Man-Eating Lions Not Aberrant, Experts Say

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In 1898 a pair of maneless male lions purportedly killed and ate some 135 people during a nine-month rampage near Kenya’s Tsavo River.

By re-examining this incident and others, researchers at the Field Museum in Chicago, Illinois, found evidence suggesting that lions dining on humans might not be as unusual as previously supposed. The study, published in the Journal of East African Natural History, is one of the first to use scientific methods to examine the often-sensationalized subject of man-eating lions.

"Man eaters have historically been considered aberrant or exceptional," said study co-author Julian Kerbis Peterhans, an adjunct curator of mammals at The Field Museum and an associate professor at Roosevelt University in Chicago, Illinois. "In fact they are carnivores that have always included primates [such as humans] as part of their diets," he said.

Lions may have repeatedly attacked humans as prey because of certain environmental conditions, researchers suggest. They also note that man-eating lion behavior continues today.

Reign of Terror

Despite other cases of lions eating humans, some involving higher death tolls, the much-romanticized Tsavo story endures. The incident, dubbed the "reign of terror" in popular accounts, was featured in the 1996 film The Ghost and the Darkness.

Various accounts of a pair of marauding lions in Kenya during 1898 probably inflated the number of humans killed. At the time, it was reported that 135 bridge construction workers were attacked and eaten. The incident temporarily halted the creation of a railroad linking Lake Victoria with Mombassa on Africa's eastern seaboard. A British officer, Colonel John Henry Patterson, eventually killed the lions, and the skins were sold to the Field Museum after Patterson lectured there in 1924.

"The Man-eaters of Tsavo have long-garnered a disproportionate place in popular imagination," said Craig Packer, a behavioral ecologist with the Lion Research Center at the University of Minnesota in St. Paul. The incident may have been romanticized since it coincided with initial western impressions of East Africa, said Packer. In addition, it has "added a lot of spice" to Kenya's safari industry, he said.

Testing the Myth

Kerbis Peterhans and Field Museum colleague Thomas P. Gnoske decided to test the myths behind man-eating lions and examine legends surrounding the man-eaters of the Tsavo region.

During the 1990s the pair examined museum specimens of problem lions, and compiled anecdotes, historical accounts, and field journals. In addition, they combed scientific literature spanning 150 years. By comparing man-eating incidents, they were able to verify many circumstances often associated with the behavior.

Rather than being deranged oddities equipped with supernatural abilities, lions are often driven to man-eating because of man-made circumstances beyond their control, said Kerbis Peterhans.
The researchers discovered that during the early 1890s, an epidemic of newly introduced rinderpest disease had nearly wiped out buffalo and cattle, the prey lions usually pursue in the Tsavo region. These prey animals were still scarce in 1898, the time of the "reign of terror".

In addition, historical reports suggest that lions of the region may have developed a taste for human flesh, as they were regularly provisioned with human corpses from famines and smallpox outbreaks.

Slave and ivory caravans that passed through the region as late as the second half of the 19th century, may also have provided a gruesome supply of corpses. Other sources examined by the scientists estimate that a minimum of 80,000 people died annually along the treacherous northern caravan routes.

"Since lions are opportunistic…and regularly scavenge, all of these factors likely contributed to…man-eating in Tsavo," said Gnoske.

Alongside these factors, which were also linked to man-eating outbreaks elsewhere, the authors also cited other factors that could influence lion behavior. These include: debilitating limb injuries in lions, which prevent the pursuit and capture of quick-footed prey; and increases in vegetation cover, which makes it easier for the ambush hunters to sneak up on people.

"The authors have done a nice job of putting everything in context," commented Packer, the behavioral ecologist at the University of Minnesota. "When large predators lose their natural prey—whether due to rinderpest, culling or habitat loss—no one should expect these animals to quietly twiddle their claws and starve to death," he said.

Behavioral patterns described as aberrant often "have to be revised when new information comes to light," said Mark Bekoff, of the Department of Environmental, Population and Organismic Biology at the University of Colorado, Boulder. "This new study is compelling and worthy of careful attention," he said.

A Social Tradition?

The scientists reviewed the Tsavo legend during their research. They discovered that the true death toll of the Tsavo incident was probably 28 or even fewer, not 135, as reported at the time. They also found that the Tsavo lions—though especially prolific killers—may have been part of a long line of man-eaters.

The data suggested that man-eating had been going on in the region prior to the 1890s and that lions were still killing people as late as the 1940s, and even today. The evidence points to a man-eating culture, a phenomenon rarely documented, said Kerbis Peterhans.

Several other cases support this view of man-eating as a learned lion behavior. One example occurred in Tanzania during the 1930s and 40s, spanned three generations of lions, and didn't end until all members of the pride had been killed. The man-eating heritage also gets passed on with complex behavioral strategies, such as never returning to the same village twice.

"Lions are a social species, capable of transmitting behavioral traditions from one generation to the next," said Kerbis Peterhans. "The fact that they can be born and raised to hunt and eat humans means that an outbreak of man-eating usually doesn't stop until all the responsible lions and their offspring are eliminated," he said.