

Biomarine Concretions, as an Investigation tool for Expert Purposes

Florinda Tortorici

Independent Researcher, Italy

***Corresponding author**

Florinda Tortorici, Independent Researcher, Italy.

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Biomarine Concretions

The topic treaty regards the study and the use from the concretions organic in marine environment, first and foremost, as a useful tool in the case of expert investigations to identify the place of shipwreck of the object being investigated clandestine action, so as to be able to establish their membership and nationality in a judicial context.

This principle has led to the development of a classification model (Report) for concretions from apply Not Alone to such scope, but inversely useful in sectors which diagnostics, restoration and above all historical archaeological reconstruction.

The aforementioned work also led to a preliminary processing of a "Formula", which could be defined as the "Inverse Principle of Accumulation".

To Today the concretions I am consider at the stregua Of a "accident", That defaces and cause damage to the find itself.

Consequently, they are treated as waste destined to be removed with the least possible damage to the artifact of archaeological interest and eliminated. In light of the evident disturbing action of the concretions, it is equally true that they contain elements of considerable importance, worthy of study and classification, as this study intends to demonstrate.

Concretion, in fact, is the result of the action of marine biological elements which are specific to a specific habitat, The That allows of two circumscribe the place in which The They substrate (Meaning what the find) was presumably taken.

At its finest level, a classification of the individual species responsible for concretion, can give us precise information on

the depth, nature of the seabed, current regime, and other factors physicists characterizing the site of origin. It can indicate with a certain approximation the duration of its stay at sea, or at least the time it was exposed to water. It can highlight any possible interference of an anthropogenic nature.

In a stair relatively wide can, In the end, give information of character geographical, for example by discriminating between the different basins that make up the Mediterranean Sea.

Consequently, the presence of organic or inorganic chemical sedimentary components paradoxically it will be considered as a term Post quem o Before this.

In short, there bioconcretion and as a book written in the centuries That can tell a history. It can provide important information in the reconstruction of events of which we only have the historical literary data, going to refute or deny the same. It can provide clues to events of which we do not possess any source. Of that time span that goes from its sinking to its discovery and if not subjected to significant alteration, it can provide very useful information, like the stratigraphic unit, which the archaeologist draws on to relate the finds to the territory and to the stratification of anthropic and natural events.

This is why I started from what for us archaeologists is the principle on which an archaeological excavation is based, meaning what the identification and the study from the Unit Stratigraphic (US) And of the They relationship with the find archaeological fixed or mobile. Principle That Yes apply Also in the field of underwater archaeology, which over the years has increasingly refined its excavation methodology, which in principle is the classical one.

In this case, the application of the stratigraphic method, precisely, in synergy with the biological study, on the one hand, and the diagnostic one on the other, applied to everything that concerns the purely archaeological aspect, has brought to light significant elements, which can radically change the methodological approach held up to now on underwater finds.

This new approach, in perspective, could also be extended to non-underwater finds on which, even if in manner minor Yes, they can see form concretions earthy biologically mediated.

It is important to highlight how this work is the result of a multidisciplinary intervention, which in addition to me, also involved Prof. Salvatore Giacobbe, associate professor for the teaching of Ecology at the Department of the Department of Sciences chemical, biological, pharmaceutical and environmental sciences of UNIME, for the comparison of archaeological data with biological data.

Unfortunately, almost all autopsy analyses were conducted on photographic reproductions, but of high definition, but That in this site they have Anyway provided data useful for the preparation of their first cataloguing. Only two finds were subjected to direct autopsy analysis and sampling of the concretions.

Findings, whose preliminary results already obtained highlight the future need for more refined diagnostic investigations.

Such as investigations, I am state performed from the laboratory CMR Center Materials Research of Vicenza, on samples of concretions from underwater finds, which up until the time of sampling had not undergone any type of restoration work. An operation made possible thanks to, at the availability from the Direction General Archeology Beautiful Arts and Landscape, Superintendence Archaeological Beautiful Arts and Landscape For their City Subway of Reggio Calabria and the Province of Vibo Valentia, in the person of the underwater archaeologist Officer Dr. Alessandra Ghelli, who kindly and with interest accepted the request for sampling.

In the end we have come to the conclusion that from the concretions, numerous information can be obtained, if subjected to both autoptic and stratigraphic investigations, through adequate instrumentation, which can highlight details that are imperceptible to the naked eye.

These would need to be treated in a scientific manner, applying the set principle where possible and no longer simply identified as a foreign body, for how much they are. Study only the aspect biomarine, in light of the results achieved, even if they are partial, it would end up becoming reductive.

The first results have had the consequence of ascertaining that their conformation on the substrate is influenced by different biochemical factors of the find itself, which reacts differently to the colonization of the biomes. Incorporating biological data potentially useful for geo-environmental aspects and anthropic ones that can also be placed chronologically.

Therefore, proving to be a very complex study, which would require a longer analysis time, application and research, Yes And decided, as first step, of restrict The field of investigation to lead and bronze finds only.