

Sea Monsters in Antiquity: A Classical and Zoological Investigation

Alexander L. Jaffe
Harvard University
Dept. of Organismic and Evolutionary Biology
Class of 2015

Abstract: *Sea monsters inspired both fascination and fear in the minds of the ancients. In this paper, I aim to examine several traditional monsters of antiquity with a multi-faceted approach that couples classical background with modern day zoological knowledge. Looking at the examples of the ketos and the sea serpent in Roman and Greek societies, I evaluate the scientific bases for representations of these monsters across of variety of media, from poetry to ceramics. Through the juxtaposition of the classical material and modern science, I seek to gain a greater understanding of the ancient conception of sea monsters and explain the way in which they were rationalized and depicted by ancient cultures. A closer look at extant literature, historical accounts, and artwork also helps to reveal a human sentiment towards the ocean and its denizens penetrating through time even into the modern day.*

*“The Sea-monsters, mighty of limb and huge, the wonders of the sea, heavy with strength invincible, a terror for the eyes to behold and ever armed with deadly rage—many of these there be that roam the spacious seas...”*¹

Oppian, *Halieutica* 1

As the Greek poet Oppian so eloquently reveals, sea monsters inspired both fascination and fear in the minds of the ancients. From the Old Testament to Ovid, sources from throughout the ancient world show authors exercising both imagination and observation in the description of these creatures. Mythology as well played a large role in the creation of these beliefs, with such classic examples as Perseus and Andromeda or Herakles and Hesione. This rich literary and oral tradition of sea monsters in the Mediterranean, voiced through a wide variety of media, was carried through to medieval times and even extends into the present. In addition to representations in poetry and prose, conceptions of sea monsters also feature prominently in Greek and Roman art. Such a strong and lasting cultural trend leads us, in the modern day, to several important questions: How were these beasts depicted in literature and in art? What was the scientific basis of these depictions? Can the existence of these mythological beasts be explained with modern zoological knowledge? In this paper, I aim to address these critical questions by examining the literary and artistic representations of the most salient examples of sea monsters in antiquity, the *ketos* and the sea serpent. For each, a classical background will be given and then followed by a zoological investigation.

The *ketos* (Latin *cetus*, Greek Κῆτος) is one of the most prevalent sea monsters in the ancient literary and mythological tradition. Making significant appearances in several cultures, the *ketos* was widely known and speculated on by authors and philosophers alike. The *ketos* makes two important appearances in Greek mythology: the famous stories of Perseus and Andromeda, and Herakles and Hesione. As the first of these myths goes, Andromeda was the daughter of Cepheus, king of the Ethiopians. His wife, Cassiope, was said to have boasted that she was more beautiful than the Nereids (sea

¹ Oppian in Mair 1928, 241.

nymphs)—an unacceptable outburst of human hubris that Poseidon punished with a devastating flood and a ravaging sea monster. To stop this plague, Cepheus was forced to offer up his daughter, Andromeda, to the sea monster by chaining her to a rock at the seashore. At this point, Perseus, on his travels, fell in love with Andromeda and saved her from the beast, known as the *Kêtos Aithiopoulos* (Κῆτος Αἰθιόπιος) or Ethiopian sea monster.² So goes the story—but what animal was this?

