

## First discoveries of *Megaloceros giganteus*

by Mr. Michael Kogan author of <http://www.paleophilatelie.eu> website  
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"*Megaloceros giganteus*, also called Giant Deer, extinct species of deer, characterized by immense body size and wide antlers, commonly found as fossils in Pleistocene deposits in Europe and Asia (the Pleistocene Epoch began 2.6 million years ago and ended about 11,700 years ago) "

ENCYCLOPEDIA BRITANNICA

This deer, contemporary of the Mammoth and the woolly Rhinoceros, was indeed a giant, as males were up to 700 kg in weight and stood about 2.1 meters tall at the withers.



Figure 1 *Megaloceros giganteus*, *Mammuthus primigenius* and other prehistoric animals in a Mini-Sheet of "[Extinct Irish animals](#)" from 1999, MiNr. Bl.33, Scott Nr. 1206a

They carried proportionally huge antlers with a maximum tip to tip length of 3.65 meters. The antlers were up to 50 kg in weight, which are the largest antlers of any known deer.

Similar to modern deer, the female animals were smaller and antlerless, while males replaced their antlers every mating season. According to recent research *Megaloceros giganteus* is most closely related to present-day fallow deer (*Dama dama*). A small population of *Megaloceros giganteus* survived in the Siberian region of Russia until 7,000 years ago (probably even to more recent time). <sup>[1]</sup>

Around 17,000 years ago humans saw these glorious creatures and created their own interpretations of them on the cave walls at Lascaux, and others at Cournac. These exquisite paintings depict

*Megaloceros giganteus* with speckled coats and dark shoulder hair that accentuated a distinctive hump. [12]

Due the fact that the hump does not show in fossils, the cave art really helps with reconstruction of the animal.

The animal is often called the *Irish Elk*, however it is not an elk, but a deer, nor is it unique to Ireland. Although the *Giant Deer* ranged from mainland Europe through Siberia to northern Africa, almost all of the surviving skeletons and skulls are Irish. This is due to the unique composition of Irish bogs. It seems the unfortunate top-heavy beasts regularly came to sticky ends mired in muddy lakes. The bog grew over them, fossilizing their remains, until they were uncovered by turf-cutters. [1]

The Natural History Museum in Dublin, also called Dublin's "Dead Zoo", houses 10 skeletons of the "Irish Elk" in their collection, three of which are mounted for display at the entrance, and the remains of 250 others are kept in storage rooms. [7]

