

SUPPLYING EXOTIC ANIMALS FOR THE ROMAN
AMPHITHEATRE GAMES:
NEW RECONSTRUCTIONS COMBINING ARCHAEOLOGICAL,
ANCIENT TEXTUAL, HISTORICAL AND ETHNOGRAPHIC DATA¹

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That tale of the elephants carrying brushwood to the pits and giving their fallen comrade a ramp to mount is monstrous and far-fetched and dictates, as it were, that we are to believe it on a king's prescription—that is, on the writs of Juba (*Plu. Mor.* 977d).

In both the past and the present, the public's perception of events is certainly shaped by the information transmitted to them through the popular media. Consider the example of the use of exotic animals over the ages. Today, many of us marvel at the sight of wild African and Asian beasts in zoos, circuses and other entertainment venues—an excitement paralleled in Roman antiquity in the arena games of the Colosseum and elsewhere. At both times, documentation—film, television, newspapers, etc. in today's world, and sources such as ancient literature, mosaics, and other art forms during antiquity—is generally focused on describing and depicting the thrilling events and displays, with perhaps less emphasis devoted to chronicling the capture, transport, and maintenance of these animals prior to their exhibition. The result, regardless of time-period, is an incomplete picture, but it is also one where our impressions, ideas, and data about such processes today might help shed new light on our knowledge and reconstructions of these events during Roman antiquity.

To attain a better understanding of the situation and the link between past and present, it is important to begin in the contemporary

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world. What is commonly known about exotic animal capture and transport today? Isolated images might come to mind, drawn from television programs such as *Animal Planet* or *Nature* or *Mutual of Omaha's Wild Kingdom*, or literary accounts, such as the animal exploits and humorous tales of the author Gerald Durrell in the 1950s and '60s. Earlier still, in the 1920s, '30s, and '40s, the intrepid Texan animal collector Frank Buck, decked out in his trademark pith helmet, led his team through jungle expeditions in search of every known creature, from snakes to elephants to tigers, each time vowing to "bring 'em back alive" (Buck and Anthony 1930). Traditionally, these cases tend to display heroic trappers and wild animal experts, who boldly risk life and limb in their pursuits. Successful ventures are the norm here, carefully edited by the media to portray the chase and capture as thrilling, but also as relatively humane. Often removed from these filtered versions, however, are details considered too dull, too gruesome or too cruel. The result, ultimately, is an incomplete, perhaps diluted picture of the actual activities involved—a picture that is packaged and presented to the general public who, in turn, commonly accept it as accurate.

The criticism of incomplete reporting may also be directed at the ancient sources; however, the nature of this and its context is different. In the writings of ancient authors we often read sensationalized, even mythologized, accounts of ferocious beasts pitted against one another, or matched with gladiators in a fight to the bloody death in the amphitheatre and circus games of antiquity.² Images of exotic African and Asian animals survive in works of Roman art, most notably in the hunting mosaics from the site of Piazza Armerina, in Sicily (Carandini *et al.* 1982), and from various contexts in North Africa (e.g. Ward Perkins and Toynbee 1949; Dunbabin 1978) and in Turkey (Lavin 1963).³ Classical scholars have traditionally relied upon these sources to recon-

² Many of these are collected or reviewed elsewhere, including (e.g.) in Friedländer 1965; Hopkins 1983; Polara 1983; Bertrandry 1987; Wiedemann 1992; Wistrand 1992; Auguet 1994; Futrell 1997; Beacham 1999.

³ Representations of beast hunts appear more frequently in Roman visual culture than images involving gladiators (Wiedemann 1992: 57), but the subject is fraught with imaginative underpinnings. Hollywood films such as *Gladiator* add their own, often spectacular, visual versions of arena games. The subject even forms a part of Lindsey Davis' novel *Two for the Lions* (1998), in which her fictional Roman detective, Falco, investigates the murder of the Colosseum's prized lion, Leonidas—a search that takes him to the wilds of Africa where the beasts were procured. A recent documentary on History Television, entitled *Beasts of the Roman Games*, adds to this fiction through its telling of the story "in a blend of standard and speculative history" (Gorman 2005).

struct broader aspects of the capture and display of wild African and Asian animals for the arena games in Italy and elsewhere, despite the fact that, generally, such accounts and images provide only piecemeal and, in some cases, perhaps suspect information about the actual processes involved in procuring, transporting, and maintaining such exotic beasts.⁴ What is reported, moreover, is subject to various degrees of popular imagination, exaggeration, and, in some cases, fanciful embellishment, making it difficult to extract underlying truths.⁵ For example, on one mosaic from Piazza Armerina, legendary animals such as griffins are depicted with real animals, which in turn are being hunted and caught using a variety of methods, some reasonable, others impractical. Exclusive and uncritical reliance on the ancient textual and artistic data, therefore, runs the risk of jeopardizing any such reconstructions in favour of more simplistic and sensationalized reports of exotic animal capture and care.

Stating that both modern and ancient sources contain their problems is not new. The same holds for other sources of cultural information, such as historical records or archaeological evidence. Certainly each presents to its audience an incomplete picture of events. The purpose of this paper, therefore, is to compare and synthesize, in greater detail, various “incomplete” pictures in attempts to draft a more complete account of exotic animal capture, transport, and maintenance in antiquity. Data from ancient and modern sources will be linked with nineteenth- and twentieth-century ethnographical and historical accounts of exotic animal capture, transport, and maintenance (information less likely to be widely and popularly disseminated), and with new zooarchaeological data from Roman sites in Italy and North Africa, to draft a more detailed, interdisciplinary interpretation of these procedures.

The Romans were not the first to take an interest in exotic beasts. As early as 2500 B.C., groups of elephants were apparently being assem-

⁴ A number of works discuss the role of exotic animals in Roman games, including Loisel 1912; Jennison 1937; Aymard 1951; Friedländer 1965; Bertrand 1987; Sabbatini Tumolesi 1988; Bomgardner 1992; 2000; Wiedemann 1992; Auguet 1994; Kyle 1995; Deniaux 2000; Epplert 2001. All of these, however, examine this topic chiefly, if not solely, on the basis of ancient textual or artistic data, and not with the inclusion of ethnographical, historical, or zooarchaeological evidence.

