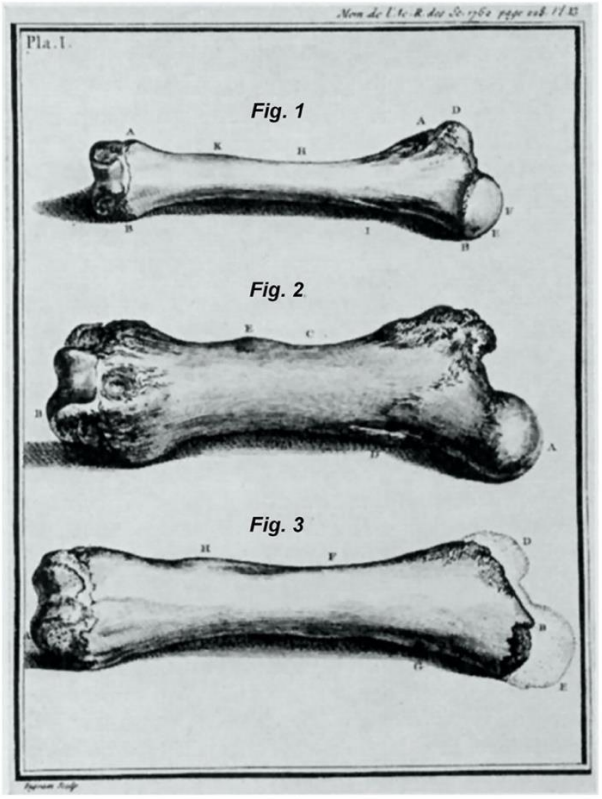

Figure 7. *Comparison by Daubenton (1764a) of femora from a recent elephant (Fig. 1), American mastodon from the Longueuil's expedition (Fig. 2), and a Siberian mammoth (Fig. 3).* Source: Modified from SIMPSON (1942).

Unfortunately, throughout the years, the 1739 episode at what is now known as Big Bone Lick, has frequently been described from the perspective of European scientists, obliterating the importance of the Indian fossil finders during Le Moyne de Longueuil's expedition (MAYOR 2005). In 1942, American paleontologist George Gaylord Simpson (1902-1984) published a paper in Proceedings of the American Philosophical Society, Vol. 86, titled: "The Beginnings of Vertebrate Paleontology in North America". In this publication, SIMPSON (1942), perhaps the most influential paleontologist of the twentieth century, and a major participant in the modern evolutionary synthesis, discussed the beginnings of vertebrate paleontology in North America, and wrote in a footnote: "Indians were probably involved in the discovery of this locality, but even in that instance they cannot fairly be called the discoverers". Gaylord Simpson argued that the full credit should go only to Charles Le Moyne de Longueuil alone, rejecting Daubenton's description that the Indian hunters were the only ones who actually observed the fossils *in situ* and that they were responsible for collecting and delivering them to Longueuil. Gaylord Simpson also wrote: "Daubenton insisted at some length that the bones were found by savages, incapable of judging or guaranteeing their association". Even though Gaylord Simpson was a superb paleontologist, his colossal eagerness to place Longueuil at center stage, led him to distort and mask an amazing historical event.

Big Bone Lick

A swamp area, now called Big Bone Lick State Historic Site (Figure 8), is considered the place where the Abenaki guides traveling with Longueuil's army, discovered the mastodon fossils in 1739. However, today at Big Bone Lick State Park in Kentucky, an official biased landmark stated: "Discovered in 1739 by the French Capt. Charles Le Moyne de Longueil, this famous saline-sulfur spring was frequented for thousands of years by Indians and vast herds of buffalo, deer, and other animals. The first English explorers found here scattered over the lick countless bones and teeth of the extinct Pleistocene elephants, the Mammoth and the Mastodon" (BIG BONE LICK STATE HISTORIC SITE s.f.). In this landmark (Figure 9), there is no mention that Indian hunters actually discovered the fossils and brought them back to Le Moyne de Longueuil's camp. Here too, at the "Birthplace of American Vertebrate Paleontology," Gaylord Simpson's misrepresented vision endures wrongly.

Figure 8. *Entrance to Big Bone Lick State Park – Birthplace of American Vertebrate Paleontology. Boone County, Kentucky.* Source: https://parks.ky.gov/explore/big-bone-lick-state-historic-site-7807

Dr. Adrienne Mayor (MAYOR 2005) stated that clearly, it was the Indians' choice to collect the heavy bones and carry them to their camp that day in 1739. That simple decision was the trigger that initiated paleontological inquiries by Europeans in the New World soon after. Undoubtedly the physical evidence of the fossils themselves and the French historical record that it was "*les Sauvages*" supplying wild meat for Le Moyne de Longueuil's army who discovered the fossils in 1739, support the idea that the Indian party deserves this long-forgotten recognition. Acknowledging this, the first turning point in American paleontological history has been reached.

Figure 9. *Historical marker at Big Bone Lick scenic drive - From US 42 near Beaverlick via KY 338 by Big Bone.* Source: https://www.kentuckytourism.com/explore/big-bone-lick-scenic-drive-4845

An examination of the Philippe de Mandeville's map casts some doubt that Le Moyne de Longueuil's fossil place is located in the now-called Big Bone Lick site. Simpson in 1942 stated: "At present it cannot be affirmed that Longueuil's locality is known or that it was, or was not, Big Bone Lick". The problem is that the actual Ohio River does not match the map of the river drawn in 1740 by Mandeville (Figure 5) in that area. It is believed, however, that Longueuil's fossil locality is situated on the south side of the Ohio (now Kentucky) between the present cities of Covington and Louisville (SIMPSON 1942).