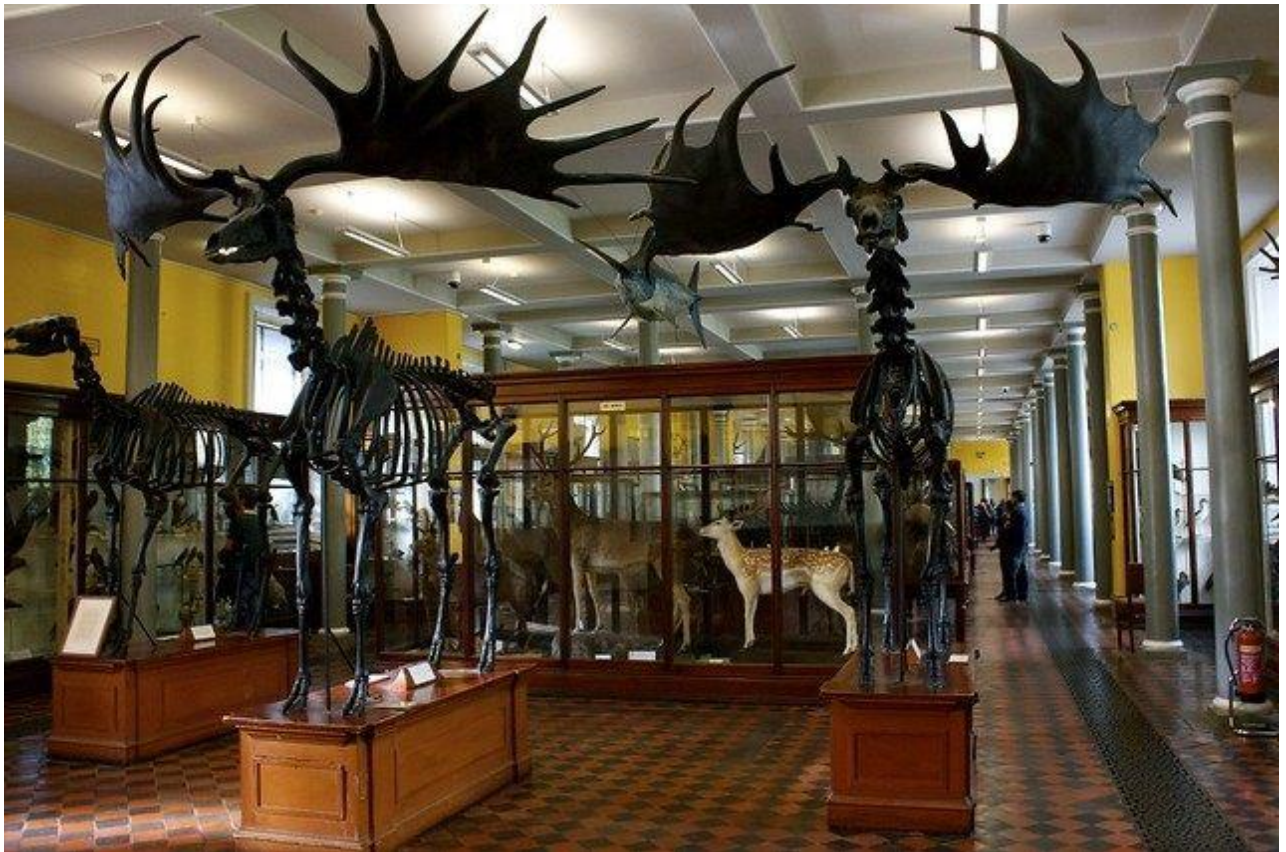


Figure 2 Skeletons of *Megaloceros giganteus* at the entrance of the Natural History Museum in Dublin. The skeleton on the right at the front entrance of our museum is the first *Megaloceros giganteus* skeleton found in Ireland

**There are many articles, books and videos about the animal, but there is very limited information about the history of its discovery. This article intends to close the gap.**

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The oldest recorded find of a “Giant Deer” in Ireland dates to 1588 when a skull with antlers of *Megaloceros giganteus* was discovered in a bog in Co. Meath. This information comes from a drawing that was part of a letter from Adam Loftus (official representative of the British Crown in Ireland) to Robert Cecil (was Secretary of State to Queen Elizabeth I, one of her highest officials). The drawing was accompanied by a letter in 1597 that was sent with the antlers to England where it is assumed that Cecil put them up on the wall of his home at Theobalds House, Hertfordshire. Unfortunately, it did not survive until today.



Figure 3 The oldest recorded find of a “Giant Deer” in Ireland dates to 1588. The image is from [https://www.academia.edu/39609518/Megaloceros the ice age giant deer of Ireland and some Dutch connections](https://www.academia.edu/39609518/Megaloceros_the_ice_age_giant_deer_of_Ireland_and_some_Dutch_connections)

The oldest fossil of *Megaloceros giganteus* that survived till today is a braincase and part of antlers that was found in Bad Cannstatt village near Stuttgart in Germany, in 1600. As it was a different from any known ruminant, it was kept in a curiosity cabinet. Nowadays it is on display in Natural History Museum in Stuttgart. [14]



Figure 4 Skull of *Megaloceros giganteus* discovered in Germany in 1600

It was only in 1697 when the Irish aristocratic scholar Thomas Molyneux identified large antlers from Dardistown, Dublin — which were apparently commonly unearthed in Ireland, as belonging to the “Great Irish Elk”.

Molyneux described the antlers:

*“Such another Head, with both the Horns entire was found some Years since by one Mr. Van Delure in the County of Clare, buried Ten Foot under Ground in a fort of Marle, and were presented by him to the late Duke of Ormond, then Lord Lieutenant of Ireland, who valued them so highly for their prodigious largeness, that he thought them not an unfit Present for the King, and sent them for England to King Charles the Second, who ordered them to be set up in the Horn-Gallery at Hampton-Court; where they may still be seen among the rest of the large Heads both of Stags and Bucks that adorn that Place, but this so visually exceeds the largest of them, that the rest appear to lose much of their curiosity”* [7]



Figure 5

On the left: the drawing of Thomas Molyneux, the image is from <https://www.visitwarrenpoint.com/the-irish-elk-the-ice-air-and-steel/> website.

On the right: Antlers of *Megaloceros giganteus* described by Thomas Molyneux in 1697 among others on display at Hampton Court. The image <http://www.stylewanderings.com/2017/12/afternoon-hampton-court-palace.html>

Molyneux, as well as all other scientists at this time who believed in the Divine creation of the Earth and its life, had difficulties finding an explanation for the extinction of the animal. It was a common belief at this time, that a God who created the world and all that was in it would not allow his creations to disappear from existence.

*"That no real species of living creatures is so utterly extinct, as to be lost entirely out of the World, since it was first created, is the opinion of many naturalists; and 'tis grounded on so good a principle of Providence taking care in general of all its animal productions, that it deserves our assent" [9]*

Not finding the *Irish Elk* in Ireland, he concluded that it was once abundant on the island, suggested that an epidemic of distemper as a cause of the animal's extinction [15] and believed that the antlers belonged to an Irish version of the American moose, of which he had only a hazy idea. The English word for moose was elk and so the "Great Irish Elk" was born. The misnomer would last for centuries. [7]

Only in 1812 French scientist Georges Cuvier, who first developed the theory of extinction caused by catastrophes responsible for wiping out the Earth's species "to prove the existence of a world previous to ours, destroyed by some kind of catastrophe" [7], documented that the *Irish Elk* along with other fossil vertebrates such as the mammoth, did not belong to any living species of mammal, declaring the "Irish Elk" as the most famous of all fossil ruminants:

*"in some parts of the country they have been found so often, that far from being regarded as objects of any extraordinary interest, they have been either thrown aside as lumber, or applied to the commonest economical uses." [4]*



Figure 6 Georges Cuvier on commemorative postmark of France 2019

It took over a century, since Thomas Molyneux identified the antlers, until an entire skeleton of *Megaloceros giganteus* was uncovered. The first, nearly, complete specimen of the species to be found was discovered on 14<sup>th</sup> August 1819 by a blacksmith Thomas Kewish in a marl pit (by "marl" is usually meant an open-water mud rich in calcium carbonate deposited principally by the plant *Chara*. Such a mud gives clear evidence of the former existence of a lake in whose calcium-rich deposits bone would be readily preserved [10]) at Loughan Ruy, a basin on the Ballaugh gravel fan, Isle of Man. Only a few bones were missing in the skeleton, most notably the pelvis. Kewish used a large horse pelvis, among a few other things, to fill in the gaps.

John Stevens Henslow, British botanist and geologist, best remembered as friend and mentor to his student Charles Darwin, who was doing some research on the island at the time of the discovery, mentioned in one of his letters that a local blacksmith took a horse skeleton as model for his reconstruction of the Elk and made it with a great accuracy.



Figure 7 On the left: the image is from "Essay on the THEORY OF THE EARTH, BY Baron G. Cuvier" published in 1827 [4] On the right: the fossil on display in the National Museum of Scotland [11]

The discovery generated a lot of interest, therefore Kewish entered into a partnership with James Taubman, the tenant of the field where the fossils came from. They placed the mounted skeleton on display and charged admission to view it. As it was a big success on the island – many inhabitants came to see the unusual, giant animal, the duo developed a plan to take the skeleton on tour to Scotland and England.



Figure 8  
On the left: *Megaloceros giganteus* on "[Centenaries of Manx Museum](#)" stamp of Isle of Man 1986.  
On the right: reconstruction of *Megaloceros giganteus* on self-adhesive "Prehistoric animal" stamp of Ireland 1999.

However, the Duke of Athol, who was the Queen's Representative on the Isle of Man, later claimed the fossils as Lord of the Manor. After a lawsuit, the elk came into the Duke's possession. The Duke of Athol later donated the specimen to the Museum of the University of Edinburgh. The Elk was later transferred with other specimens to the National Museum of Scotland on Chambers St, Edinburgh. [19]

The only other skeleton of *Megaloceros giganteus* found on the Isle of Man was excavated at Closey-Garey, St. John's in 1897. It is on display in the Manx Museum and appeared on stamp in 1986.

The first, nearly complete, skeleton of *Megaloceros giganteus* found in Ireland is the skeleton found near Lough Gur, at Castle-farm, Rathcannon near Limerick city in 1824, in a marl layer underlying peat. It was donated by William Wray Maunsell, the Archdeacon of Limerick to the Royal Dublin Society.

The skull and antler of this skeleton appears on the stamp commemorating the 150<sup>th</sup> Anniversary of the Natural History Museum in 2007. It is also the skeleton on the right at the front entrance of the museum (see Figure 2).



Figure 9 Skull and antlers of *Megaloceros giganteus* on "150th Anniversary of the Natural History Museum" stamp of Ireland 2007, MiNr. 1800, Scott Nr. 1759

The specimen was reconstructed by Irish surgeon John Hart, who described and illustrated it in a Booklet published in 1825. <sup>[5]</sup>

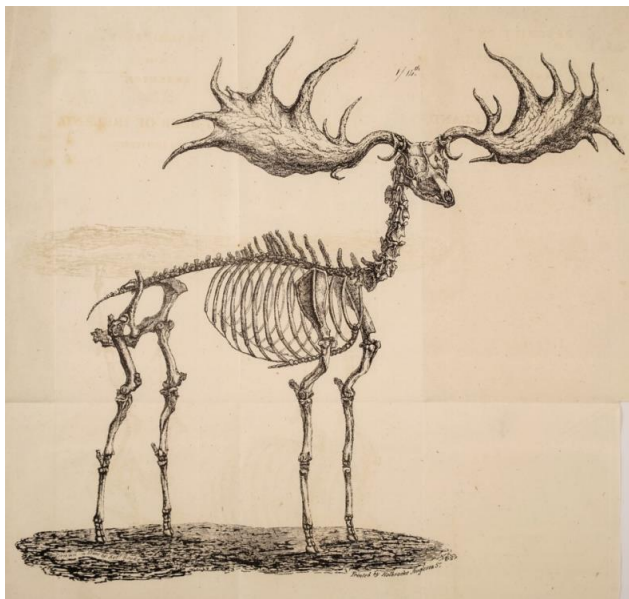


Figure 10 The Giant Deer drawings from a book of John Hart "A description of the skeleton of the fossil deer of Ireland, *Cervus megaceros*", published in 1825. The image is from <https://dlcs.io/pdf/wellcome/pdf-item/b30361941/0>

The rise of international interest in fossils of the Irish Elk, resulted in an international trade in *Megaloceros* fossils from Ireland. Many of them came from bogs near Limerick and Dublin. More than hundred antler sets and a more than a dozen of more or less completed skeletons of the Deer were discovered in the nineteenth century in Ireland and many of them were exported.