⁵ The degree of exaggeration certainly varied, depending on the source, and may have been evident, or even deliberate. Scholars have speculated about this for some time already. Nearly a century ago, Ludwig Friedländer (repr. 1965: 65) claimed that “according to Dio, there was much exaggeration [in terms of the ancient sources on numbers of captured and presented animals],” but countered with: “even half [of the numbers reported] would constitute an enormous number.”

bled in India, with some even being trained to haul cargo (Luoma 1987: 5). At the same time, zoo-type collections were noted in Egypt (Luoma 1987: 5; Kisling 2001: 12–15). One thousand years later, Thutmose III is said to have kept in his palace “zoo” exotic animals which he acquired from trading expeditions to Ethiopia (Luoma 1987: 5). Kings in Assyria and Babylon also sponsored royal zoos (Gold 1988: 2), where monkeys, antelopes, camels, elephants, and other species were brought as tribute and displayed in elaborately re-created marsh, jungle, and mountain habitats (Kisling 2001: 9–12). Subsequent accounts of the ancient Greeks collecting exotic animals filter in from the seventh century B.C. onwards. By the fourth century B.C., enough was known to prompt Aristotle to write the first systematic zoological survey, entitled *The History of Animals*. Greek “zoos” reached a pinnacle during the third century B.C. when Ptolemy I established a grand menagerie in Alexandria. His successor, Ptolemy II, added to the collection with scores of beasts captured from Ethiopia and Arabia, which were apparently paraded through the streets, as described by Athenaeus (5.201b–c).

Although the intrigue with, and desire for, exotic animals was shaped early on in antiquity by the curiosities of the Egyptians and Greeks, demand was augmented significantly during Roman times. The result was a concomitant increase in the number of epigraphic, literary, and artistic references to such beasts. Two major factors shaped this development. First, unlike many earlier empires, the geographic extent of the Roman world was immense. While Egyptians, for example, may have travelled up the Nile to Sudan and Ethiopia to acquire wild African animals for Alexandria, the Romans would have had to contend with that distance, plus a voyage across the Mediterranean Sea to supply Italy with similar African exotics.⁶ The capture of the North African provinces of Mauretania (roughly modern-day Morocco and western Algeria), Numidia (roughly eastern Algeria), Africa Proconsularis (roughly Tunisia and north-western Libya), and Cyrenaica (roughly eastern Libya) opened up sources closer than Ethiopia for the acquisition of exotic African animals for Rome,⁷ but it ushered in new complications, since, with no truly navigable rivers in these areas, animal collectors had to roam overland, often over great

⁶ I use African exotics as an example here. Asian exotics were also acquired by early cultures, and over apparently great distances as well (e.g. the import by Ptolemy II of animals from India for his Grand Procession).

⁷ Pliny (*Nat.* 5.1.6, 5.1.9, 5.2.22) specifically identifies Mauretania and Numidia as key areas of North Africa where exotic animals could be found, though Ethiopia continued to be a major producer as well (5.10.53).

distances, to acquire the beasts. Some other exotics, such as Asian tigers and elephants, could be procured from eastern regions of the Empire, but again the distance from Rome was significant.⁸

The second major factor that shaped the development of the wild animal trade during Roman times was the augmented demand for exotic beasts for entertainment and show purposes. It has been suggested that beast shows were introduced to the Roman amphitheatre games around the third century B.C.,⁹ but the earliest attested event of this kind in Rome dates to 186 B.C. Livy tells us (39.5.7–10, 39.22.1–2) that Marcus Fulvius Nobilior sponsored *venationes*, or wild animal hunts,¹⁰ complete with lions and leopards. The list continues from this point—miscellaneous African “beasts” in 169 B.C. (Liv. 44.18.8)¹¹; lions in 104 B.C. (Plin. *Nat.* 8.19, 8.53); Syrian leopards, and Egyptian crocodiles and a hippopotamus in 58 B.C. (Plin. *Nat.* 8.64; 8.96); lions, leopards, and other beasts displayed by Pompey in 55 B.C. (Plin. *Nat.* 8.20, 8.84, 8.71; Cic. *Fam.* 8.1.3; D.C. 39.38); Julius Caesar’s triumphal parade and show with elephants, lions, bulls, and a giraffe (Plin. *Nat.* 8.53; D.C. 43.23; Suet. *Jul.* 39.3)—and culminates in the exhibition of hundreds, even thousands, of exotic animals including lions, leopards,

⁸ One complication in identifying regions from which exotic animals were procured is that the ancient sources tend to use rather generic terminology for wild beasts, providing a name for the species but rarely details to link this label to a particular place (Bomgardner 1992: 162). This uncertainty is exacerbated for antiquity, since at that time some exotics, such as lions, were distributed over wider territories, including parts of Europe and Asia, where they have now been extirpated. Of those regions mentioned in the ancient sources (either directly or indirectly) from where exotic species were supplied, however, Africa appears most prominently. “Africa was the favoured land because of the richness and variety of its fauna” (Auguet 1994: 113).

⁹ These early shows in Rome seem to have incorporated chiefly indigenous Italian animals, such as wild boars, bulls, deer, and bears, with only a few foreign exotic beasts (Beacham 1999: 12). Elephants were among the first exotic animals displayed in Italy—originally, it seems, as parade animals, and later as show beasts in amphitheatre and circus games. Their use on two occasions, 275 B.C. and 251 B.C., is recorded by Seneca (*Brev.* 13.3; 14.2), Eutropius (2.2.14), Varro (*L.* 7.389.39), and Florus (1.18.26).

¹⁰ Bomgardner (2000: 35) notes that although there were two types of *venationes* (the exhibition-type and the hunting-type), the ancient texts are not always specific about which form was staged on the occasions mentioned. The Romans referred to each as simply a *venatio*.

¹¹ A reported ban on the use of imported beasts in *venationes*, around 179 B.C. (Plin. *Nat.* 8.17.64), seems to have had little impact on the popularity of such exotics, leading to subsequent, and apparently swift, modification of this legislation to permit African animals for show purposes in Rome by at least 169 B.C. (Beacham 1999: 12).

bulls, elephants, tigers, hyenas, rhinoceroses, apes, crocodiles, gazelles, and ostriches, among others, in the *venationes* sponsored by emperors and wealthy citizens throughout the imperial period.¹² Although the last beast shows to be recorded in some detail in the ancient sources were those sponsored by the emperor Probus in A.D. 281 (SHA *Prob.* 19), we can be assured by the comments of Symmachus (*Ep.* 2.76, 9.117) about complications in acquiring and transporting African beasts, including lions, for games to be held in A.D. 393 in Rome, that these hunts still continued well into the late fourth century A.D., and presumably later as well. The last recorded *venationes* in the Colosseum apparently were those sponsored by the Roman aristocrat Anicius Maximus in A.D. 523 (Cassiod. *Var.* 5.42), but there are few details for these events. Nevertheless, when one tallies the large demand for exotic animals in Rome, then adds to this the cumulative desire for them in other cities with amphitheatres in and outside of Italy over the course of antiquity, the final figure (even taking into consideration exaggerated claims) must have been quite impressive.¹³ Certainly, the supply systems needed organization, but just how was this organization accomplished? Who obtained the wild beasts? How were they captured and transported? And what became of the thousands of dead animals from these games? While parts of these questions have been examined already with information from the ancient texts and art,¹⁴ such an approach is limited by the nature of its database. It is essential, therefore, to examine these questions from a multidisciplinary perspective—combining literary, artistic, zooarchaeological, and ethnohistorical data—to gain a better appreciation of events and procedures during antiquity.