There is substantial evidence, based on descriptions of the monster in Marcus Manilius' *Astronomica* and in Ovid's *Metamorphoses*, that this supposed *ketos* is a baleen whale.³ In her 1983 paper, Kathleen Coleman substantiates this claim by examining aspects of Manilius' description and relating them to whale physiology and behavior. Both ancient authors note the massive size of the beast; indeed, baleen whales are the largest animals on Earth.⁴ But even more convincing are the authors' notes on the monster's behavior. Manilius describes how the *ketos* “spews forth waves [from its mouth]” and “navigates the rapid sea with the teeth in its own mouth.”⁵ This recalls the behavior of baleen whales, which open up their massive jaws and skim the surface for krill and copepod crustaceans to feed upon. This prey is caught by the whale's baleen plates, sheets of fringed keratin that are a distinctive feature of the *Mysticeti* class. As is the case with many whales, the animal will “gulp” a large amount of water, aided by throat pleats that serve to increase the volume of the mouth. The whale then uses its massive tongue to expel the water from its mouth, leaving the food items stuck on the bristled inner edges of the baleen where they can be swallowed. This feeding method allows these animals to more efficiently obtain the huge amounts of food they require to maintain and move such a massive body.⁶ While Manilius' description could also reflect a toothed (Odontocete) whale, this gulping behavior, clear from the spewing of water from the mouth, more likely reflects a Mysticete whale of the family Balaenopteridae.⁷ With our modern knowledge, it is easy to see that this might have been a frightening scene - note the chaotic, frothy whirlpool created by the whale and the cloud of screaming gulls above it in **Figure 1**. Encounters with these enormous, dark forms mostly obscured by water may, in turn, have led to embellished and over-sensational representations of “monsters.” This is clear also in what Coleman refers to as “nightmarish additions” to the basic whale body type—less physically accurate attributes that serve to make the sea monster into something more abstract and frightening, like its serpentine coils and movement.⁸ Manilius also includes a description of what sounds like a whale's spouting—the release of used air from the blowholes, extensions of the nasal passages that terminate on the top of the head.⁹ Ovid includes descriptions of the monster that speak to the breaching behavior of whales, in which they throw themselves from the water into the air, as well as the presence of invertebrates, like barnacles, attached to their skin.¹⁰ As Coleman notes, Manilius' account differs greatly from traditional, more

² *Oxford Classical Dictionary* s.v. “Andromeda” and Atsma 2011.

³ Coleman 1983, 229.

⁴ Sokolov et al. 2006, 19.

⁵ M. Manilius in Coleman 1983, 229.

⁶ Evans 1987, 121-122

⁷ Coleman 1983, 231.

⁸ Coleman 1983, 232.

⁹ Evans 1987, 4-7

¹⁰ Coleman 1983, 232.

primitive depictions of the *ketos* in Greek art, indicating the potential influence of increasing knowledge of whales and their behaviors at the time. However, as other records are slim, he provides us with a solid answer regarding the monster's identity.¹¹

Coleman's investigation certainly leads to the conclusion that the *ketos* of Perseus and Andromeda was indeed a baleen whale, at least according to Manilius' description. Can this be narrowed down any further? This myth is known to have occurred at Jaffa, an ancient port city now in modern Israel. Although this *ketos* is known as the Ethiopian *ketos*, a closer look at the connotations of this word reveal that it was often associated with distant locations south of Greece.¹² In fact, as Pliny reports, a Roman *aedile*, Marcus Scaurus, brought back to Rome in 58 B.C. a skeleton of what he claimed to be Andromeda's *ketos*. The skeleton, according to the Roman author Pliny, was forty feet long.¹³ Given these constraints, is there a baleen whale that could have been responsible for terrorizing Andromeda? Consulting the literature, it seems that the most common whale in the Mediterranean is the Fin whale (*Balaenoptera pyhsalus*), followed by the more rare Minke whale (*Balaenoptera acutorostrata*). The Fin whale seems a less likely candidate, as it is only rarely found east of Italy and ranges from 18 to 25 meters (59–82 feet). The Minke whale, while also occurring mainly west of Italy, has occasionally been known to enter the Black Sea and has a size range from 7-11 meters, or 23-36 feet.¹⁴ Ultimately, the results are somewhat inconclusive—the *ketos* could either have been a young Fin whale or a large Minke whale.

