

INA QUARTERLY

BRINGING HISTORY TO LIGHT THROUGH THE SCIENCE OF SHIPWRECKS

INA REMEMBERS SEBASTIANO TUSA



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EXPLORING THE GALLEON
SANTIAGO DE GALICIA



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TRIBUTE: SEBASTIANO TUSA

ON THE COVER: The late Sebastiano Tusa examines a ram from the Egadi Islands. Photo courtesy of Salvo Emma

The Institute of Nautical Archaeology is a non-profit organization whose mission is to advance the search for the history of civilization by fostering excellence in underwater archaeology

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Editor
Deborah N. Carlson, Ph.D.

Assistant Editor
Olivia Brill

Designer
Jacqueline Munz

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Institute of Nautical Archaeology
P.O. Drawer HG
College Station, Texas
77841-5137 USA
email info@nauticalarch.org
phone (979) 845-6694
www.nauticalarch.org

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inaq@nauticalarch.org

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— 2019 —

**CLAUDE DUTHUIT
ARCHAEOLOGY
GRANT RECIPIENT**

In 2014, INA established the \$25,000 **Claude Duthuit Archaeology Grant**, which is awarded annually to the underwater archaeological project that best captures the innovative, bold, and dedicated spirit of Claude Duthuit. An explorer, innovator, and pioneer of nautical archaeology, Claude was a loyal supporter of INA since its inception.

Since 2014 the award has grown to \$30,000, and the sixth annual Claude Duthuit Archaeology Grant was awarded to Professor **Cemal Pulak**, Coordinator of the Nautical Archaeology Program at Texas A&M University. Grant funds will support the excavation of a newly-discovered Bronze Age shipwreck conducted under the directorship of the Antalya Museum as a joint collaboration between Associate Professor Dr. Hakan Oniz, head of the Akdeniz University team, and Professor Dr. Cemal Pulak, head of the INA team.

"We are very excited about this new collaboration which provides an unparalleled opportunity to learn about the origins of the earliest copper oxide ingots, and places us in the fortunate position of having excavated three Bronze Age metal cargoes in Turkish waters." -CEMAL PULAK



www.nauticalarch.org/duthuit

NEWS & EVENTS

Bass Publication Grant, Meet Our Researchers, Farewell to a Friend

DEGUWA VISITS INA IN TURKEY

Since 1995, the Deutsche Gesellschaft zur Förderung der Unterwasserarchäologie (DEGUWA) or German Society for the Promotion of Underwater Archaeology, has hosted an annual conference called "**In Poseidon's Realm**" where scholars share the latest research in underwater archaeology. This April, more than 40 participants from 14 countries traveled to Bodrum, Turkey, for the 24th In Poseidon's Realm. During the week-long conference, attendees visited INA's Bodrum Research Center (BRC), where INA President Deborah Carlson, INA Vice President Cemal Pulak, and BRC Director Tüba Ekmekçi were privileged to provide a tour of the research library, conservation laboratories, and discuss artifacts from numerous INA excavations. The visit concluded with a delightful evening

cocktail reception in the BRC garden. Auf Wiedersehen DEGUWA!

BROADWATER RECEIVES BASS PUBLICATION GRANT

Please join INA in congratulating Dr. **John Broadwater** for being selected as the first recipient of the George and Ann Bass Grant for Nautical Archaeology Publications! Appropriately, following one of INA's earliest surveys (of the York River) directed by Founder George Bass in 1976, John became the first State Underwater Archaeologist of Virginia (1978). He directed the **Yorktown Shipwreck Project** for nearly a decade, until it was terminated abruptly by the State of Virginia. Broadwater went on to serve as Chief Archaeologist at the National Oceanic and Atmospheric Administration (NOAA)'s Office of National Marine Sanctuaries until his

retirement in 2010. As recipient of the first Bass Publication Grant, John is focusing on the final publication of the British collier brig *Betsy*, which sank in 1781 during the pivotal Battle of Yorktown. We are all very excited to see this important project come to fruition in the hands of a first-rate scholar!