¹² Important ancient references to such events, or to other uses of exotic imported animals include: Claud. *Stil.* 3.271–284; SHA *Heliogab.* 25.1, 28.2–4; SHA *Gordiani Tres* 3.5–8, 33.1–2; Petr. 119.14–16; Ael. *NA* 13.10; Ov. *Fast.* 5.371–372; Calp. *Ecl.* 7.47–72. Numerous references to exotic beasts can also be found throughout Martial's *Spectacula*. For detailed listings and further commentary on these, and for other references to exotic animals in Roman *venationes*, see Jennison 1937 and Friedländer 1965.

¹³ Although there may have been a desire for exotic African beasts in large Roman cities with amphitheatres throughout the Empire, it is unlikely that many of these could be supplied regularly with such animals. Bomgardner (2000: 115) argues that only amphitheatres in North Africa and on the trade route to Italy, and specifically to Rome, had access to, and the maintenance facilities for, exotic African animals. Nevertheless, cumulative totals for all of Italy would be impressive.

¹⁴ For important works, see nn. 2 and 4 above.

ORGANIZATION

Available ancient textual and artistic data point to a number of groups who presumably captured these wild beasts during Roman times. Representations in mosaics show a mix of soldiers and what appear to be professional hunters undertaking these tasks.¹⁵ Soldiers were probably utilized; in fact, capturing wild beasts could be regarded as a military exercise of sorts (Davies 1989; Bomgardner 2000; Epplert 2001). Exotic goods, including items such as ivory, spices, precious gems, and so forth, were often demanded from subject states of the Roman Empire, sometimes procured as tribute, and Roman soldiers stationed in these areas could help in the capture and transport of any requisitioned animals.¹⁶ No doubt some civilians and “native” peoples¹⁷ were also recruited (or coerced) to assist as required (Bertrand 1987: 229), but their involvement, especially that of poorer native Africans, generally escapes mention in the Latin texts and depiction in Roman art, media which often catered to, or reflected, the social and political interests of the Roman élite (rather than the indigenous people). There are, however, some references to native involvement. According to Seneca (*Brev.* 13.6) and Pliny (*Nat.* 8.20), King Bocchus of Mauretania sent specialized native spearmen to take part in the games given by Sulla in 93 B.C., where they probably hunted large felines in the Circus (Bomgardner 2000: 35). Their particular expertise, or that of similar native herdsmen, was likely also utilized during the initial acquisition of such exotic beasts. In other references, Cicero (*Fam.* 2.11.2) mentions an experienced troupe of hunters, known as “the shikarees” (presumably a native group) who are called upon to aid in the capture of large felines (panthers or leopards) in Laodicea, while Pliny (*Nat.* 8.54.131) notes a match in 61 B.C. where Numidian bears were pitted against Ethiopian hunters. Juba, king of Mauretania (25 B.C.–ca. A.D.

¹⁵ Several images of these events can be found in, among others, Jennison 1937; Toynbee 1973; Bertrand 1987; Auguet 1994.

¹⁶ Noteworthy examples include instructions provided to soldiers in North Africa for the capture of lions (Julius Africanus, *Cestes* 14), and a papyrus from Egypt that documents military hunting of all species of wild animals under orders of the prefects (Davies 1989: 193). For further examples and discussion of military involvement in exotic animal capture throughout the Roman world, see Epplert 2001.

¹⁷ The term “native” in this sense refers to those of indigenous African or Asian heritage (and generally those with more tribal affiliations), as opposed to those tracing their heritage to a colonizing group (such as Romans of Italian origin). Grants of Roman citizenship were certainly bestowed upon many “natives,” especially important merchants, traders, and élite foreigners; however, this does not change the fact that these individuals were initially of native origin.

23), mentions “hunters” who dig pits to capture elephants (Plu. *Mor.* 972b). Presumably, these were native hunters as opposed to Roman soldiers, given that troops did not become well established in this area of Africa until after Juba’s death (Plin. *Nat.* 5.1.11).¹⁸

Although sport hunting was generally considered an élite activity during antiquity, these were chiefly hunts of local game animals, some of which were consumed afterwards.¹⁹ The species hunted would certainly vary depending on the geographic territory. For example, forest prey such as deer and wild boar were common in Italy, while bigger game, including elephants and large felines, could be hunted in their natural habitats, if desired, by local élites in Africa and Asia. Some sport hunts were certainly dangerous activities, but probably not to the same degree as exotic animal capture, where greater numbers of presumably unfamiliar and more ferocious and deadly beasts were trapped.

In these cases, native Africans (or Asians or Europeans, depending on the region) probably did the brunt of the work. Emily Hahn (1967: 365) notes that many of the animal collectors hired in Central America are “peasants who turn to catching now and then in the slack season.” It seems likely that similar tactics were used in Roman antiquity, and North African pastoralist groups inhabiting the border areas of the empire may have provided a source of such seasonal workers. As for the professional nature of ancient animal hunters, there is some support for this in literary and inscriptional evidence alluding to guilds of wild beast hunters and merchants (Bertrand 1987: 227–233; Auguet 1994: 114; Bomgardner 2000: 139, 212–213), but such groups probably existed more for administrative purposes, to coordinate the capture, trade, and sale of animals, rather than as actual organizations of trained hunters doing the dangerous work out in the fields, forests, and jungles.²⁰ Roman soldiers, citizens, and professional hunters may

¹⁸ Pliny (*Nat.* 5.1.15) further comments that the forests of the Atlas mountain range in northwestern Africa harbour numerous elephants, which were presumably among the prey hunted by the carnivorous “Canarii” tribe also inhabiting the area. Other references to native tribes hunting elephants include examples from India (Plin. *Nat.* 6.22.66), Ceylon (*Nat.* 6.24.91) and Ethiopia/Sudan (*Nat.* 6.35.185, 191). By contrast, there are no specific ancient references indicating that Roman soldiers captured elephants (even if soldiers did hunt), or were involved in catching other beasts, such as lions or bears (as argued by Christopher Epplert 2001).

