
MEAI NUCESQUE

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Giant Roman Shipwreck Yields "Fishy" Treasure

James Owen
for [National Geographic News](#)

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Sunken treasure with a distinctly fishy flavor has been recovered from a huge Roman shipwreck in the Mediterranean. The 2,000-year-old vessel, discovered off the Spanish coast, was described by marine archaeologists last week as "a jewel of the Old World." However, it wasn't gold or silver that the ship was carrying but hundreds of jars of a foul-smelling fish sauce. The ancient delicacy, known as *garum*, was usually made from fermented fish guts and blood. Wealthy Romans, experts say, couldn't get enough of the stuff. The sailing ship, dating from the first century A.D. lies about 1 mile (1.6 kilometers) off Alicante in southeast Spain, where it was first located by divers in 2000.

The vessel was about 100 feet (30 meters) long and held up to 400 tons of cargo, making it one of the largest Roman shipwrecks ever found, archaeologists said at a conference near the Spanish city of Valencia earlier this month. Carlos de Juan, who co-lead the undersea excavation team, says the ship contains more than 1,200 well-preserved two-handled clay jars called amphoras. Ceramic-and-mortar seals on the *garum* jars were corroded by seawater or removed by the occasional curious octopus, the archaeologists report, but traces of the fish sauce remain inside. "We knew [the shipwreck] was an important find but had no real idea until now," de Juan, who works for the government of Valencia Province, told the Associated Press.

Caught in a Storm

The team said the ship probably sank in a storm while sailing to Rome from the Spanish port of Cadiz, offering important clues about ancient trade routes. The wooden vessel, which was preserved in mud on the seabed, is dated to about A.D. 50, around the time of the Roman emperors Claudius and Nero. The wreck site is said to be unusual, because it's in shallow water near the coast. Such ships usually sank far out to sea where they are almost impossible to locate, de Juan said. The find is also important because of the excellent condition of its cargo, according to Xavier Nieto Prieto, director of Spain's Submarine Archaeology Center of Catalonia. "For archaeologists, a sunken ship is a historic document that tells us about ancient history and how its economy worked," he told the Associated Press. The wreck, which lies in 80 feet (25 meters) of water, attracted pirate scuba divers after news of its discovery first spread, forcing authorities to build a metal cage around it. Around 70 amphoras were reportedly taken. Such thefts are often a problem, says Roman amphora expert Elizabeth Lyding Will, of the University of Massachusetts at Amherst. Amphoras are worth about a thousand U.S. dollars each, Will says. "People put them on top of walls and have them in their houses as decoration," she added.

What Is *Garum*?

Will says the clay jars are perhaps the most commonly found cargo in Roman shipwrecks. "They were enormously useful for trade," she said. "You can tell from the shape whether they were for wine, olive oil, or *garum*." She says other sauces were stored in amphoras, including one made from tuna hearts, but that *garum* was the most common type. The fish sauce was made in Cosa, Italy, before Spain took over the main export trade, producing a much sought-after recipe using mackerel guts. Pliny the Elder, the first-century Roman scholar, wrote of this sauce: "Scarcely any other liquid except unguents [healing ointments] has come to be more highly valued, bringing fame even to the nations that make it." Will said, "The Romans liked the Spanish sauce best," adding that there was a lot of trade between Spain and Italy during the period the shipwreck dates from. *Garum* figured in many Roman recipes, Will adds. "*Garum* was a highly prized condiment and very nutritious, too, but made out of internal [fish] organs," she said. "I'm told it was extremely smelly, but the Romans just loved it."

More Fun Facts about Garum

Garum derives from *garon* (*garos* or *garus*), the fish originally used by the Greeks in its preparation (Pliny, XXXI.93ff; Isidore of Seville, *Origines*, XX.3.19-20). The sediment that remained behind, after the liquid had been drawn off, was *allex* (also *allex* and *hallex*), which was used as a fish paste or savory spread. The brine, itself, was called *muria*, as were the fish preserved in it. *Liquamen* (so called, says Isidore, because the fish liquefy in the pickling brine) tends to be a generic term for all such fish sauce.