The myth of Herakles and Hesione is similar, the story of a man angering the gods and subsequently offering his daughter to a god-sent sea monster as an appeasement. This time, the offender was Laomedon, king of Troy, who failed to pay the gods Apollo and Poseidon their wages after contracting them to build his city's walls. The hero Herakles then saved his daughter in a similar manner.¹⁵ I will examine this particular myth more from an artistic perspective than from a literary one, addressing two major examples of extant Greek vase painting concerning this subject. The first (**Figure 2**) is a 6th-century B.C. hydria, or water-carrying vase, depicting Herakles battling the *ketos* of Troy. From this one gains a very different picture of the *ketos*, one more echoing Coleman's “nightmarish additions” to a realistic whale. Following the trend of hybrid monsters throughout antiquity, this artist's representation seems to combine several fearsome marine creatures into one, making this depiction more a work of imagination and hearsay than of scientific observation. To begin with, the body of the *ketos* is curvaceous and undulating, seemingly drawn from the body plan of the archetypal “sea serpent.” Likewise, the spiked red crest on the creature's back calls to mind certain reptilian features, or perhaps those of the oarfish (which will be discussed later in this paper). The fins, fluke, and smooth body are more whale-like, but the head is far from cetacean—the snout is vaguely mammalian, while the teeth are sharp and shark-like.¹⁶ Two other factors key us in to the shark features of this composite beast—the gills, which whales do not have as air-breathing mammals, and, more subtly, its coloration. This coloration scheme,

¹¹ Coleman 1983, 231.

¹² *Oxford Classical Dictionary* s.v. “Ethiopia.”

¹³ Papadopoulos et al. 2002, 213.

¹⁴ Evans 1987, 73-75, 94.

¹⁵ *Oxford Classical Dictionary* s.v. “Laomedon.”

¹⁶ Papadopoulos et al. 2002, 218.

with a dark dorsal surface and light ventral surface, is called countershading, a technique often employed by chondrichthyan predators as a method of blending in simultaneously from both below and above. This second look at a composite *ketos* yields a significantly less definitive explanation for this beast of antiquity, perhaps due to artistic license. As Papadopoulos and Ruscillo note in their paper, sightings of whales were few and far between in antiquity, and, when they did occur, the whales were either mostly hidden beneath the water or, if beached, had substantially decayed. Due to this, and perhaps to the overarching mystery of the *ketos*, artists filled in the blanks with what they knew—snakes, fish, and the like.¹⁷ Unlike Manilius' description, this representation clues us in on the more conceptual role and image of the *ketos* in antiquity.

Another very interesting take on the Trojan *ketos* is that of another Greek vase painting, this one a Corinthian *krater* from 560–540 B.C. (**Figure 3**). In the upper right hand corner, Herakles and Hesione again battle the *ketos*, this time just a white head with large teeth protruding from a dark background. Adrienne Mayor, in her book *The First Fossil Hunters*, makes a compelling case for the influence of fossil remains on the painting of this vase. As she points out, the mythical “monster of Troy” appeared at a location called Sigeum on the Trojan coast. The area surrounding Sigeum also happens to have sediments rich in fossil deposits that continually erode out of the seaside bluffs. Taking a closer look, this becomes a viable explanation—the *ketos* looks like a bleached fossil skull protruding from a seaside cliff! Given the defined jaws, hollow eye socket, and teeth, Mayor and the paleontologists whom she consulted agree that the skull may be the remnants of a large Tertiary mammal, like a toothed whale or Miocene giraffid like *Samotherium*. Thus, the presence and discovery of fossils emerges as yet another influence upon ancient conceptions of sea monsters, helping to illustrate the way that these *ketos* were rationalized and conceptualized artistically and culturally.¹⁸

One final ancient conception of the *ketos* worth exploring is that present in early Judeo-Christian belief. A number of Christian sarcophagi from the 2nd or 3rd century A.D. show in marvelous relief the story of Jonah and the whale, in which the prophet is swallowed up by a whale-like beast as punishment for disobedience towards God (**Figure 4**). Again, there is a great degree of exaggeration and imagination in the depiction of this beast—a dog-like snout and head, a snaking and coiling body, a fishy tail, and demonic horns and teeth. Descriptions of the “Leviathan,” a shadowy sea monster in the Old Testament, reveal a similar confluence of reality and imaginative mythology; some sources claim the beast breathed fire, or even had seven heads.¹⁹ Just like the Greek vase painters, here there is again some blending of truth and embellishment in these stories, but perhaps for a different reason. Whereas some artists filled in the gaps with their natural knowledge, this early Judeo-Christian imagery seems to accentuate the mysterious and the frightening, emphasizing the overarching power and wrath of God.²⁰

Another sea monster present in the mythology and literature of antiquity was the sea serpent. Although without a specific name and mythological origin, the sea serpent certainly shows up, most notably in Virgil's *Aeneid* and several true-life historical examples. I will begin with the “Bagradas River Incident,” occurring during the first

¹⁷ Papadopoulos et al. 2002, 216.