¹⁹ For further information about hunting in the Greek and Roman worlds, see Aymard 1951; Anderson 1985; Green 1996; Lane Fox 1996.

²⁰ There is more evidence for organization among the *venatores* themselves. Members of the Telegenii, a fairly popular guild of professional North African *venatores*, are common subjects of inscriptions and mosaics recovered from the

have contributed to the capture of less ferocious animals, such as deer, gazelles, and ostriches for amphitheatre and circus games. They may also have aided periodically in the capture of bears and lions (Epplert 2001). However, extrapolation from the modern sources suggests that native hunters caught most of the more ferocious, massive, and deadly creatures, such as the great cats and elephants. Such native hunters may have worked alongside members from guilds of professional hunters and trappers, such as the *venatores*, in the actual capture of exotic beasts, or been commissioned by such groups to execute certain tasks, or to supply certain beasts within the process.²¹

Given the hefty prices fetched by top-quality exotic animals,²² the capture and supply of wild beasts had the potential to be a financially lucrative enterprise to those who could co-ordinate and manage things well. Presumably, such large fiscal transactions and contractual obligations were best handled through organized guilds of hunters and traders, rather than made directly with local native trappers, even if such natives were employed or otherwise commissioned by the guilds actually to hunt, trap, and maintain the beasts. The ancient sources underplay the importance of local hunters in the actual capture of exotic beasts, but ethnographic and historical literature highlight their exten-

Sahel region of Tunisia, and presumably represent one of many such professional, traveling troupes of beast hunters (Bomgardner 2000: 139). Other similar groups include the Pentasii, the Synematii and the Tauriscii (Auguet 1994: 114). A distinctly engraved breast-plate on a *venator* statue discovered at Sidi Ghrif (Tunisia) identifies that individual as a member of a particular sodality of hunters as well (Baratte 1998). The roles such guilds of *venatores* fulfilled in the actual trapping and transport of exotic animals are uncertain; however, there is some evidence connecting the Telegenii to the commercial export of olive oil to Rome, which might facilitate a chain of supply for wild beasts as well (Bomgardner 2000: 139). Certainly, the necessary skills one might acquire with familiarity in initially acquiring wild animals would prove invaluable for their sport hunting later on in entertainment venues, so a case may be argued that *venatores* were probably involved at least in some aspects of the initial capture and trapping of wild beasts, if only to gain a better appreciation of how to hunt them later at the amphitheatre or circus.

²¹ Fashioning and preparing hunting equipment such as spears, nets, and wooden cages may have been one such task that was commissioned to various tradesmen or labourers, depending on the level of skill required. Epplert (2001: 212 n. 10) mentions a letter from Roman antiquity outlining a case where cords were to be readied prior to the arrival of hunters, who would be using these materials to construct nets. Claudian (*Stil.* 3,323–5) comments on the shortage of available carpenters to keep up with the demand for constructing wooden cages for beasts.

²² Bomgardner 2000: 211 provides some examples, the most expensive of which was an African lion costing 600,000 sesterces (or the equivalent of nearly \$10 million today).

sive involvement, numerically and physically, in these activities. This is an important detail to keep in mind in reconstructions.

CAPTURE AND TRANSPORT

Our available database of ancient texts and art yields a somewhat piecemeal profile of exotic animal capture during antiquity. The reality was probably much more gruesome and inhumane than the outline given in these ancient sources, if comparable early twentieth-century versions of these activities can be used as parallels. These more contemporary accounts merit closer examination. Animal rights organizations did not exist in antiquity, and confinement in narrow spaces behind bars had been the norm until 1907, when Carl Hagenbeck, an animal dealer (and rival of Frank Buck) established the first open-area zoo in Germany (Gold 1988: 3). The welfare of captured creatures in antiquity (and unfortunately in many cases since then) was (and has been) of little concern, if it mattered at all.²³ Animals were normally viewed as commodities, traded and exploited for profit. Before opening his zoo, Hagenbeck had been responsible for killing countless animals in their pursuit and capture. He once professed that young elephants and rhinos “cannot as a rule be secured without first killing the old ones” (Luoma 1987: 12–13). Early twentieth-century accounts of animal capture do not describe noble chases of fierce adult beasts, as some Roman examples may have led us to expect, but instead note the norm of shooting the adults in order to capture the docile babies, or the cowardly practice of waiting for the parent to leave the baby unattended for a minute so that it can be grabbed quickly with getaway transport standing by. One problem has been catching animals that are too young, many of which are not mature enough to survive the rigours involved in capture and transport, let alone the anxiety and care-giving complications associated with separation from their parents (Hahn 1967: 367).

While Frank Buck may have vowed to “bring `em back alive,” the episodes recorded and brought back to us were certainly edited to reflect only the most positive and humane exploits. Animal capture of the recent past really involved ambush, baiting, hiding, trapping, surrounding, and sneaky, almost cowardly behaviour. Such methods dominate among current literature on animal capture (e.g. Young 1975; McKenzie 1993), even if a moral stance on their deceitful nature is downplayed or avoided. It is the outcome (i.e. catching the beast), not so much the process, after all, that ultimately counts. Extrapolating

²³ On ancient philosophical viewpoints concerning animals and their welfare, see Bodson 1983; Tester 1991; Sorabji 1993.

back, therefore, provides a basis from which to argue that the Romans operated in a similar fashion, despite the image of the brave warrior they appear to associate with this activity.²⁴ There are some hints in the ancient texts that less daring tactics were used in animal capture, but these are generally presented in a more cursory manner and are usually dwarfed by other descriptive details or information. The Elder Pliny, for example, rather casually mentions an elephant's fear of ambush (*Nat.* 8.5.9) and the use of pit-traps in its capture (*Nat.* 8.8.24); however, the bulk of the 13 chapters he devotes to this animal extols the elephants' noble characteristics and usefulness to man. A similar imbalance exists in Pliny's discussion of lions and tigers. More attention focuses on describing their fierce feline nature, with minimal detail presented about their capture. The use of camouflaged pits to trap lions, however, is admitted to with some embarrassment as "a method that was almost one to be ashamed of in the case of a wild animal of this nature" (*Nat.* 8.21.54), while the tactic of baiting a tigress by stealing her cubs is outlined (8.25.66) to highlight the speed and tenacity of this animal, as opposed to criticizing an arguably cowardly and deceitful method of capture. It might be the case that nets, pits, traps, and other basic methods of animal capture were simply too routine to warrant more than cursory mention in the ancient texts. After all, they do appear in depictions of exotic animals captured in ancient mosaics, so they were not totally censured from the public media. Still, a survey of these images shows that nets, pits and traps are depicted less frequently overall than cases of hunting without these aids, or hunting using a relatively bolder, more direct weapon such as a spear.