INA RESEARCHERS IN RESIDENCE 2019-2020

We are delighted to announce two new INA research appointments for the 2019-2020 academic year: Dr. **José Luis Casabán**, who earned a Ph.D. from Texas A&M University in 2017, conducts archaeological and archival research on the history and construction of 16th and 17th-century Iberian ships, especially Spanish galleons. As an INA Postdoctoral Researcher, José will be assisting with the digital recording, mapping, and



John McManamon



Jose Casabán



Nili Liphshitz



Tooze Library at BRC



Cocktail reception at BRC



BRC Staff

publication of several different INA shipwreck projects around the world. Dr. **John McManamon**, Professor Emeritus of Renaissance History at Loyola University Chicago, is an INA Scholar in Residence. John has participated in the excavation of shipwrecked or derelict vessels in Bulgaria, Denmark,

Italy, and Turkey, and helped survey for shipwrecks in Malta and Morocco. He is the author of *Caligula's Barges and the Renaissance Origins of Nautical Archaeology Under Water* (2016) and will spend the academic year at INA's Texas headquarters supervising the final publication of the 9th-century Bozburun

shipwreck excavated by INA between 1995 and 1998.

NILI LIPHSCHITZ (1944-2019)

INA is saddened to relay news of the death of Dr. **Nili Liphshitz**, who was a research fellow at Tel Aviv University, specializing in botany and wood anatomy, and author of *Timber in Ancient Israel: Dendroarchaeology and Dendrochronology* (2007). Liphshitz's proficiency with species-level wood identification led to numerous important collaborations with INA researchers in Croatia, Cyprus, Israel, Italy, and Turkey. She was a frequent visitor to INA's Bodrum Research Center, and in Turkey alone she analyzed wood samples from shipwrecks at Kizilburun, Tektaş Burnu, Uluburun, Yassı Ada, Yenikapi, and the Sultan's Galley *Kadırga*, among many others. Nili's interests and expertise in botany, wood anatomy, dendrochronology, and salt secretion made her a unique and formidable researcher; she will be deeply missed.



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HIGHLIGHTS

SHIPWRECK WEEKEND 2019

An annual event hosted by INA and the Nautical Archaeology Program

Every spring, INA and the Nautical Archaeology Program (NAP) at Texas A&M University host a free, family-friendly public open house called Shipwreck Weekend, to showcase the importance of shipwrecks and share the results of ongoing fieldwork and research. This year's event, made memorable in part by threatening weather that included a tornado watch, was appropriately themed *Ill-fated Voyages and Expeditions!*