In 1846 *Sir Richard Owen* mentioned six complete skeletons:

*"The first tolerably perfect skeleton of the Megaceros was found in the Isle of Man, and was presented by the Duke of Athol to the Edinburgh Museum; the figure in the "Ossemens Fossiles" tom. iv. pl. viii. is taken from an engraving of this skeleton transmitted by Professor Jamieson to Baron Cuvier.*

*Another skeleton was composed and set up by Dr. Hart, in the Museum of the Royal Dublin Society, from a collection of bones found at Rathcannon in Ireland, and this is figured in his "Description of the Skeleton of the Fossil Deer of Ireland".*

*A third engraving of a foreshortened view, by Professor Phillips, of the skeleton of the Megaceros, from Waterford, in the museum of the Yorkshire Philosophical Society, was published, without description, by Mr. Sunter of York; and this exhibits a more natural collocation<sup>1</sup> of the bones, than do either of the above-cited figures.*

*Three very complete and well-articulated skeletons have since been added to English collections; one of these is in the British Museum, another in the Woodwardian Museum at Cambridge, and a third in the Hunterian Museum at the Royal College of Surgeons in London.*

" [16]

The biggest fossil found of *Megaloceros giganteus* in a single site, was reported from Ballybetagh bog, near Dublin in 1876, where a large collection of skulls of young males have been excavated. According to Antony D. Barnosky who researched these remains in 1980's and published his report "Taphonomy and Herd Structure of the Extinct Irish Elk, *Megaloceros giganteus*" in 1985, the site represented a herd of bachelors, where occasionally individuals died each winter at a watering hole.

The first scientific name of the "Elk" was defined by German naturalist Johann Friedrich Blumenbach when he mentioned *Alce gigantea* in his book - «*Handbuch der Naturgeschichte. 6. Aufl. Göttingen*» in 1799. *Alce gigantea* means "Giant Elk" in Latin. <sup>[6]</sup>

The modern scientific name "*Megaloceros*" appeared for the first time in "A catalogue of the anatomical and zoological museum of Joshua Brooks", published by British naturalist Joshua Brooks in 1827 (spelled as *Megalocerus* in the earlier editions, but corrected in 1828). <sup>[1]</sup>

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<sup>1</sup> Original orthography from book of Richard Owen "A history of British fossil mammals, and birds", published in 1846 in London <https://archive.org/details/historyofbritish00owen/page/n5/mode/2up> , pages 447-448. Collocation is an old word meaning the action of placing things side by side or in position.



## FOSSIL BONES.

A collection of Fossil Bones, some extremely large and scarce, such as those of the Megalosaurus, Ichthyosaurus, Plesiosaurus (a cast of the lower jaw), also teeth and tusks of both the Mammoth and Mastodon, including the angustidens. Amongst other Fossil Bones, there is a Femur, or Thigh Bone, upwards of four feet in length, likewise two uncommonly fine Crania of the Megaloceros Antiquorum, *Brookes* (Irish), with unusually large horns (in part restored); also many other horns and bones of Deer and Beeves, such as the Cranium of a Musk Ox (fossil), extremely large, as well as bones and teeth of the Rhinoceros, Hippopotamus, etc. &c.

Figure 11 page 20 of "A catalogue of the anatomical and zoological museum of Joshua Brooks", published by British naturalist Joshua Brooks in 1828 with correctly spelled "Megaloceros" [8]

The fact that the nearest relative of the *Giant Deer* is the *Fallow Deer* (*Dama dama*) was first recognized by Hamilton Smith in 1827, who in his classification of Deer grouped the two together in the subgenus *Dama*. [15]

However, most *Megaloceros giganteus* fossils found to date are of male animals. The female skeletons appeared to be most likely misidentified as "cows" that had fallen in the bogs and lakes.

There are almost two dozen synonyms of *Megaloceros giganteus*

that have been used in scientific literature over the past few centuries: *Irish elk*, *Great Irish Elk*, *Great Irish deer*, *Alces alces*, *Cervus megaceros*, *Cervus euryceros*, etc. all have been ruled out by the ICZN (International Commission on Zoological Nomenclature) in 1989.



Figure 12 One of the first reconstructions of *Megaloceros giganteus* - illustration from a book "Extinct Monsters" by HENRY NEVILLE HUTCHINSON, published in 1896 in London

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Nowadays skeletons of *Megaloceros giganteus* can be seen in every major Natural History Museum in the world and also appears on many postal stamps and postmarks.



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Figure 13 Example of international post stamps and postmarks of *Megaloceros giganteus*. All images are from <http://www.paleophilatelie.eu> (Images shown above are not proportional to their real sizes.)