There were certainly dangers involved in animal capture, and no doubt some hunters (generally indigenous peoples and not Roman soldiers, as argued above) were probably killed in the process. Certainly many more animals died than the ancient sources would have us believe, a fact that must be stressed in developing a more balanced reconstruction of exotic animal capture during antiquity. As occurs today, injuries and wounds received from falls into pits or from jabs with arrows and spears would have taken a substantial toll on animal numbers, killing many individuals in the process as well.

The inhumane attitudes towards animals continued in transport. Cramped into tiny cages or forced to travel on foot, the beasts (princi-

²⁴ At the extreme end of this image is the notion that some ferocious animal avoided being captured through more deceptive means (such as camouflaged pits, baiting, or scaring with torches) and offered themselves willingly to the hunters, since they would then become the special property of gods or emperors (*Claud. Stil.* 3.333-43).

pally babies and juveniles, if one extrapolates from modern practices) were paraded to ports for further shipment.²⁵ Many may have been injured or ill, but were unlikely to receive care.²⁶ Hagenbeck (Luoma 1987: 14) commented that sheep and goats are driven along with the procession, the ewes and nanny goats providing a constant supply of milk for the young animals, and the remainder being used as food for the carnivores, but there is no guarantee that provisions were in adequate supply during antiquity.²⁷ Water would have been especially important if the animal caravans had to cross the desert terrain in North Africa. Moreover, as the numbers of cities and their agricultural hinterlands grew in North Africa throughout the Roman period, the natural habitat for the native exotic animals diminished, pushing the beasts into farther and more remote regions.²⁸ The added transport distances involved to procure these remaining beasts from such distant regions would add significantly to the associated costs (Bomgardner 2000: 213).

Conditions would have been no better on the ship during the final leg of the voyage. This journey had to be swift to reduce loss as much as possible. According to Pliny (*Nat.* 19.4), the fastest ships could sail from North Africa to Ostia, the port of Rome, in two days, but no doubt those carrying wild animals were also equipped with oars to

²⁵ Some of these processions were apparently so long that they blocked roadways (Claud. *Stil.* 3.327–8). There certainly had to be special night encampments close to the road for such journeys (Robinson 1992: 207).

²⁶ Heat stroke is a common threat among captive animals; where possible, capture and transport are best avoided during the summer months (Hirst 1973: 120). Adequate shade should be provided for all animals.

²⁷ The costs of provisions (including livestock and fodder) seem to have been borne partly by the Roman government and partly by those municipalities through which the animal trains passed and in which they stayed temporarily (Bomgardner 2000: 213). Such maintenance could be quite costly to some communities, as attested by an official petition to the emperor Theodosius II in A.D. 417 which bemoans the extended stay of one transport caravan in Hierapolis (the capital of the province of the Euphrates), which was unfairly draining resources and burdening local citizens (*CTh* 15.11.2).

²⁸ Bomgardner (1992 and 2000) argues that environmental degradation, brought on by widespread intensification of agricultural and urban development in North Africa, had a significant impact on wildlife destruction. The ancient sources echo these complications. By the third century A.D., exotic animals were already scarce, and greater efforts were exerted to procure them from more distant regions of the Roman Empire. Rock paintings of exotic beasts found in North Africa and the Sahara may have been produced by trappers and hunters who brought animals through these areas on their long treks to the coast (Auguet 1994: 114).

facilitate a speedy conveyance (Bertrand 1987: 226).²⁹ While this may have reduced travel times, poor conditions on board would have been a hindrance, and unpredictable weather problems and further mechanical or logistical complications certainly would have added to the duration and stress of a voyage,³⁰ possibly leading to shipwrecks.³¹ The confined conditions onboard would also provoke behavioural changes, with some animals developing more vicious and territorial demeanour,³² and others becoming more withdrawn and timid (Berggren 1969: 29–30). Mortality among young animals that were separated from their mothers was probably high. Moreover, diseases and other infectious ailments could spread rapidly on board, especially if animals were malnourished, weakened, and uncomfortable.³³ Early

²⁹ Claudian (*Stil.* 3.325–7) comments: “Boats laden with some of the animals traverse seas and rivers; bloodless from terror the rower’s hand is stayed, for the sailor fears the merchandise.” Rowers are further mentioned later in this work (Claud. *Stil.* 3.365).

³⁰ The younger Pliny (*Ep.* 6.4.3) laments the delay, owing to bad weather, of African beasts for a show at Verona. Claudian (*Stil.* 3.354–5) expresses concerns that the weight of captured elephants would severely retard their journey by ship. As an historic comparison, Keith Hopkins (1983: 11), drawing from information in Friedländer (1968: 65), points out that, in 1850, “it took a detachment of Egyptian soldiers to capture [a hippopotamus], and a five-month journey to bring it from the White Nile [in Ethiopia] as far as Cairo.” For general references to seafaring in antiquity, including transport times and varieties of ships, see Oleson 1986; Chevallier 1988; Casson 1991.

³¹ Symmachus (*Ep.* 9.117, 2.76) expresses disappointment at the loss of exotic animals in a shipwreck of the late fourth century A.D. For details about archaeological research into shipwrecks from the Mediterranean, see Parker 1992 and Jurisic 2000. Although animal bones (including cattle, pigs, ovicaprids, and dogs) are noted from some of these shipwrecks, no examples derive from exotic African or Asian species common to Roman games. While relatively early in date (i.e., third to second century B.C.), the single lion’s tooth recovered from one of the Roman ships discovered during excavations at Pisa’s San Rossore train station (Sorrentino 1999) may be a part of a special votive object or curio (though still of exotic origin), rather than evidence for the shipment from Carthage of an entire lion destined for a *venatio* in Italy, as Andrew Slayman (1999) suggests. More of the animal’s skeleton would have been expected to survive (especially the complete dentition) and to be recovered from the wreck (which did not show significant signs of post-depositional disturbance), if in fact a whole lion was being transported.

³² Territoriality among captive animals is a common problem. Many beasts will not tolerate new introductions (Young 1975a: 134).

