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ARCHAEOLOGICAL EVIDENCE OF THE TSUNAMI OF 365 AD IN ALEXANDRIA- EGYPT

Ammianus Marcellinus, a Roman author of 4th cent. AD, give us the most accurate of 21st of July 365AD.

He describes that during the consulship of Valentinian with his brother (365AD), on 21st of July, after thunders and lightning, a big earthquake made the earth shaken, the sea was driven back and withdrew from the land, so that the people could walk in the bottom of the sea and see fish and sea creatures never seen before. Many ships were stranded on the land and then, the sea returned back with big noise; so, it levelled innumerable buildings, many people were drowned and a big number of ships landed on the top of the buildings of Alexandria.

The catastrophic event is also mentioned by Athanasius, the Patriarch of Alexandria, who states that “an earthquake happened on the 27 of Epiphi (21st of July in the Egyptian calendar), the sea returned from the East and destroyed many people and much damage was caused”. In addition, John Bishop of Nikiou (7th cent.AD) reports that the ocean arrived to Alexandria to such a height that it would have submerged the city, had not the holy Athanasius checked it by his prayers! Last, we have the text from Georgious Monachus, 9th cent.AD, as follows: “in these times, there was a great and fearful earthquake, so that in Alexandria the sea retreated and ships were found lying as if on dry land. People came to look at wondrous sight but the sea returned beyond its normal extent and drowned 50000 people...

Many geological studies have been made for the 365AD tsunami. Some of them, as Goiran (2001 and 2005), after analyzing samples from the land between the islet of Pharos and the coast of modern Alexandria,



Hellenic Research Institute of Alexandrian Civilization

found evidence of tsunamis before and after the 4th cent.AD, mentioned by the ancient sources. A very important research was recently executed (2018) by Salameh and al in two coastal sites, Kefr Saber and El Alamein, where fine marine deposits were found and interpreted as tsunami deposits. But radiocarbon data refers to 30-180AD, 820-1020AD for Kefr Saber and 1113-293BC to 403-634AD for El Alamein.

This dating has not any association with 365AD tsunami.

Besides, the fact that Alexandria was protected by the island of Pharos and possibly, big fortification, made most of the scientists, especially geologists to arrive in the conclusion that the information and description by Ammianus excludes the possibility to have a significant disaster in Alexandria of Roman times. Stiros (2020) believes that if the waves had overridden the walls, the town would have been totally destroyed and abandoned. And he concludes that “no significant impacts in Alexandria by the 365AD tsunami area were expected”.

Our archaeological project at Shallalat Gardens of Alexandria started on 2007, after conducting a geophysical survey in cooperation with National Research Institute of Astronomy and Geophysics (N.R.I.A.G.). The reason for choosing this area for research, was its position in the topography of ancient Alexandria. This area was a part of the Royal Quarter and also, it was a site never excavated before. Also, the lack of buildings and constructions could facilitate our excavation work; unfortunately, we faced significant difficulties as the huge quantities of modern debris and mainly, the water table that appear at a depth of 7,5 mts.



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Figure 1 Excavation Site at Shallalat Gardens

In spite of all these obstacles, we succeeded in uncovering the foundation base of a monumental public building 41,5X34 mts., possibly surrounded by an enclosure wall, near the main broad latitudinal road of ancient Alexandria, R1 on the map of Mahmud Bey el Falaki .

It is located to the north of the ancient Canopic street, the modern Fouad str. And also, next to the Roman Road L2, discovered by our team on 2017. The construction of the base of this building is consisted by two parallel lines of limestone blocks and between them there is a filling of a huge quantity of small pieces of limestone. The size of the south and north walls is 3, 5 m width, 2,0m height, while the east and west ones are 5,5m width and 2, 0 height. This filling material was everywhere except the center of the construction, where there was an empty space of rectangular shape. All this construction discovered, possibly was the foundation base of a monumental public building. This foundation is



Hellenic Research Institute of Alexandrian Civilization

enormous and we believe that it could not have been constructed to support a normal building, even public. The construction above the base should be very tall and very big. The identity of it is still unknown but for sure, it was one of the famous buildings that Strabo describes inside the Royal Quarter. With the assist of the scientists of NRIAG and during a geological/archaeological research, we discovered, to the south of the building, under the black stones of the surface of the Roman road L2 (4th cent.AD), an energy layer; in this layer, were found bones of a big sea fish, sea shells and even pieces of a coral reef.