**List of stamps and postmarks above**

Row	Position	Country	Date	Denomination	MICHEL Nr.	Scott Nr.	Comment
1	1	<a href="#">France</a>	21.04.2008	0,65€	4404	3432	Issued as single stamps and in Mini-Sheet format with 3 other stamps of the set
1	2	<a href="#">Russia</a>	03.06.2020	40RUB	?	?	
1	3	<a href="#">Belgium</a>	27.08.2018	"1"	4852	2872	Domestic letter rate of letters up to 50gr. = Euro 0.72
2	1	<a href="#">Great Britain</a>	21.03.2006	42p	2392	2360	
2	2	<a href="#">Moldova</a>	29.10.2016	15,50L	Bl. 75	928	
2	3	<a href="#">Romania</a>	25.11.1966	1,55Lei	2557	1891	The first stamp of <i>Megaloceros giganteus</i> ever
3	1	<a href="#">Jersey</a>	12.10.2010	80p	1525	1480	
3	2	<a href="#">Kazakhstan</a>	24.11.1994	7T	67	95	
3	3	<a href="#">Transnistria</a>	01.09.2005	Domestic registered letter with weight up to 20gr. rate	N/A	N/A	Transnistria is an unrecognized but de facto independent presidential republic
4	1	<a href="#">Transnistria</a>	15.03.1996	Domestic postcard card rate	N/A	N/A	
5	1	<a href="#">Great Britain</a>	21.03.2006	N/A	N/A	N/A	Commemorative postmark used on FDC
5	2	<a href="#">Great Britain</a>	21.03.2006	N/A	N/A	N/A	
5	3	<a href="#">Romania</a>	25.12.1982	N/A	N/A	N/A	Commemorative postmarks
5	4	<a href="#">Romania</a>	17.02.1993	N/A	N/A	N/A	

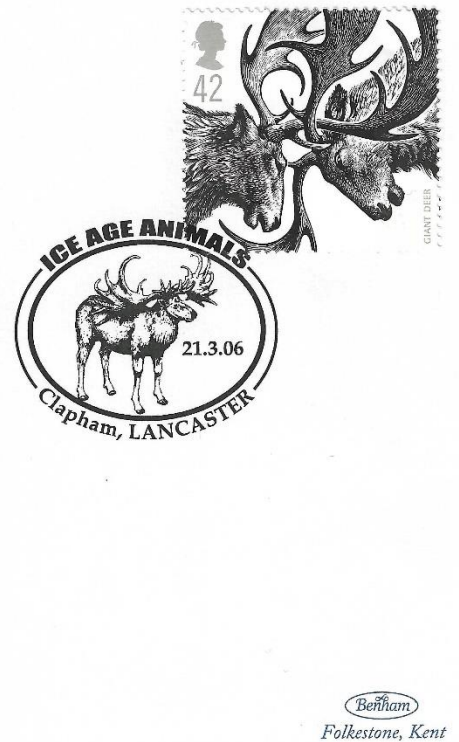
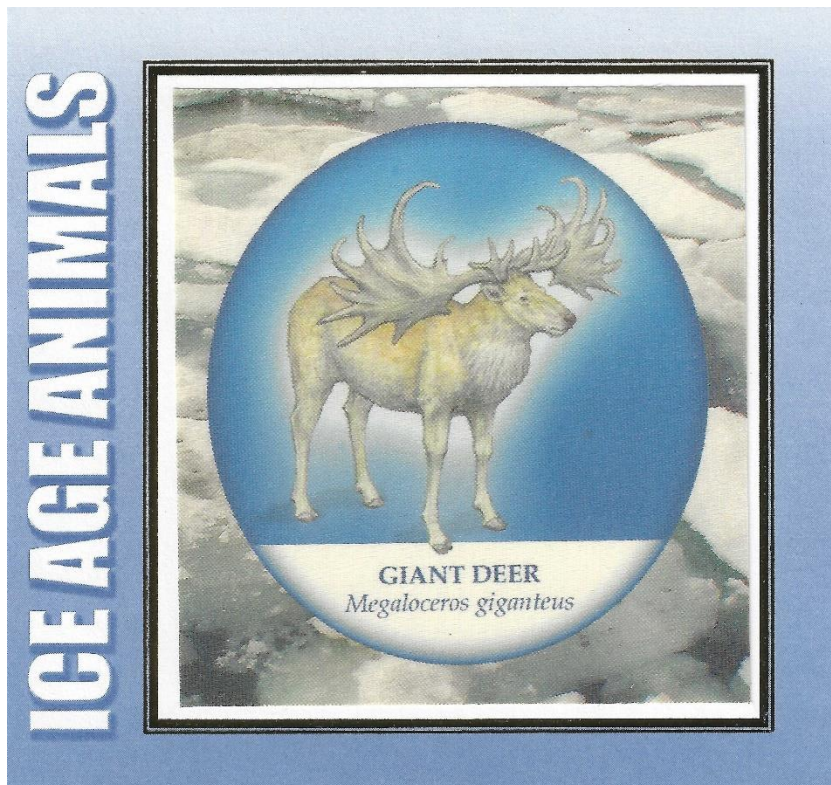
**Other stamps of *Megaloceros giganteus* issued to date**