³³ Animals in poor condition are easily susceptible to journey fatigue, and do not travel well for periods longer than three hours (Hirst 1975: 124). Constant supervision is essential, especially during sea transportation, and excessive noise and movement should be avoided (Hirst 1975: 125). Body condition and strength

twentieth-century animal shippers did not always feed their cargo. They did not care because they could still secure a good profit from the sale of even a few beasts out of an original cargo of many more (Hahn 1967: 366).³⁴ There are examples of exotic animals dying en route to zoos in the contemporary world; many zookeepers even stipulate to dealers that the purchased animals must survive a two-week period after transport, in order for the sale to be valid (Hahn 1967: 366). Clearly, the journey to the final destination was fraught with as many difficulties as was the actual initial capture of the animals themselves. Many of these standard complications that plague animal transport today, and in the recent past, go unmentioned in the ancient texts, and are consequently downplayed in subsequent reconstructions drawn solely from those sources.³⁵ It is unlikely that conditions were more favourable in ancient times, with fewer beasts dying. Rather, possibly because of an ignorance or denial of the losses incurred, the ancient authors did not present these details. The inclusion of ethnohistorical data highlights the difficulties involved in transporting exotic animals, and yields more sobering estimations of the numbers that must have perished en route to their final destination.

MAINTENANCE AND DISPOSAL

In the case of supplying Rome, once unloaded at the port, exotic animals were subsequently barged up the Tiber River to the capital city. Some may have been convoyed overland as well (Robinson 1992: 207), from Ostia or even as far south as the Bay of Naples.³⁶ The transfer was not always smooth. Pliny (*Nat.* 36.40) tells of a sculptor at the docks who was attacked by an escaped leopard.³⁷ Once in Rome, some ani-

rapidly diminish after capture for many animals, and especially ungulates (Hirst 1975: 120; Raath 1993: 213), leading to an increased propensity for diseases. For further details about capture, care, accommodation, and transportation of exotic animals during modern times, see Crandall 1964; Young 1975b; McKenzie 1993.

³⁴ The high prices of some exotics, and the enormous inflation rate at which such costs escalated throughout antiquity (Bomgardner 2000: 211), likely assured Roman hunters and trappers a good profit as well, even on a shipment of only a few animals.

³⁵ “We know little of the conditions for the care of the beasts during and especially after the sea passage. The classical writers have left us only the image of the ship launched ...” (Auguet 1994: 110).

³⁶ Pliny (*Nat.* 8.3) mentions elephants disembarking at the port of Pozzuoli, although these were probably destined for games at cities in the area of the Bay of Naples.

³⁷ This leads to the additional legal problem of whom to sue in such cases of injury or damage. The head keeper was likely liable, even if most of the imports

mals could be stored in subterranean rooms and pens at the Colosseum itself, but these seem principally designed to provide only temporary housing prior to the shows (Bomgardner 2000: 85). *Vivaria*, or stockyards, furnished longer-term storage. There are some references to *vivaria* in the ancient texts (albeit of late-antique date, e.g. Procop. *Goth.* 1.22.10, 1.23.13–23), and even mention of what may be interpreted as ancient zookeepers, or in Latin, *custodes vivari*³⁸; however, only conflicting evidence for the whereabouts of these stockyards exists, and, as yet, no archaeological traces of them (Bertrand 1987: 230).³⁹

Archaeological faunal evidence for exotic beasts in Roman cities with amphitheatres or arenas might help prove the existence of such animals in ancient games. Unfortunately, the pool of exotic animals in the Roman zooarchaeological record is slim. Scattered gazelle, wild

of exotic animals were commissioned by magistrates or the emperor (Robinson 1992: 207). Escaped beasts were probably rounded up by the animal keepers, in the first sense, who might be assisted by Urban cohorts, or possibly gladiators, if necessary (Robinson 1992: 207).

³⁸ The term derives from an inscription of A.D. 241, found in Rome (*CIL* 6.130), mentioning two *venatores immunes cum custode vivari*, Pontius Verus and Campanius Verax, evidently soldiers who fulfilled supervisory roles over the city's *vivaria* (Epplert 2001: 212).

³⁹ Given their large spatial requirements, *vivaria* would only be practical in suburban areas of a city, and presumably beyond the city gates in the case of Rome. Ancient references to them, however, are scarce, and biased in favour of late antiquity, making it difficult to assess their applicability to earlier imperial and republican times. Nevertheless, one inscription (*CIL* 6.130) records a possible *vivarium* outside the *Porta Praenestina* in Rome (Richardson 1992: 431–432; Robinson 1992: 207), while Procopius (*Goth.* 5.32.10–11, 5.33.14–17) mentions another *vivarium* (near the *Porta Labicana*, according to most authorities) where apparently lions, wild animals, and other untamed beasts were kept. The relationship between these two *vivaria* is unknown; it is possible that they refer to the same place. Nevertheless, few architectural or physical details are available that might help distinguish such an area archaeologically, and even then, subsequent modification and development of the region have probably obliterated most structural clues. The *vivarium* described by Procopius (*Goth.* 5.33.14–17) was located on fairly level ground and was encircled by two sets of walls to keep the animals within. Outside of Rome, special parks to house exotic animals may also have existed near Ardea (for elephants) and at Laurentum (Auguet 1994: 112). These too, however, have not been authenticated archaeologically. No exotic animal bones have been identified among zooarchaeological samples retrieved from excavations at Laurentum or neighbouring Casteloporziano (ancient *Vicus Laurentium Augustanorum*) (MacKinnon n.d.: 1), the latter of which included what seems to be a substantial communal midden on the outskirts of the settlement—arguably a good spot to deposit any large dead beasts from the Laurentum animal park.

boar, deer, camel, bear, ostrich, wild goat and sheep, and hartebeest bones have been found at a number of Roman sites in North Africa, especially at the ancient city of Carthage in modern Tunisia.⁴⁰ Most of these finds, however, date from the fourth to seventh centuries A.D., presumably at a time when beast hunts were in a decline (as Christianity, which forbade such pagan spectacles, increased), so they offer little help in determining details about the exotic animal trade during republican and imperial times. The bones never appear in considerable quantities to suggest that they derived from animals acquired in large numbers for the amphitheatre games of this North African capital city. Furthermore, no remains from the traditionally “exotic” fauna such as the lions, panthers, tigers, giraffes, and so forth are noted in these deposits.⁴¹ The lack of the big cats is especially noteworthy since it contrasts markedly with their apparent popularity in both the ancient textual and artistic databases (Bomgardner 2000: 35).

The North African zooarchaeological data, however, do prompt key questions about the distribution of exotic species in that region. First, the presence of bear bones from late-antique levels at the site of Bir el Jebbana in Carthage⁴² contradicts the claim made by Pliny (*Nat.* 8.54.131) that bears were extinct from North Africa during his time, assuming of course that this individual was not imported from Europe or Asia (an unlikely event it would seem, given the absence of references to any such imports in the ancient texts).⁴³ Presumably this bear

⁴⁰ Sites in Carthage where these “exotic” animal bones were found include Avenue Bourghiba (Schwartz 1984), Kobbat Bent el Rey (von den Driesch and Baumgarnter 1997), German excavations (Nobis 1992 and 2000), Cisterns (Reese 1981), Circular Harbour (Levine 1994), Ecclesiastical Complex (Reese 1977), Circus (Hutchinson and Reese 1988), as well as the sites of Bir el Jebbana, Yasmina Necropolis, and Circular Harbour (Îlot d’Amirauté), which I have examined personally, but which are currently unpublished.