Figure 2 Energy Layer



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Figure 3 Fish Bones



Figure 4 Fish Bones

The radio carbon14 analysis dates the layer between 326 and 424 AD. This is related with the date of the Tsunami of 365 AD, according to the ancient sources and especially Ammianus Marcellinus. The fact that this energy layer is located in a distance of 6 m after the building, explains the way that this tall construction was destroyed. The sea waves, definitely, passed over the monumental building and demolished it.



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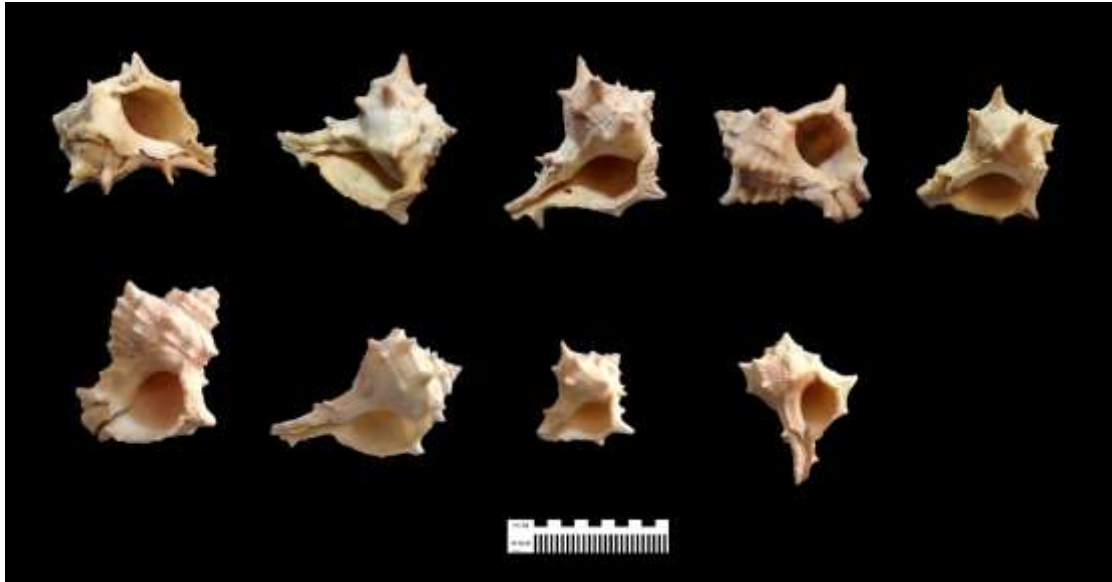


Figure 5 Sea Shells

The distance of this site from the sea is around 800m. Certainly, this distance, in the 4th cent.AD should be even bigger, due to the submergence of the coastline, during the recent centuries.



Figure 6 Sea Shells



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Figure 7 Sea Shells

We believe that this energy layer is the first and only one ever found in the city of Alexandria and it is the presumption that the tsunami of 365AD really happened and surely, destroyed Alexandria of Roman times. This destruction is maybe the last and biggest one, compared with the others that happened the previous centuries, especially the one of 272AD, during the war between Aurelian and Zenobia, when most of the buildings and monuments of the Royal Quarter were destroyed.

This revelation underscores the vulnerability of the Egyptian coast to such natural disasters in the past. This emphasizes the need for thorough study and preventive measures to mitigate future incidents.

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