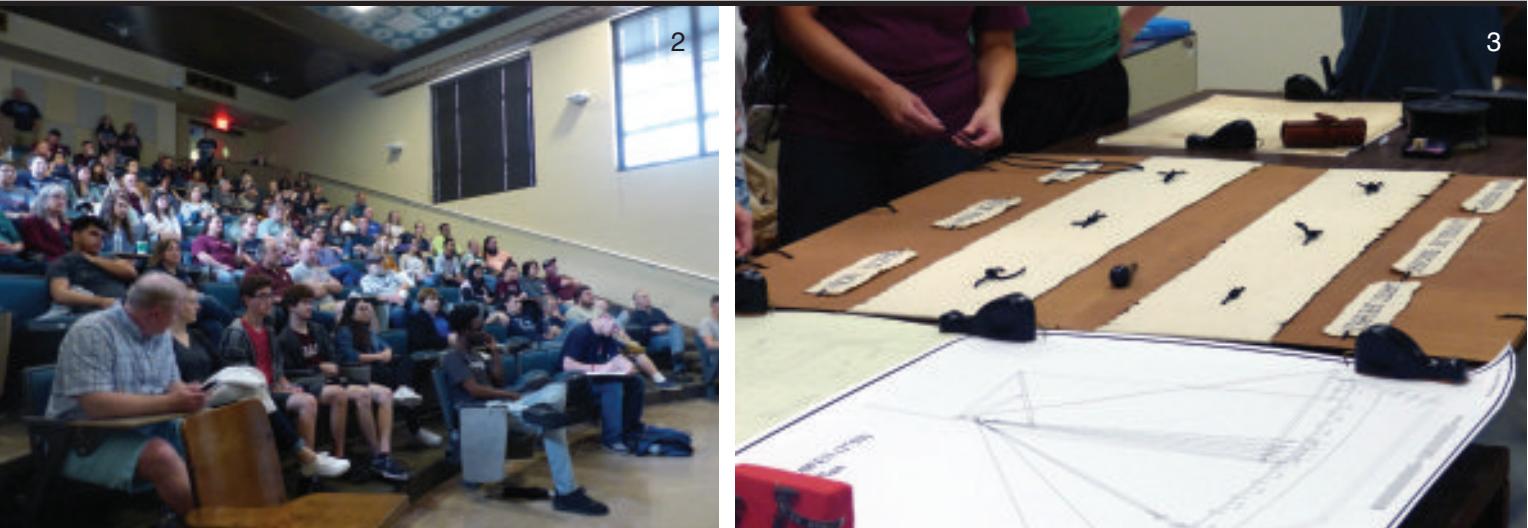
The main feature was a lecture by guest speaker Charles Dagneau from Parks Canada about the ill-fated Franklin Expedition of 1845. This expedition to the Canadian Arctic has captivated the public for more than 170 years. Poisoning, starvation, death, cannibalism, failed rescues, scattered relics, and dramatic Inuit accounts of the fate of Sir John Franklin's men have created one of

the great mysteries in British and Canadian history. Between 2014 and 2018, the Underwater Archaeology team of Parks Canada located and explored the two ships of Franklin's Expedition: HMS *Erebus* and HMS *Terror*.

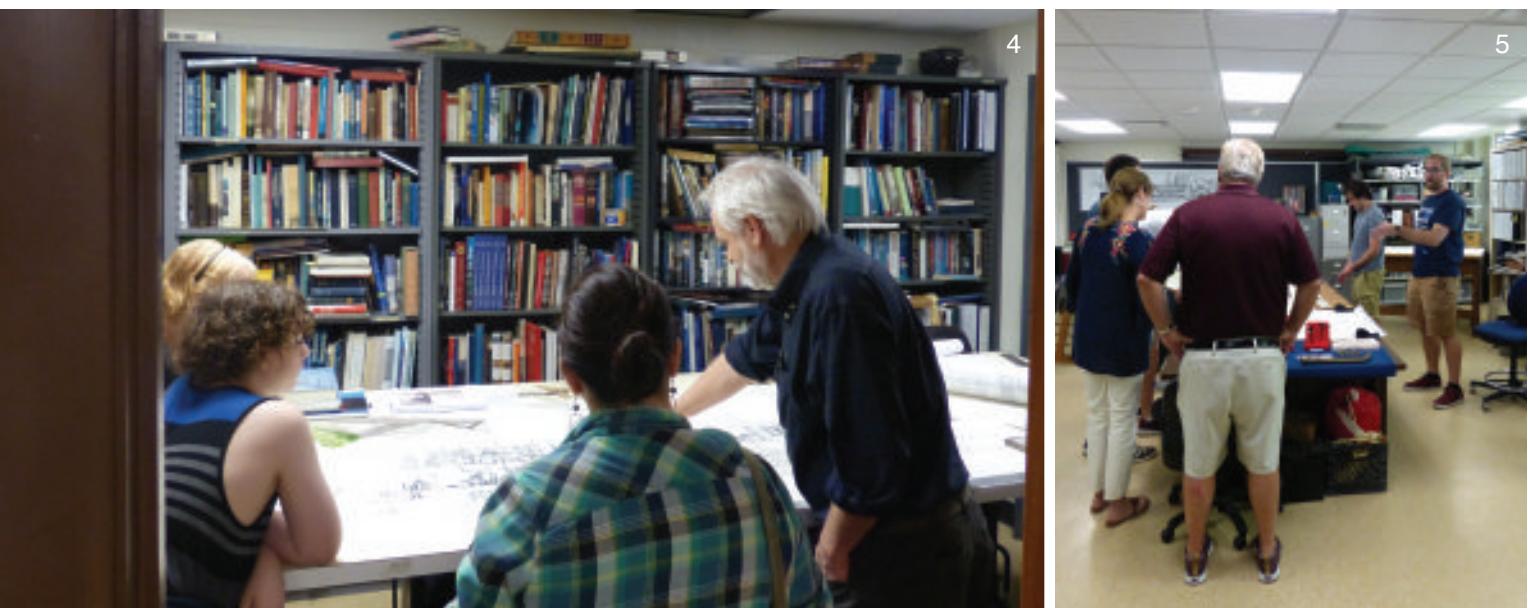
Following Dagneau's fascinating lecture, visitors toured the NAP laboratories, where graduate students gave presentations on various maritime disasters, including the Luna expedition (1559), the Port Royal earthquake (1692), and the mutiny aboard HMS *Bounty* (1789). The open house featured activities for all ages including face painting, a treasure hunt, and a photo booth. Visitors to the INA office viewed films, picked up free offprints of various publications, and met INA Founder George Bass, who signed copies of his book, *Beneath the Seven Seas*.