⁴¹ Two elephant bones (a radius and ulna) were identified in first-century A.D. excavation levels at the Magon Quarter in Carthage (Nobis 2000: 583), but as somewhat isolated finds at this site it is unlikely they represent remains from an amphitheatre animal. Bones of elephants and lions were apparently recovered during excavations at the site of Thamusida, Morocco, “suggesting the corralling of animals to be exported for amphitheatrical spectacle” (Wilson 2002: 253). These remain unpublished; consequently, their identification, context, and quantity cannot be verified. For a preliminary report on Thamusida, see Papi, Cerri and Passalacqua 2000.

⁴² See Rossiter 1998: 108–109 n. 16 for a preliminary report about Bir el Jebbana and about the bear bones discovered here.

⁴³ Pliny (*Nat.* 8.83.228) further states that Africa is also devoid of wild boars, stags (i.e., red deer), and roe deer. Available zooarchaeological data confirm his claim about roe deer (which are not native to North Africa, and do not seem to be imported there for hunting), but both red deer and wild boar were present in

was involved in a *venatio*, given the close proximity of the site to the Carthage amphitheatre; however, excluding the two elephant bones from the Magon Quarter, it is the only beast of any significant ferocity reported from a site in Carthage. The remaining species, including deer, gazelle, ostrich, wild boar and wild sheep, were commonly hunted throughout North Africa and consumed as game animals, usually by the Roman élite, even if they too featured in *venationes*. Camels were common pack animals in North Africa, and probably figured insignificantly in arena spectacles there, though as “exotics” they did factor in games in Italy, and presumably elsewhere.⁴⁴

A second important issue raised by the faunal evidence is one of ecology. Bomgardner (1992: 161) has stated that “the combined pressures of both the hunting of species for aristocratic recreation and for use in *venationes* coupled with the destruction of habitat to maximize agricultural productivity caused a dramatic decrease in numbers of wild animals in large tracts of North Africa,” and the dearth of zooarchaeological evidence for exotic species supports such an argument. As numbers dwindled over the course of the late second century A.D. and into late antiquity, arena games were modified in two ways. First, it seems more animals were kept alive for return shows, rather than being slaughtered in large numbers on single occasions (Bomgardner 1992: 161). The result, according to Bomgardner (1992: 161), was a gradual transition to emphasize animals performing clever tricks, the descendants of which formed modern European circuses.

The second modification to the games at this time was an increasing reliance on locally obtainable ferocious species, such as bears, over foreign exotics (at least in Italy), as well as an overall shift towards using more, and more relatively common, species, such as bulls, boars, and deer (Jennison 1973; Bomgardner 1992: 164). Although zooarchaeological evidence for animal use in Roman games is lacking for earlier time periods among the North African samples listed above, available data support the notion that more familiar species, such as boars and deer, figured chiefly in any games staged at this time. Bulls could also

North Africa, even if in limited distribution.

⁴⁴ Suetonius (*Nero* 2) and Cassius Dio (60.7.3, 61.9.1) describe races with camel-drawn chariots during two different *venationes* in Rome. Although camel bones are recorded from several sites in Italy, including Ostia (MacKinnon n.d.: 2), they are extremely rare finds, and interpreted as remains from the odd imported pack animal. Moreover, the bulk of these bones date between the fourth and seventh centuries A.D., presumably at a time when amphitheatre games were uncommon. For further examples and discussion of camels in the Roman zooarchaeological record, see Caillet 1987; Cardoso 1992; Albarella 1993; Fernández Rodríguez 2003.

have been chosen. Some may even have derived from domesticated herds, with individuals provoked, through starvation or other cruel or aggravating measures, to charge at humans or other animals.

The low frequency of exotic animals found among North African sites supports the hypothesis that such beasts were indeed quite rare, with the destruction of ecological habitat probably contributing to, if not instigating, their decline. Still, the data must be assessed critically. With the exception of the Circus excavations (fauna from which are still being analyzed⁴⁵), most other sites in Carthage are not directly associated with amphitheatre or game functions, even if some faunal material from such games eventually came to be deposited at certain sites, including Bir el Jebbana (e.g. the bear bones). Presumably more significant quantities of bones from exotic, wild species lie buried in pits and trenches closer to the Carthage amphitheatre itself, if indeed such beasts were slaughtered regularly in the Roman games here. No exotic fauna are reported from the late nineteenth- and early twentieth-century excavations of the Carthage amphitheatre itself, or from the neighbouring Cemetery of the Officials.⁴⁶ Although bones (including human remains) were not normally kept or discussed at this time, remarkable finds are occasionally noted,⁴⁷ and one might have expected any significant and concentrated faunal deposit of unfamiliar large species, like elephants, giraffes, lions, etc., to warrant some mention in these earlier reports. Their absence may then highlight the limited use of exotic wild beasts in North African games, or at least their deposition elsewhere in currently undetected areas.

In the case of Rome, there are rumours of nineteenth- and early twentieth-century antiquarian excavations in and around the Colosseum, where the remains of lions, tigers, and other exotics were

⁴⁵ For a report on the bones collected from the University of Michigan sponsored excavations of the Circus in Carthage (under the directorship of John Humphrey), see Hutchinson and Reese 1988. Several seasons of fieldwork at the Circus were also conducted under the directorship of Naomi Norman (University of Georgia). I examined a large portion of the animal bones recovered from these second campaigns during May and June 2000, but no exotic species were noted among the samples analyzed.

⁴⁶ For early excavations of the amphitheatre in Carthage, see Delattre 1898a, 1906, 1913. For reports on work in the cemeteries near the amphitheatre, see Delattre 1882, 1889, 1898b; Gauckler 1895; Lantier 1922. To be fair, it is unlikely significant deposits of exotic animal bones would be found in the *cavea* of the amphitheatre itself (which was presumably swept clear of such obvious rubbish, and which was the focus of most of these earlier excavations), but examples seem probable in the outlying pits, drains, and trenches outside the amphitheatre (which were also explored to some extent by Delattre and others).