¹⁸ Mayor 2000, 157-62

¹⁹ Lawrence 1962, 291 and Papadopoulos et al. 2002, 214.

²⁰ Papadopoulos et al. 2002, 199.

Punic War in 256 B.C., as described by Richard Stothers in his 2004 paper. A Roman consular army under the command of M. Atilius Regulus had encamped beside the R. Bagradas (modern Medjerda) after conquering a number of towns upon the Carthaginian peninsula. There, according to the 5th-century A.D. historian Orosius, “a reptile of astonishing size devoured many of the soldiers as they went down to the river to get water.” The monster seemed immune to harm from spears and as well had a “poisonous breath,” lacked feet but “rested upon its scales,” and moved its 120-foot body sinuously.²¹ This animal is traditionally referred to as “*serpens*” in Latin, and, indeed, the carefully observed zoological detail certainly supports the monster’s snake-like characteristics—sinuous movement, lack of feet, scales, and lack of distinct body regions. The main issue becomes the figure of its length, one that had remained consistent throughout reported history but may have been inaccurate.²² Aristotle, too, reports the presence of huge aquatic or semi-aquatic snakes in North Africa, citing another incident in 350 B.C., in which such animals supposedly overturned a trireme (~120 foot long ship).²³ In modern times, there is no such snake anywhere near this length in North Africa, the closest being the African rock python (*Python sebae*) at 30 feet. North Africa is usually out of range of these snakes, but the author proposes several reasons why this distribution might have been extended in antiquity.²⁴ The second issue, of maximum size, is explained by the highly probable existence of error or misunderstanding in the original historical observation.

Consulting the literature about *Python sebae* allows a further assessment of Orosius’ account: rock pythons require a high humidity environment, and thus gravitate towards areas of dense vegetation near streams, swamps, marshes, and lakes, where they often prowl the vegetation on the banks. They are also good swimmers and “take readily to water.” This is consistent with the locational aspect of Orosius’ account; perhaps the giant snake attacked the soldiers while it was in the river, or on its banks, giving it the semblance of a “sea monster.” This is further confirmed by the python’s ambush behavior, in which it waits underwater with only its head exposed, then striking, coiling around, and ultimately constricting its prey. These pythons can ingest huge prey, like adult impalas, but after a meal as large as this they may not eat again for months. While occasional human predation has been confirmed, it is unlikely that a single python could have eaten more than one soldier at the time of the incident. Also, they are nonvenomous, raising question to Orosius’ claim about a “poisonous breath.”²⁵ Again, this leads me to the classic dilemma: is the Bagradas incident another example of historical embellishment, or did such a fantastical animal really exist? I can only speculate, but the *Python sebae* seems to be a reasonable answer.

Another sea serpent story, probably the most famous of antiquity, is that told by the epic poet Virgil in Book 2 of the *Aeneid*. He recounts the gruesome punishment of a priest to Neptune, Laocoon, for his violation of godly orders. For his crimes, both he and his two young sons are devoured by a pair of sea serpents, a scene vividly described by

²¹ Orosius in Stothers 2004, 223-224.

²² Stothers 2004, 224-226.

²³ Stothers 2004, 226.

²⁴ Stothers 2004, 228, 236-237.

²⁵ Ernst et al. 1996, 89-90.

