

Research reveals the secrets of lions locked up in the Tower of London

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Lions have appeared on the English monarchy's coat of arms since the reign of Henry II (1133-1189). Now new research published in the *International Journal of Osteoarchaeology*, shows that the relationship between these early monarchs and the 'king of the beasts' was more than just symbolic.

Scientists from Liverpool John Moores University (LJMU) and the Natural History Museum (NHM) have dated lion skulls discovered at the Tower of London back to the 13th century. As well as giving insights on the lives of England's early monarchs, the research may also provide useful guidance for the modern conservation of zoo animals.

LJMU's Dr Hannah O'Regan, who led the research, said: "These lions were potent symbols of monarchy at the time of the Hundred Years War and the Wars of the Roses. Our research provides important information on some of the earliest lions seen in Northern Europe since they became extinct at the end of the last Ice Age. It also sheds some light on the conditions and health of animals in one of the world's longest running menageries."

The lions are thought to have been housed in the Tower's Royal Menagerie. Established by King John (1199-1216), the Menagerie is known to have held lions, bears and other exotic species. It was finally closed in 1835, on the orders of the Duke of Wellington, and the remaining animals were moved to the Zoological Society's Gardens in Regent's Park, now better known as London Zoo.

Jeremy Ashbee, Inspector of Ancient Monuments and Historic Buildings at English Heritage and former Curator at the Tower of London, explained: “The menagerie seems to have been a private collection for the king, a sign that he enjoyed good relations with foreign monarchs, who presented him with animals. Lions were particularly prized as the living emblems of the royal arms of England, much like modern mascots.”

The new research is particularly exciting because it illuminates some of the earliest phases of the menagerie. Currently, information on this period is limited to a few short references in ancient documents (and a famous sketch of an elephant by Matthew Paris, a monk of St Albans).

Jeremy Ashbee continued: “The Royal Menagerie is one of the great ‘lost’ institutions of the Tower and hardly any traces of it remain visible today. At its height, it was an immensely popular tourist attraction, in the same way that the Crown Jewels are today.”

Though the actual location within the Tower of the early Royal Menagerie is still unknown, Edward I had a semi-circular structure – later known as the ‘Lion Tower’ - built in the south western corner of the Tower in 1276–7. By the 16th century this structure definitely housed the Royal Menagerie.

Dr O’Regan continued: “Finding two virtually complete big cat skulls dating back to the 13th and 15th centuries from the moat adjacent to the Middle and Lion Towers suggests that they were kept in this area.”

Unearthed in the 1930s, the big cat skulls have been stored at the Natural History Museum for the last 70 years. Thanks to funding from English Heritage, the LJMU scientists were able to radiocarbon date the remains. In addition to the big cat specimens - two lion skulls and fragments of a leopard skull - the research team also analysed the skulls of 19 dogs.

“Museum collections play an important role in helping researchers to understand the life history, development and habits of animals. It’s the physical remains, particularly the bones, that really tell the animals’ stories,” said Richard Sabin, Curator of Mammals at the Natural History Museum.

Sabin continued; “I hope these findings will help us to open up new areas of research using the Museum’s osteo-archaeological collections. Further investigations will give us more information about the origins and diets of these historically very important animals, creating a fascinating window into the past as well providing information which may be of value to those involved with the care of animals held in captivity today.”

The best preserved lion skull has been radiocarbon dated to AD 1280–1385, making it the earliest medieval big cat in the country. This period covers the reigns of Edward I, II and III, when the Lion Tower was first built.

The second lion skull, though damaged, has been dated to between AD 1420–1480, a period of only 60 years during which the Chronicles of London report that all the lions in the Tower died. This lion also had an unusual abnormality seen in captive lions in the early 20th century.

Dr O’Regan explained the importance of this discovery: “There are around 500 years between the Tower lion and the 1950s captive animal and yet they both still show the same condition, suggesting that this is, or was, a condition that is persistent in captive lions.”

The leopard skull, the most damaged of the cat specimens, has been dated to between AD 1440–1625, a period which spans the end of the Plantagenet reign, through the Tudors to the beginnings of the Stuart dynasty and the post-medieval period.

As lions died out in Northern Europe over 10,000 years ago, the big cats were probably gifts presented to the English monarchs by their allies. Despite their royal status, the LJMU study suggest that once the animals died they were not treated with any ceremony, but rather dumped, unskinned, in the Tower's moat.

Animals from the Tower were also baited, both at the Tower and in the pits at Southwark. This may explain the existence of so many dogs at the Tower - a suggestion borne out by the fact that one the dog skulls analysed has two puncture wounds to the top of the cranium, possibly the result of dog fighting.

Unlike modern zoos, the medieval lions were probably kept in cages measuring just 6m², radiating off from a central courtyard. Given that adult male lions can reach 2.5m long, conditions for the animals must have been appalling. By the 17th century, the cages had gained a second storey and an outdoor exercise area.

Dr O'Regan said: "In addition to contributing to our knowledge of historical menageries, zooarchaeology also has a lot to offer in the study of modern zoo animals. Our research has highlighted a condition in captive lions that has been seen in specimens kept in different locations and different countries 500 years apart. Such studies of past zoo or captive populations have the potential to inform not only archaeology but also conservation strategies."

Jeremy Ashbee agreed: "The results of this research are of great significance for the history of the Tower, of the monarchy, of zoological collections and natural history in general, and English Heritage is delighted to have given its support."

Source: Liverpool John Moores University

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