⁴⁷ Whale bones, for example, are discussed in one early report (Delattre 1893).

retrieved (Lanciani 1979: 373, 385), as well as mention of bones from both domesticated and foreign or wild animals from excavations of drains near the Colosseum conducted during the 1970s (Ghini 1988). Neither of these accounts, however, can be verified in the absence of the bones or of detailed reports discussing them. Only one site, that of the Meta Sudans, located about 50 m southwest of the Colosseum, provides unambiguous indication. In a 1995 report, the project's zooarchaeologist, Jacopo De Grossi Mazzorin, notes the recovery of sixteen bear bones, two leopard bones, an ostrich fragment, and several red deer, roe deer, wild boar, and fox remains from excavations of a fifth- to seventh-century A.D. fill of a drain (De Grossi Mazzorin 1995: 309–318). In addition to these animals, many horse bones were also retrieved. It seems logical to relate these materials to the games in the amphitheatre, and if it is correct to do so, their location suggests that at least some exotic beasts were buried nearby. Still, these are hardly the extensive numbers or species diversity one would expect to find, even factoring in retrieval and preservation biases that can severely reduce a zooarchaeological assemblage. Available animal bone data, therefore, attest to much less grandiose versions of Roman *venationes* than those presented through the media of ancient texts or art.

The Meta Sudans discovery raises another query. What happened to the dead arena animals? Some may have been fed to other carnivorous beasts awaiting their turn to die, but according to Suetonius (*Calig.* 27.1), show animals were fed butcher's meat instead. Other carcasses may have been buried in pits, either within or outside the city,⁴⁸ but then why do bones appear in the excavated drains and substructures of the amphitheatre at Rome? Could these be the remains of exotic animals that were eaten by the Roman people themselves? The data seem to support such a notion. "Studies generally overlook the possibility that Rome made some practical use of animal carcasses from the arena" (Kyle 1998: 187). Despite some accounts of gluttony and ostentation, most Romans were essentially pragmatic, with the general, common population of Rome often hungry and demanding when it came to food (Kyle 1995: 188). Meat was expensive in antiquity; most could not afford it on a daily basis, so any free distribution of it at festivals and public banquets was anxiously awaited. Hunted wild game,

⁴⁸ Possible examples of these are discussed by Lanciani 1979 (reprinted from 1897), Bodel 1986, and Kyle 1998. The trouble is that while bones of domestic, consumed species (e.g. cattle, sheep, goats, pigs etc.) have been identified from some of these pits, none of the pits has yet produced unambiguous zooarchaeological material from exotic beasts which might identify them unequivocally as amphitheatre disposal areas.

in particular, was prized. Hunting had a long and established tradition in antiquity, and the Romans considered *venationes* as hunts, not as sacrifices (Kyle 1995: 196, 1998: 188). Consequently, at least some of the meat from these beast hunts could have been distributed to the people, both as a nutritional supplement and as a political device. Whoever sponsored the *venationes*, be it the emperor or a wealthy patron, could certainly gain favour by disseminating pieces of exotic animal flesh to a hungry and fickle audience. Moreover, it might excite the group with a flurry of emotions, such as gratitude, the anticipation of tasting something new, an escape from daily drudgeries, the empathetic thrill of the chase and capture, nostalgia for the rustic past when hunting predominated, even the sense of pride in domination of man over nature or, on a more symbolic level, the Roman world over its enemies. Christian authors, most vocally Tertullian (*Spect.* 19, *Apol.* 9.11), condemn the Romans as cannibals for their consumption of arena animals, stating that the beasts ingested were stained with human blood from their fights in the amphitheatre (Kyle 1995: 199–200, 1998: 192). A hungry Roman, however, regardless of religious faith, might have overlooked these preachings and been willing and eager to have any meat, even if it came from, or was intended for, the arena.

While the Roman commoners may have enjoyed the occasional piece of exotic animal flesh from the arena games, some of these beasts may also have been purchased by, or given to, the wealthy. Again, the whole process may have been driven by political and social factors and favours. Varying one's menu with exotic dishes was an established practice among the Roman élite; dietary ostentation and conspicuous consumption were part of that culture. The gourmet cook, Apicius, lists a number of recipes for luxury meats such as wild boar, venison, and hare in his cookbook. Ostriches too were eaten, and generally as a delicacy (SHA *Heliogab.* 30.3). Although Apicius does not mention other African exotics like lions or elephants among his recipes, no doubt a wealthy citizen eager to impress others might do so with a fantastic feast involving such an animal. The serving of bear at Trimalchio's dinner elicits great awe (and one upset stomach!) among guests in Petronius' *Satyricon* (66).

CONCLUSIONS

Any reconstruction of ancient life will be incomplete and speculative to a certain degree, even if its supporting documentation seems relatively comprehensive and reliable. Certainly, the approach taken here to re-examine exotic animal capture and transport during Roman times does not definitively answer all the questions about this subject. Such a

goal is impossible given the limitations and biases of the information available from both ancient and modern sources. This analysis is intended to challenge preconceived or established notions about the issue, formed from a reliance on one or two types of data. Its chief purpose, therefore, is to offer a different, more complete perspective on the topic, garnered from a multidisciplinary angle. When the various fragments of information about the capture, trade, maintenance, and disposal of exotic amphitheatre and circus animals in Roman antiquity are pieced together, the picture that develops is unquestionably different than what ancient Roman sources *alone* might have us believe. The generally glamorous and successful nature of the hunt and capture of these animals, as chiefly presented in Roman art and texts, contrasts with the gritty, raw versions afforded by nineteenth- and early twentieth-century ethnographic and historical accounts of these events. No doubt the ancient sources generally presented a relatively incomplete and embellished view, whereas those reports of the more recent past inform us that the ferocious and vicious beasts are less likely to be caught in any bold manner if an easier and more deceitful method such as ambushing, baiting, and stealing baby animals could be used. Moreover, as has been the traditional practice, much of the dangerous work was probably done by coerced or bribed native Africans (in the case of African beasts), even if the Romans would rather take the credit for the actual hunt, chase, and catch.

The perils involved in capturing the animals were only part of the process. Transporting them over land and sea to Rome incurred further complications, such as disease, malnutrition, and trauma, with the result that many captured animals never made it to the city. Again, many of these negative aspects are not outlined in any detail in any of the ancient sources, but can be extrapolated from the ethnographic and historical literature on the subject. The argument, moreover, for exaggerations among the actual figures to survive the journey gains further support by the lack of zooarchaeological evidence for what potentially should have been a huge pool of exotics shipped overseas. Those beasts that did arrive safely were housed, again probably in less-than-favourable conditions, where their numbers were further depleted (but again not generally reported within the ancient texts), until their turn in the arena. The games fueled the spirit of the humans, and it seems that once killed the beasts themselves fueled the stomachs of the Roman people.

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