The Indian/Longueuil Fossils at the National Museum of Natural History in Paris

Since about 1865, guarding the entrance of the Paleontological Gallery, at the top of an iron staircase, two great mastodon femurs from the New World were held upright by iron supports. A South American bone on the left was labeled as a supposed gift from the great German geographer and naturalist Alexander von Humboldt (1769-1859) to Cuvier (today it is labeled: *Stegomastodon* from Argentina, a gift of M. Bonnement). The North American mastodon femur to the right was labeled "A Gift of Thomas Jefferson". Nonetheless, as Dr. Mayor mentioned in her book (MAYOR 2005), an American scholar and Associate Professor at Princeton University studying Jefferson's papers in Paris, Howard C. Rice (1904-1980), uncovered a long-dated mistake in 1951. By comparing the meticulous records kept by Thomas Jefferson (1743-1826) of the fossils he sent to Paris, and also Cuvier's records of the specimens received, Rice discovered a mistake and established that the North American femur perfectly matches Daubenton's detailed drawing of the fossil brought to Paris in 1740 by Longueuil. Because of that, there is no doubt that this femur is the very same one found by the Abenaki hunters in the mentioned expedition in 1739. But it was not until 2001, that the label was partially corrected (TASSY 2002). Now the North American femur at the National Museum of Natural History in Paris (Figure 10) reads: *"Proboscidiens—Mastodonte americain* (*Mammut americanum*)*—Fe´mur gauche—Gisement de Big Bone Lick (Kentucky, USA). Pleistocene re´cent—Ce fe´mur, de´couvert au bord de la rivie`re Ohio par le baron de Longueuil en 1739, a e´te´ de´crit en 1764 par L.J.M. Daubenton qui en de´montra les affinite´s e´le´phantines".* Translation: Unfortunately, the real first finders of the *Mammut americanum* are still ignored by the science (CASAS 2025).

The three molars that Daubenton said were brought back by Longueuil in 1740, were listed in the *Cabinet du Roi* by Daubenton under the numbers MCVI, MCVII, and MCVIII and wrongly interpreted as hippopotamus molar teeth. Today, they are preserved in the collection of the Museum's Paleontology Laboratory (Paris), under the respective numbers 1621, 1622 and 1623 (Figure 11), as *Mammut americanum* molars (TASSY 2002). Superb fully assembled *Mammut americanum* skeletons (male and female), are displayed at the University of Michigan (Figure 12).

Figure 10. *Original Mastodon left femur, discovered in 1739 by Indian hunters on the Ohio River, and brought to Paris by Charles Le Moyne, Second Baron de Longueuil in 1740. Described in 1764 by Louis Jean-Marie Daubenton, it is actually on display on the Paleontological Gallery at the National Museum of Natural History in Paris. Tag is 12 cm long.* Source: Modified from TASSY (2002).

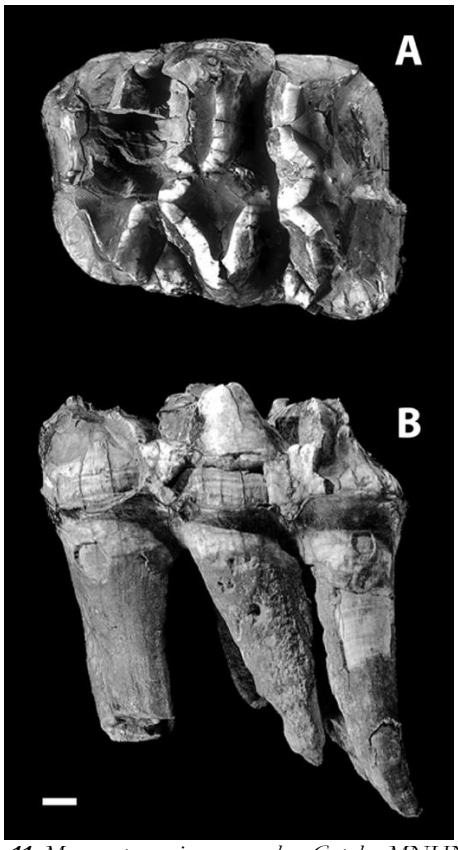

Figure 11. *Mammut americanum molar. Catalog MNHN 1623. A) occlusal view; B) vestibular view.*
This molar, brought to Paris by Charles Le Moyne, Second Baron de Longueuil in 1740, was listed by Daubenton (1764a) under the number MCVII. Scale (white bar): 1 cm. Source: Modified from TASSY (2002).

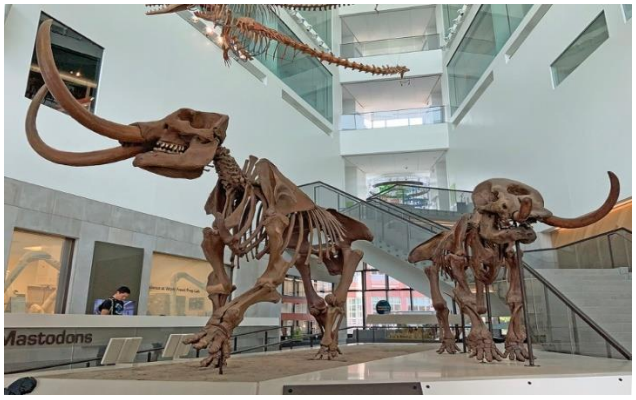

Figure 12. *Mounted male (left) and female (right) Mammut americanum skeletons at the University of Michigan Museum of Natural History, Ann Arbor, Michigan.* Source: https://commons.wikimedia.org/wiki/File:Male_%26_female_mastodons,_front.jpg

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