1. Charles Dagneau and George Bass
2. A full house 3. Sailing knot tutorial 4.
Dr. Kevin Crisman 5. Dan Bishop gives
orientation 6. Glenn Grieco and one of his
many models 7. NAP Graduate students
demonstrate rigging



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THE KAUKAUNA PROJECT

An Ancient Sicilian Maritime Landscape

BY MASSIMO CAPULLI AND DARIO INNOCENTI

The Kaukana Project is a collaboration between the Department of Humanities and Cultural Heritage at the University of Udine (Italy) and the Superintendence of the Sea of Sicily, with support from INA and the Ibleo Diving Center. Kaukana is the name of an ancient Roman village near Punta Secca, a small town in the Ragusa province of southeastern Sicily. The main objectives of this project are the assessment, inventory, and study of underwater archaeological sites of the region in order to reconstruct their relationship to the surrounding coastal communities. Fieldwork began in summer 2017 with the excavation of the Punta Secca shipwreck and continued in 2018 in Kamarina Bay and Ispica. This paper presents the results of those campaigns.

The authors would like to acknowledge Sebastiano Tusa, co-director of the Kaukana Project, who died tragically on March 10, 2019 when the Ethiopian Airlines plane he was traveling on crashed; he was en route to a UNESCO meeting in Kenya at the time.

This page: A diver measures a marble column in Kamarina Bay



By merging the results of coastal survey with a study of historical sources, particularly ancient cartography and navigational texts, it was possible to verify the existence of several trade networks that relied on these towers.

INTRODUCTION

The village of Punta Secca is located in south-central Sicily, 99.8 km (62 mi) north of Valletta (Malta), with its small harbor facing the Strait of Sicily. We launched the Kaukana Project in 2017 from this area, the historical and archaeological importance of which is attested by several prehistoric settlements. Only a few miles away from Punta Secca is the ancient Greek site of Camarina. Archaeological evidence of ancient settlements in this region extends throughout the coast and mainland, and several shipwreck sites were surveyed here in 2018.

At the beginning, the main objective of the Kaukana Project was to survey and explore the coast. Underwater research

was combined with analysis of the coastal landscape, the study of historical sources, and evaluation of local geomorphology. Until now, historical research has focused on the main coastal settlements and ancient anchorages. The ambition of this project, however, was to expand the research area and provide information on connections between coastal sites and inland settlements.