Incongruously, the earliest description of how *garum* was produced comes at the end of the *Astronomica*, a treatise on astrology written by Manilius in the first century AD. There, he relates how fishermen processed their catch of tuna on the shore, cutting up the fish, flavoring the choicest part of the blood with salt so as to impart "a relish to the palate" and including the viscera and all of the other pieces of the decaying carcass to provide "a condiment of general use." Smaller fish were fermented in *dolia*, where "their inward parts melt and issue forth as a stream of decomposition" (V.667-681). Pliny, too, in the *Natural History* similarly describes *garum* as "consisting of the guts of fish and the other parts that would otherwise be considered refuse; these are soaked in salt, so that *garum* is really liquor from the putrefaction of these matters" (XXXI.93).

The most detailed description is from the *Geoponica*, a tenth-century Byzantine compilation of earlier work on agriculture and farming. The preparation involves adding a quantity of salt (1:8, this is the only recipe to provide a ratio) to the entrails of small fish, such as mullets, sprats, or anchovies. The mixture then was allowed to ferment or macerate in the sun for several months (XX.46), the *liquamen* drawn off and strained and used as a condiment or seasoning. A quicker means of preparation simply was to boil a fish in strong brine, add some *origanum* (oregano), and strain until clear. (Galen says that oregano moderates the taste of an oily, watery fish such as the gray mullet, III.24). The best *garum*, however, was made from the viscera of tuna, together with the blood, juices, and gills, salted and allowed to ferment for no more than two months. Wine, herbs, and spices also could be added.

February 2008 Latin Corner

Never really learned your *longs* and *shorts*? Whether scansion or pronunciation has you stumped, knowing which vowels are long by nature can help. A few tips from *Allen & Greenough's Latin Grammar*:

SECTION:#9. The Quantity of a Vowel or a Syllable is the time occupied in pronouncing it. Two degrees of Quantity are recognized, *long* and *short*. In syllables, quantity is measured from the beginning of the vowel or diphthong to the end of the syllable.

SECTION:#10. Vowels are either long or short *by nature*, and are pronounced accordingly. Some examples:

- A vowel before another vowel or h is short: as in *via*, *nihil*.
- A diphthong is long: as in *aedes*, *foedus*. So, also, a vowel derived from a diphthong: as in *excludo* (from *ex-claudo*).
- A vowel formed by contraction is long: as in *nil* (from *nihil*).
- A vowel before ns, nf, and (in most cases) gn is long: as in *constans*, *infero*, *magnus*.
- A vowel before nd, nt, is regularly short: as in *amandus*, *amant*.

The Quantity of the Syllable is important for the position of the accent and in versification.

-Elizabeth Malone

Greek Grammar Corner – David Ring

The articular infinitive is very juicy and more complicated than I had thought. Xenophon loves it. According to Goodwin's *Syntax of the Moods and Tenses of the Greek Verb* (GMT), Xenophon uses it an average of 1.02 times per Teubner page, Demosthenes 1.25, and Thucydides 1.00 (198 times total!). Goodwin quotes Gildersleeve, "By the substantial loss of its dative force the infinitive became verbalized; by the assumption of the article it was substantivized again with a decided increment of its power". It's a big topic, but *here are a few salient goodies*: 1) The infinitive can be subject without the article, but is made more "nounish" by the article. Ex. Τοῦτο ἐστὶ τὸ ἀδικεῖν, τὸ πλεον τῶν ἄλλων ζητεῖν ἔχειν. "This is doing-injustice, seeking to have more than others". (Plato, *Gorgias* 483c) 2) Sometimes the articular infinitive can be direct object where the article is not really necessary, other times the article is quite necessary such as: Μόνον ὁρῶν τὸ παίειν τὸν ὑλισκόμενον. "Seeing only the beating of the captive". (Xenophon, *Cyropaedia* I.4.21). 3) The infinitive of O.O. after verbs of saying and thinking sometimes take the article. This is good to know. 4) The genitive can, among other things, have to do with purpose. A lot of the time, these remind me of gerundives in Latin: τοῦ πλεῖν ἐπιθυμία ("the desire to drink/of drinking"). 5) In the oblique cases, the articular infinitive often follows the normal uses of those cases (dative for means etc.). 6) They also take prepositions and adverbs. 7) Two of the "biggies" for articular infinitives are τὸ μή constructions (the most common use of the A.I.) and verbs of hindrance, neither of which can be summarized here. See GMT.788-814.