Country	Date	Denomination	MICHEL Nr.	Scott Nr.	Comment
<a href="#">Chad</a>	10.07.2017	N/A	Bl. 721	?	On the margin
<a href="#">Cuba</a>	20.12.2002	5c.	4487	4276	
<a href="#">Guinea</a>	26.04.2018	12500 FG	13070	?	
<a href="#">Guinea-Bissau</a>	15.09.1989	1000P.	1087	833	
<a href="#">Guinea-Bissau</a>	27.02.2017	600 FCFA	9106	?	
<a href="#">Ireland</a>	11.10.1999	30p		1206 and 1212	1212 is a self-adhesive version of 1206
<a href="#">Ireland</a>	25.10.2007	55c		1759	See figure 2 in this article
<a href="#">Isle of Man</a>	05.02.1986	22p	304	303	
<a href="#">Mozambique</a>	30.04.2012	N/A	Bl. 602	Bl. 2636	On the margin
<a href="#">Mozambique</a>	30.04.2012	N/A	B. 634	Bl. 2627	On the margin
<a href="#">Niger</a>	20.04.2015	N/A	Bl. 436	?	On the margin
<a href="#">Niger</a>	12.05.2017	N/A	Bl. 684	?	On the margin
<a href="#">Togo</a>	28.06.2018	800 F.	9051	?	
<a href="#">Transnistria</a>	01.09.2005	Domestic registered letter with weight up to 20gr. rate	N/A	N/A	Similar to a stamp from row 5.2 but different color
<a href="#">Transnistria</a>	07.03.2015	Domestic postcard card rate	N/A	N/A	The same stamp from 1995, but overprinted by Silver and Golden color
<a href="#">Transnistria</a>	28.03.2015	Domestic registered letter with weight up to 20gr. rate	N/A	N/A	The same stamp from 2005, but overprinted by Silver and Golden color

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Some First Day Covers (FDC) and Maximum Cards (MC) with *Megaloceros giganteus*



[Great Britain](#) 2006 FDC of "[Ice Age Animals](#)"

First discoveries of *Megaloceros giganteus*

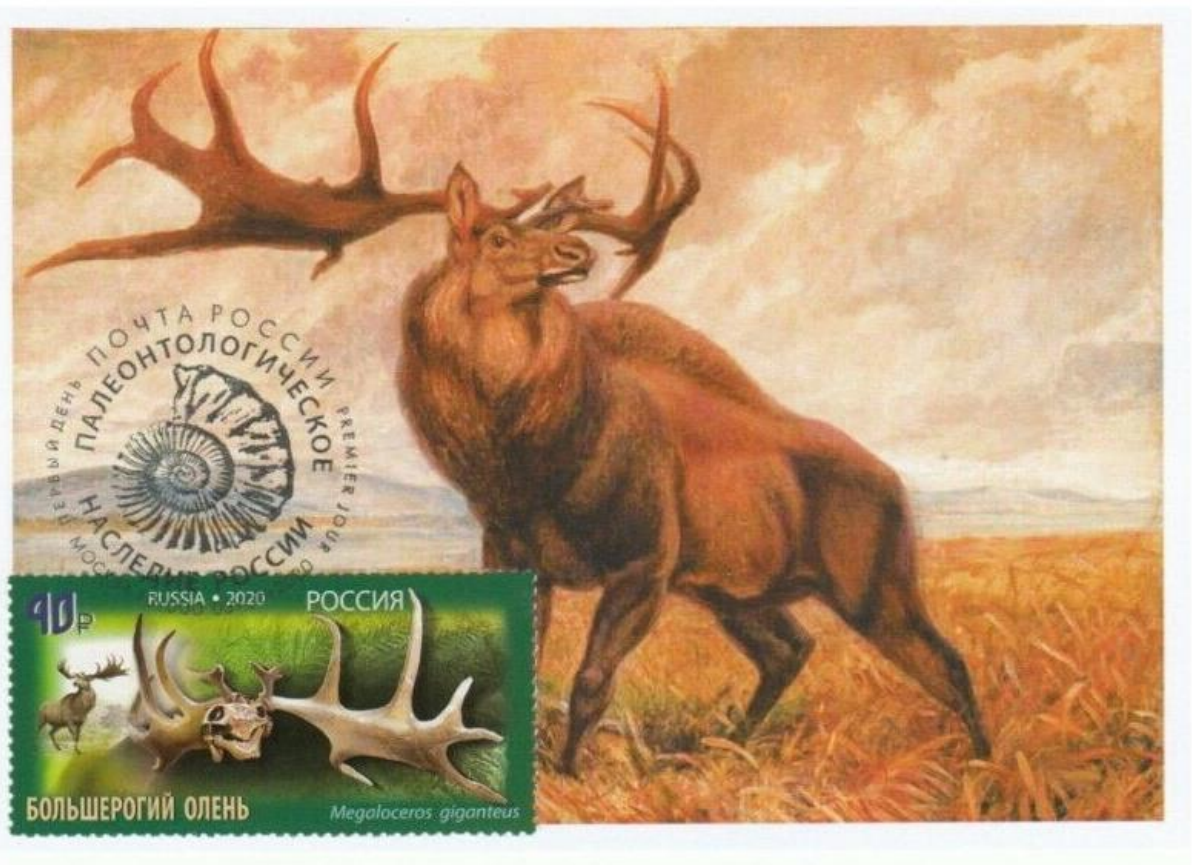
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[Moldova](#) 2016 FDC and MC of "Extinct animals"