A sandy coast, shallow water, and emerging rocks characterize the coastline from Camarina to Marina di Ragusa. The Roman historian Pliny wrote about the danger of this shore, describing safe anchorage as impossible (*Natural History* XVI, 192). Even today this coast is dangerous for navigation and anchoring. Nevertheless, several ancient seasonal

anchorages are known and it is not uncommon to find bollards carved into the rocks for hauling or mooring boats.

Despite the rugged nature of the coast, the threat of invasion required, over the centuries, the construction of several watch towers from which one could be on the look out for ships. The complex system of watch towers was already in use during the Middle Ages but expanded by the Spanish Crown in the 16th century. The towers permitted an extensive view of the coastline and facilitated easy communication between one another. The coastal towers were incorporated into an even more complex system that encompassed other watchtowers in the hinterland, so that the arrival of enemy boats could be communicated to the main

PHOTOS: M. CAPULLI

settlement at Ragusa.

Our research focused on the area defined by five post-Medieval watchtowers:

- **Torre Cabrera:** built 1584-1596; also known as Marina di Ragusa
- **Torre Scalambri:** built 1593-1594; between Torre Cabrera and Torre di Mezzo
- **Torre di Mezzo:** built 1660; also called Torre di Pietro; between Torre Scalambri and Torre Vigliena
- **Torre Vigliena:** built 1595-1607; on the promontory between Torre di Camarina and Torre di Mezzo
- **Torre di Camarina:** built in the mid-1500s and restored in the 1600s; it collapsed in 1915 due to erosion

By merging the results of coastal survey with a study of historical sources, particularly ancient cartography and navigational texts, it was possible to verify the existence of several trade networks that relied on these towers. Some were already known from historical sources, including the local lime trade between Malta and the seasonal anchorage of Capo Scarami in the 16th century. That the latter was used even in antiquity for loading cargoes is suggested by the Colonne shipwreck, a marble carrier that sank in the 2nd century A.D.

2017 SEASON

The shipwreck of Punta Secca was located during an underwater survey conducted in the first year of the project; it lies close to a small modern village harbor, about 1.3 km (0.8 mi) from the ancient site of Anticaglie. This shipwreck had already been identified some years before, after a storm removed the sand covering it and left it exposed for a short period. The Superintendency of the Sea, at that time under the direction of Sebastiano Tusa, examined the shipwreck and tentatively

This page: map of the five post-Medieval watchtowers; remains of Torre di Mezzo.
Opposite page: the shipwreck at Punta Secca





dated it to the Byzantine period based on pottery recovered from the site. After a short time the sand covered the shipwreck again, making further observation impossible without excavation.

The main purpose of the 2017 project was to open a trench in order to collect more data. Starting with the GPS coordinates provided by the Superintendency, a survey was conducted with a *siringa*, a kind of probe consisting of metal pipes joined together through which water passes at high pressure; in this way the hull was located.

The shipwreck lay under almost 2 m (6.5 ft) of sand and, due to the short time and unfavorable weather conditions, it was impossible to do more than assess and study the hull remains. We decided to focus on a transverse portion of the ship's hull and to document the construction technique, in addition to collecting wood samples.