Virgil.²⁶ The snakes come from the sea, skimming over the surface with their “immense bodies in a coil” [*immensa volumine terga*], red crests [*iubaeque sanguineae*], and eyes suffused with blood and fire [*oculus sufferi sanguine et igni*].²⁷ While clearly there are traditional elements of terrestrial snakes in this description, can any of these extra details be attributed to something else? Some philologists have speculated that a rare sighting of the oarfish, more specifically *Regalecus glesne*, influenced Virgil’s imagery.²⁸ This primordial and simply bizarre fish (**Figure 5, bottom**) has several key features that might correspond to Virgil’s description. *Regalecus* has been known to grow to extraordinary lengths of 17 meters (55 feet), the longest of all bony fishes (Osteichthyes). Their body is long, thin, and a gleaming silver-blue. Seeing this fish swimming, given a limited glimpse through the surface of the water, might certainly conjure up the image of a sea serpent. This oarfish also has a series of crimson red head-frills and a large crimson crest that spans the length of its body, potentially providing poetic inspiration for Virgil’s *iubaeque sanguineae*.²⁹ The description of the eyes could have been a result of the fish’s generalized body gleam or simply a literary embellishment. As oarfish sightings are rare even today, news of such a bizarre animal surely would have caused a stir and maybe even made its way to Virgil. Because it is likely that the supposed encounter was brief, the most salient aspects of the oarfish—the red mane, the long, twisting, and serpentine body—were probably emphasized.

In a way, even today our society still retains something of this mythological aura around “sea monsters.” In pop culture of the last several decades, especially in cinema, there exist many representations of this mysterious monster lurking just beneath the water’s surface. From *Jaws* to *Swamp Thing* to *Piranha*, one can find typical animals of the sea exaggerated and embellished into frightening and fatal objects of the imagination, designed to strike at the core of our human insecurities and fears. At least for the Greeks, it was this “sea full of cooperating sea monsters ready to mete out death in a single gulp” that was most frightening.³⁰ In a similar way, we call those things from the deep that we are unfamiliar with—for example, the coelacanth, or other bizarre and even grotesque deep-sea creatures—“sea monsters” as well. Ultimately, it is exactly this that characterizes views of sea monsters both today and in antiquity and explains the terrifying enhancements that society makes to them in artistic and literary representations. Perhaps it is this fear of the unknown, the inability to see or understand what is beneath, that accounts for the eternal human discomfort with the ocean. Perhaps, as is expressed in the works examined above, it is this common subconscious experience of humankind that explains the grip of sea monsters upon the primal fears and fascinations of humans both in antiquity and in the modern age.

²⁶ *Oxford Classical Dictionary* s.v. “Laocoon.”

²⁷ *The Vergil Project* 2000.

²⁸ Stothers 2004, 235.

²⁹ *Encyclopedia of Fishes* s.v. “Oarfishes & Their Allies.”

³⁰ Papadopoulos et al. 2002, 215.

FIGURES:



Figure 1: Humpback whales feeding off the coast of Massachusetts. Lukas, Michael, “whales_ptown-29,” 2011, consulted 4 Dec 2011, <[http://www.flickr.com/photos/ lukasphoto/5694457331/in/set-72157626539135687](http://www.flickr.com/photos/lukasphoto/5694457331/in/set-72157626539135687)>.



Figure 2: Herakles fights the Ketos. Caeretan hydria, ca. 520-510 B.C. Hertig, S, "Detail from Caeretan black-figure clay vase from Stavros S. Niarchos collection," Archaeological Collection of the University of Zurich, Ex Hirschmann Collection, 1977, Zurich.