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[Russia 2020 MC of "Paleontologic Heritage of Russia"](#)

## Acknowledgement

Many thanks to

Mr. *Nigel T. Monaghan*, Keeper of Natural History Division National Museum of Ireland,  
Mrs. *Laura McCoy*, Curator of Natural History in Manx Museum of the Isle of Man  
for their help in finding information for this article.

Mr. *Kevin Nolis*, Administrator of the “Société d'Histoire Régionale de Rance – Musée du Marbre” and  
former Secretary of the Belgian Paleontological Association, for their help in finding information for  
this article and draft page review.

## References

[1] General information about *Megaloceros giganteus*:

- Encyclopedia Britannica - <https://www.britannica.com/animal/Irish-elk>
- Wikipedia - <https://en.wikipedia.org/wiki/Megaloceros>
- New Dinosaurs - <https://www.newdinosaurs.com/megaloceros/>

[2] “THE IRISH ELK (CERVUS MEGACEROS)” <http://staceybdav.zvyk.com/?lg=en&s=9>

[3] *Cervus giganteus* in the Isle of Man: <http://www.isle-of-man.com/manxnotebook/fulltext/geo1903/p377.htm>

“Taxonomic problem of the giant deer *Megaloceros giganteus*”:

[https://www.researchgate.net/post/Taxonomic\\_problem\\_of\\_the\\_giant\\_deer\\_Megaloceros\\_giganteus\\_can\\_we\\_identify\\_the\\_type\\_specimen](https://www.researchgate.net/post/Taxonomic_problem_of_the_giant_deer_Megaloceros_giganteus_can_we_identify_the_type_specimen)

[4] “Essay on the THEORY OF THE EARTH, BY Baron G. Cuvier, Perpetual Secretary of the French Institute, Professor and  
Administrator of the Museum of Natural History WITH GEOLOGICAL ILLUSTRATIONS by PROFESSOR JAMESON, Fifth  
Edition, William Blackwood, Edinburgh; and T. Cadell, Strand, London. 1827”

<http://www.geology.19thcenturyscience.org/books/1827-Cuvier-ThyEar/htm/doc.html> pages 486-507

[5] “Worlds Before Adam: The Reconstruction of Geohistory in the Age of Reform”, By Martin J. S. Rudwick,

[https://books.google.de/books?id=uQNX5jhoLPsC&pg=PT224&pg=PT224&dq=Irish+elk+Limerick+1824&source=bl&ots=e5Crm3yv-W&sig=ACfU3U3LvparFlnEFSrN6MUfOICSnUeB7g&hl=en&sa=X&ved=2ahUKewj\\_15v2ytHqAhUnSBUIHQ9DB6cQ6AEwF3oECA4QAQ#v=onepage&q=Irish%20elk%20Limerick%201824&f=true](https://books.google.de/books?id=uQNX5jhoLPsC&pg=PT224&pg=PT224&dq=Irish+elk+Limerick+1824&source=bl&ots=e5Crm3yv-W&sig=ACfU3U3LvparFlnEFSrN6MUfOICSnUeB7g&hl=en&sa=X&ved=2ahUKewj_15v2ytHqAhUnSBUIHQ9DB6cQ6AEwF3oECA4QAQ#v=onepage&q=Irish%20elk%20Limerick%201824&f=true) (page 201)

<http://www.limerickcity.ie/media/Media,8091,en.pdf>

[6] «Handbuch der Naturgeschichte. 6. Aufl. Göttingen», by Johann Friedrich Blumenbach , page 697.

[http://www.deutschestextarchiv.de/book/view/blumenbach\\_naturgeschichte\\_1799](http://www.deutschestextarchiv.de/book/view/blumenbach_naturgeschichte_1799)

[7] „The Irish Elk: The Ice, Air and Steel“ - <https://www.visitwarrenpoint.com/the-irish-elk-the-ice-air-and-steel/>

“Irish Elk” on New World Encyclopedia - [https://www.newworldencyclopedia.org/entry/Irish\\_Elk](https://www.newworldencyclopedia.org/entry/Irish_Elk)

“Megaloceros, the ice age giant deer of Ireland and some Dutch connections.”, by Nigel T Monaghan

[https://www.academia.edu/39609518/Megaloceros\\_the\\_ice\\_age\\_giant\\_deer\\_of\\_Ireland\\_and\\_some\\_Dutch\\_connections](https://www.academia.edu/39609518/Megaloceros_the_ice_age_giant_deer_of_Ireland_and_some_Dutch_connections)

“Treasures: Ancient beast's antlers to lure deer hunters” on Independent.ie

<https://www.independent.ie/life/home-garden/treasures-ancient-beasts-antlers-to-lure-deer-hunters-34767965.html>