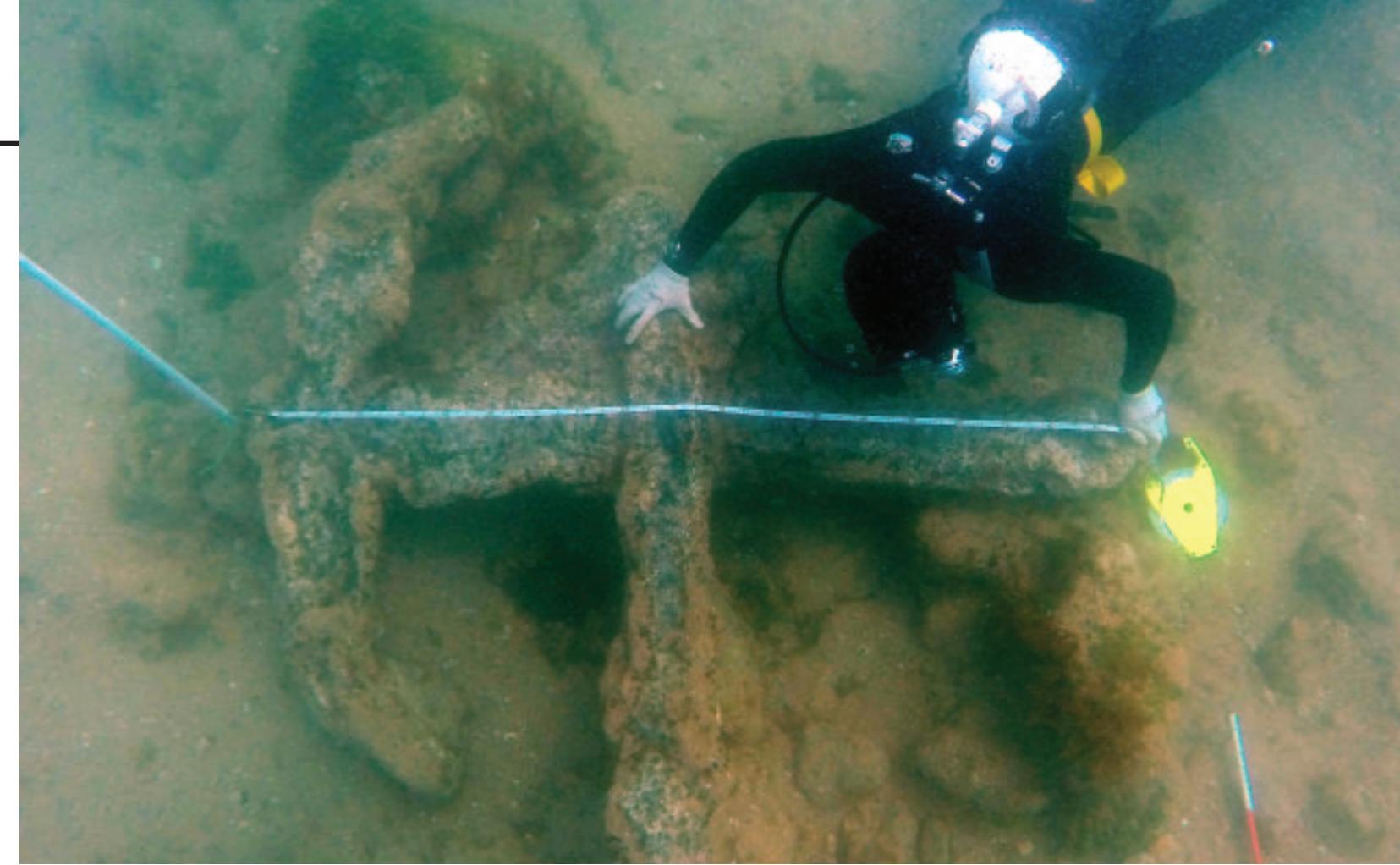
A metal cage 4 x 2 m (13 x 6.5 ft) was built and, once the position of the shipwreck was verified, placed upon it. A test-pit was excavated and the cage prevented it from filling with sand on a daily basis. After two days of work it was possible to reach the shipwreck safely and to expose part of the hull, at a depth of 3 m (9.8 ft).

The test-pit partially exposed five frames, hull planking, and a stringer notched to receive filler pieces. This portion of the hull probably corresponds to one of the ship's ends, and only one side was preserved. There were no keel or keelson remains in this area. Iron concretions marked the remains of fasteners connecting frames to the bottom planks, and the stringer to the frames. No treenails were observed.