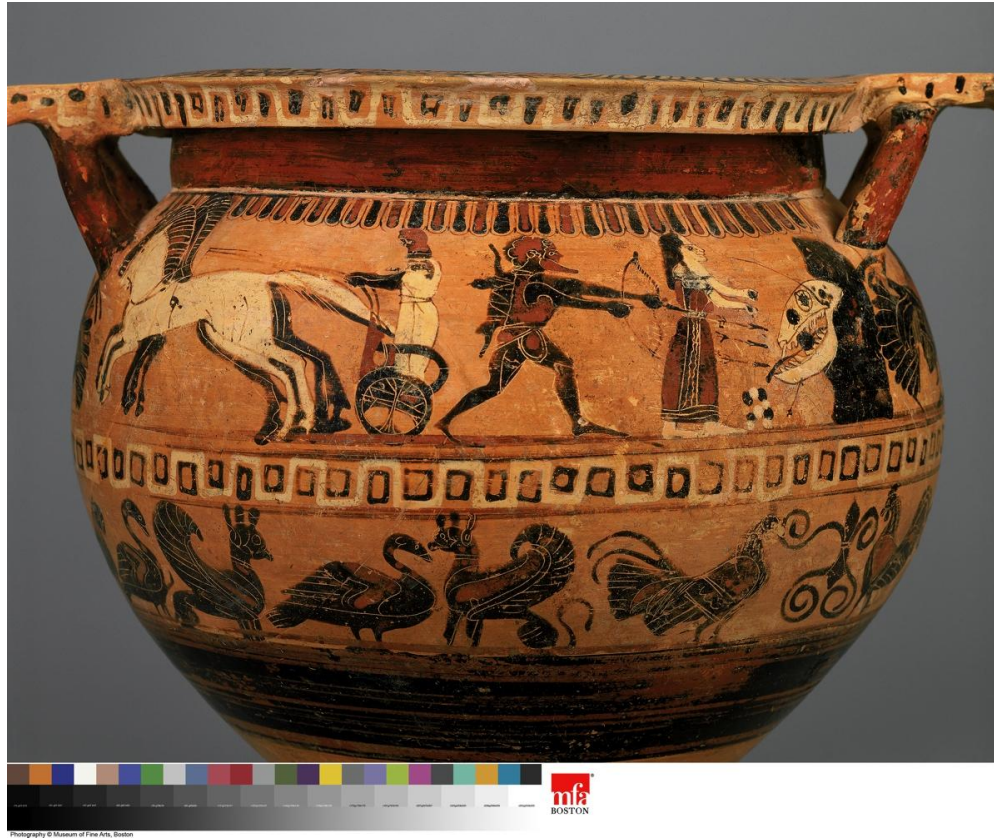


Figure 3: Herakles, Hesione, and Ketos. *Mixing bowl (column krater)*, Greek, Archaic Period, Late Corinthian, about 550 B.C. Place of Manufacture: Greece, Corinthia, Corinth. Ceramic, Black Figure Height: 33 cm (13 in.); diameter: 41 cm (16 1/8 in.) Museum of Fine Arts, Boston Helen and Alice Colburn Fund, 63.420. Photograph © 2013 Museum of Fine Arts, Boston.



Figure 4: Jonah and the Whale Sarcophagus. Rome, 2nd-3rd c B.C. “The Jonah Sarcophagus,” consulted 4 Dec 2011, with permission from Livius.org (www.livius.org).