[8] "A catalogue of the anatomical and zoological museum of Joshua Brooks", published by British naturalist Joshua

Brooks on 1828 <https://books.google.co.uk/books?id=4DwAAAAQAAJ&pg=PA20#v=onepage&q&f=false>



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- [9] "The Case of the Irish Elk" - <https://ucmp.berkeley.edu/mammal/artio/irishelk.html>
- [10] "The Giant Deer in Ireland (Studies in Irish Quaternary Deposits: No. 6)" - <http://www.jstor.com/stable/20518817>
- [11] Fossil of *Megaloceros giganteus* at National Museums Scotland - <https://www.nms.ac.uk/explore-our-collections/collection-search-results/irish-elk/563168>
- [12] "An elk that wasn't an elk" - <https://twilightbeasts.org/2014/04/30/an-elk-that-wasnt-an-elk/>
- [13] "A description of the skeleton of the fossil deer of Ireland, *Cervus megaceros*", by John Hart, published in 1825 - <https://wellcomecollection.org/works/w97ymu7h>
- [14] Mammut und Waldelefant in Bad Cannstatt Exkursion zu Fundstellen aus dem Eiszeitalter  
<https://www.yumpu.com/de/document/read/35889471/waldelefant-in-bad-cannstatt-staatliches-museum-fa-1-4-r-naturkunde-http://docplayer.org/29188705-Mammut-und-waldelefant-in-bad-cannstatt-exkursion-zu-fundstellen-aus-dem-eiszeitalter.html>
- [15] Monography "BRITISH PLEISTOCENE MAMMALIA" published in 1927 by SIDNEY H. REYNOLDS, M.A., Sc.D., F.G.S.  
PROFESSOR OF GEOLOGY IN THE UNIVERSITY OF BRISTOL  
<https://www.biodiversitylibrary.org/item/125775#page/9/mode/1up>
- [16] "A history of British fossil mammals and birds", Richard Owen, published in 1846, pages 447-448  
<https://archive.org/details/historyofbritish00owen/mode/2up>
- [17] "Extinct Monsters" by Hutchinson, published in 1896  
<https://archive.org/details/extinctmonstersp96hutc> , chapter XVI page 243
- [18] "On Irish Elk and Other Animal Remains Found at Howth and Ballybetagh, Co. Dublin", by Henry Stokes ,  
published in The Irish Naturalist, vol. 23 in May 1914, pages 113-118  
<https://archive.org/details/irishnaturalist2319roya/page/112/mode/2up>
- [19] "The Ballaugh Elk of 1819", second edition, by Joy Ling. Issued in 2014 by Ballaugh Heritage Trust on Isle of Man

## Appendix

### Chronology of the first discoveries of *Megaloceros giganteus*

**1600** – The first fossil found of *Megaloceros* that survived to the present, is the partial antler and skull on the right. The fossil was found in Stuttgart, Germany and is currently on display in the Natural History Museum of Stuttgart. (see Figure 4)

**18<sup>th</sup> century** – some single fossils found across Europe.

**1746** a skull with antlers of an “Irish Elk” were unearthed at North Dreighton in Yorkshire, England

**1781** some fossils of this giant deer were unearthed in Germany<sup>[7]</sup>

**1819** the first skeleton of *Megaloceros giganteus* discovered on Isle of Man, now in National Museum of Scotland on Chambers St, Edinburgh, Scotland (see Figure 7)

**1824** the second skeleton in the world and the first in Ireland found in Lough Gur, at Castle- farm, Rathcannon near Limerick, now in Natural History Museum in Dublin, Ireland. It is the skeleton on the right at the front entrance of the museum (see Figure 2).

**1834** one skeleton found in Enniscorthy, South Ireland, purchased by Adam Sedgwick in and still on display at the Museum in Cambridge, UK.

(<https://www.geograph.org.uk/photo/5678865>,

<https://www.geograph.org.uk/photo/5678877>)

**1834** a skeleton of Irish Elk listed in catalog of Royal College of Surgeons in Ireland (<https://archive.org/details/descratal01roya/page/n7/mode/2up?q=elk>), when and where it was found is not mentioned.

First discoveries of *Megaloceros giganteus*

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Skeleton from Cambridge on the left, the skeleton (In the background of the photograph) from Royal College of Surgeons in Ireland on the right.

**1872** a skeleton from near Limerick currently on display at the American Museum of Natural History in New York.



**1847-1877** six skeletons and over 100 skulls found in Ballybetagh bog, near Dublin, reported by W. Williams in 1881.

**1886-1887** skull of Female and one skeleton found by Henry Stokes in Bog of the Loughs, near Dublin.

**1886** the first skeleton of *Megaloceros giganteus* found in Russia, near Yekaterinburg city. Exhibited at Siberian-Ural Scientific and Industrial Exhibition in 1887. Now in in the Sverdlovsk Regional

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Museum of Local Lore in Yekaterinburg.



1897 the second skeleton found on Isle of Man, on exhibit in the Manx Museum.