The floor timbers' sided dimensions were irregular, varying from 13 to 16

This page, from top: the excavation at Punta Secca from inside the metal cage; exploring timbers at the Portoulisse site. **Opposite page:** measuring two anchors in Kamarina Bay

PHOTOS, THIS PAGE: M. CAPULLI, M. BUGGIA; OPPOSITE PAGE: M. CAPULLI



The presence of these two shipwrecks dating to two different eras, together with the presence of some ancient anchors on the shore, indicates that the area was commonly used for trade and makes the site a candidate for further research.

cm (5.1 to 6.3 in), and the molded dimensions averaged 12 cm (4.7 in). The stringer was 4 cm (1.6 in) molded and 14.5 cm (5.7 in) sided, with notches to receive filler pieces 14 x 2 cm (5.5 x .8 in), and spaced around 20 cm (8 in) apart. The connection between floor timbers and futtocks seems to have been achieved by hook scarves and iron nails. The overlap measured was 95 cm (37 in). The hull planking was 7 cm (2.8 in) thick and the maximum plank width was 28 cm (11 in).

Our survey of the hull remains was carried out with 3D photogrammetric recording using Agisoft Photoscan Professional. Initial survey indicated the shipwreck is more recent than the Byzantine period. This hypothesis

was confirmed by two samples collected during our survey, which were radiocarbon dated to between the mid-15th and early 16th centuries (1485+/-40). The discrepancy between the earlier date of some artifacts and the later date for the construction methods and radiocarbon analysis is understood to be the result of strong winds and sea conditions which displaced artifacts from a nearby Byzantine site on the coast.

2018 SEASON

In the second field season we focused on the coastal area near the ancient town of Kamarina, with the purpose of expanding the study to other known shipwrecks in the area. The research focused mainly on the western area where, in the 1970s, two

shipwrecks were discovered, the Colonne site (end of 2nd century A.D.) and the so-called Tafurea site (Medieval period, 12th-14th century A.D.). The latter was partially excavated but its position is not sufficiently well documented to relocate it without additional survey. The presence of these two shipwrecks dating to two different eras, together with the presence of some ancient anchors on the shore, indicates that the area was commonly used for trade, and makes the site a candidate for further research.

The Colonne shipwreck, dated to ca. 175 - 200 A.D., is not far from the shore and was registered by A.J. Parker in 1975 and excavated between 1989 and 1996 (Parker 1992). Here too, variations in the sediment led to inconsistent coverage



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of the site. During our survey of the Colonne shipwreck, we opened a test-pit with a dredge to assess the state of the hull timbers, which were found to be in relatively good condition.

As expected, we found four anchors about 125 m (400 ft) southwest of the Colonne shipwreck. We were looking for the shipwreck of a medieval *usciere*, a type of galley for horse transport, but as mentioned above, there are no exact coordinates and the search is complicated by thick sediment.

We have, however, identified in a small area one anchor (Kapitän type D), two others positioned orthogonally (probably one Kapitän C and one Kapitän D), and a fourth anchor that is heavily concreted and thus difficult to assess. A survey of the shore was attempted but, again, the abundant sediment did not allow a better understanding. We are hoping to conduct a more thorough survey in an upcoming field season.

In the autumn of 2018, a team from

This page : a diver measures timbers at the Colonne Shipwreck.

the University of Udine was invited by Professor Tusa to investigate a new shipwreck site, about 48 km (30 mi) east of Punta Secca.

It lies in shallow water, less than 2.5 m (8 ft) deep to the east of Punta Castellazzo of Portoulisse, less than 1.6 km (1 mi) from the famous shipwreck of Pantano Longarini. The area is characterized by rock formations, where we found numerous artifacts, especially amphorae, and sand pockets, where we discovered two worked timbers probably belonging to a shipwreck. These timbers were measured and recorded, and some samples were collected for radiocarbon dating.

As in 2017, the constant need to operate quickly in unstable weather conditions, coupled with the necessity to document and protect the shipwreck, necessitated limited intervention and a focus on the basic documentation of the visible artifacts. It was not always possible to investigate the surrounding area and coast, nor to examine in detail the historical sources for this area. All of these actions are scheduled for an upcoming campaign.