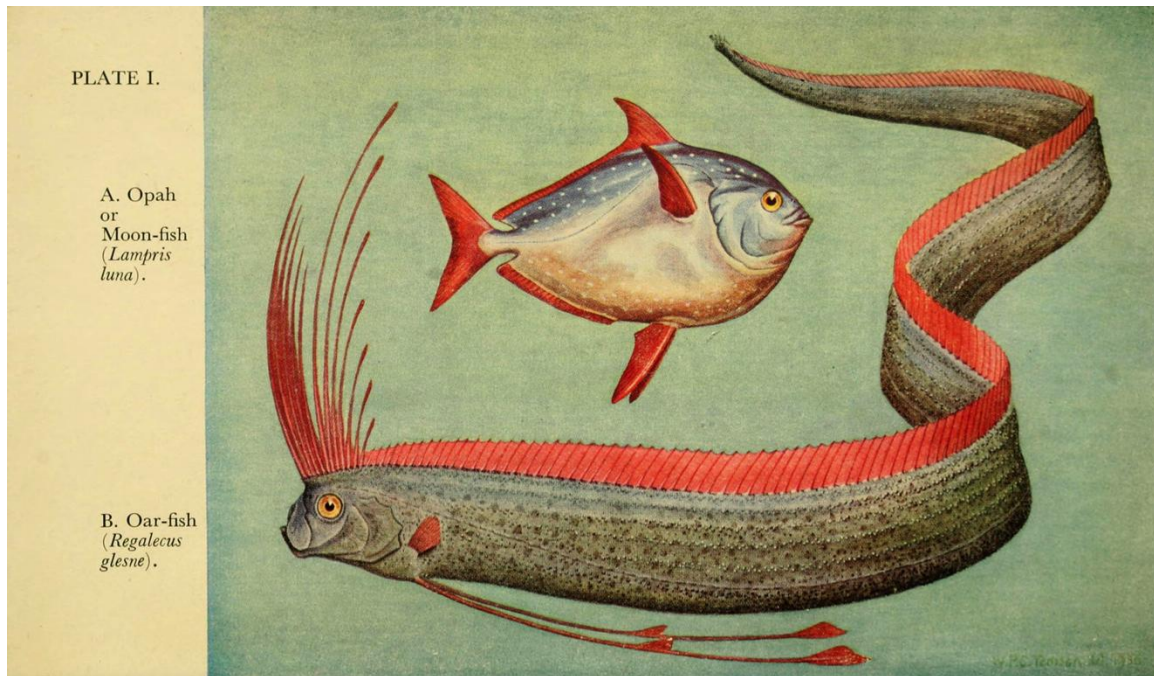


Figure 5: Artistic rendering of the oarfish, *Regalecus glesne* (Plate 1B). Norman, J. R. and F. C. Fraser (1949), *Field book of giant fishes*, by J. R. Norman and F. C. Fraser, With 8 plates in full color and over 100 drawings by W. P. C. Tenison, New York, G. P. Putnam. From Biodiversity Heritage Library (www.biodiversitylibrary.org).

WORKS CITED:

- Atsma, Aaron J. "CETEA: Sea monsters; Greek Mythology; pictures: KETEA." *Theoi Project*. 2011. Consulted 4 Dec 2011.
<<http://www.theoi.com/Ther/Ketea.html>>.
- Coleman, K.M. "Manilius' Monster." *Hermes* 111 (1983): 226-232.
- Ernst, Carl H. and George R. Zug. *Snakes in Question*. Washington: Smithsonian Institution Press, 1996.
- Evans, Peter G. H. *The Natural History of Whales and Dolphins*. New York: Facts on File Publications, 1987.
- Hornblower, Simon and Antony Spawforth (eds). *The Oxford Classical Dictionary, Third Edition*. Oxford: Oxford University Press, 1996.
- Lawrence, Marion. "Ships, Monsters, and Jonah." *American Journal of Archaeology* 66 (1962): 289-296.
- Mair, A.W. tr. *Oppian, Colluthus, and Tryphiodorus*. Loeb Classical Library. Cambridge: Harvard University Press, 1928.
- Mayor, Adrienne. *The First Fossil Hunters: Dinosaur, Mammoths, and Myth in Greek and Roman Times*. Princeton: Princeton University Press, 2000.
- Olney, John E. "Oarfishes & Their Allies." *Encyclopedia of Fishes*. John R. Paxton and William N. Eschmeyer (eds). San Diego: Academic Press, 1994.
- Papadopoulos, John K. and D. Ruscillo. "A Ketos in Early Athens: An Archaeology of Whales and Sea Monsters in the Greek World." *American Journal of Archaeology* 106 (2002): 187-227.
- Sokolov, V.E. and V.A. Arsen'ev. *Baleen Whales: Mammals of Russia and Adjacent Regions*. Enfield: Science Publishers, 2006.
- Stothers, Richard B. "Scientific Basis of the "Great Serpent" from Historical Evidence." *Isis* 95 (2004): 220-238.
- Vergil. From *The Vergil Project*. University of Pennsylvania. 2000. Consulted 4 Dec 2011. <<http://vergil.classics.upenn.edu>>.