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AUTHORS



MASSIMO CAPULLI

D.Prof., University of Udine, Italy
and INA Research Associate



DARIO INNOCENTI

Ph.D., University of Udine, Italy



SEBASTIANO TUSA †

Ph.D., Councilor for Culture of the Sicilian Region

PHOTO: M. CAPULLI

PROFILE

JAMES GOOLD

A lawyer changing the field of Nautical Archaeology



James (Jim) Goold, has served as INA's General Counsel for over 20 years. During that time Jim has participated in INA projects at Uluburun, Turkey; Ashkelon, Israel; Tangier, Morocco, and in the survey of the Turkish coast which located the Kizilburun Column wreck. In 2002, Jim and George Robb Jr. created the RPM Nautical Foundation to equip state-of-the-art research vessels with remote sensing and ROV technology to assist in locating and protecting underwater cultural heritage.

With RPM, Jim has worked at Trafalgar and Cartagena, Spain; Crotone, Italy; Montenegro; Croatia, and on the Egadi Islands Project for the past 12 years. Jim is also part of RPM's ongoing examination of the Albanian coastline. As a lawyer at Covington & Burling LLP, Jim has represented a variety of clients including the Kingdom of Spain, the Republics of France and Italy, National Geographic, and the United Kingdom regarding the protection of underwater cultural heritage. For his work representing the Kingdom of Spain, Jim was appointed a Knight Commander in the Order of Isabella Cattolica and a Commander in the Order of Merit.

How did your career evolve to include being the world's leading advocate for the preservation of shipwrecks?

You could say it started in the Turks and Caicos. After that, I was asked to represent U.S. groups and organizations such as the National Trust for Historic Preservation in disputes and lawsuits involving U.S. shipwrecks. The next big step was in 1998 when Spain decided something needed to be done to protect Spanish Navy Frigates *Juno* and *La Galga* that were lost in Virginia waters in 1750 and 1802. A treasure hunter had been given permission to strip the site and to keep 75% of the artifacts in exchange for 25% going to the State of Virginia. Spain asked me to look at what could be done. They were especially concerned since one of the ships sank in a hurricane with a battalion of soldiers and their families on board, with no survivors. The shipwreck was a tragic gravesite and the "treasure" was the personal effects of the victims of a tragedy.

Spain made the brave decision to have me to go to the U.S. courts; before then, no nation had entered another nation's courts to protect its shipwrecks.

I took a lot of heat from reporters and commentators who argued that shipwrecks should be “finders-keepers.” Pretty quickly, I learned to ask if that is how the gravesites of U.S. sailors and soldiers lost at sea should be treated, which made people stop and think. At the time, the case was viewed as the global test case of a nation’s right to protect its sunken ships. The U.S. Courts agreed with me and ruled clearly and strongly that the ships remained Spanish property, and Spain had an absolute right to protect them from unauthorized disturbance.

What do you consider the major milestones after that in this area?

The *Juno* and *La Galge* case was followed closely by many of the people involved in considering whether an international regime should be established to protect underwater cultural heritage. Our victory in that case generated momentum for

the 2001 UNESCO Convention on the Protection of Underwater Cultural Heritage, which more than 50 nations have now ratified.

As for me, I began to be engaged by other clients such as the UK, for example, who hired me to protect two World War II Royal Navy aircraft whose pilots had crashed in Lake Sebago Maine while being trained in low-level flight. A commercial aircraft collector had begun to raise them for sale with the pilots still in the cockpits. For Italy, I went to court to protect a World War I passenger ship torpedoed off Sardinia. At least once a year, there’s a claim concerning a Spanish shipwreck somewhere.

Often, I am contacted by people who are thinking of investing in some treasure-hunting venture and want some assurance that it will be allowed to proceed; very few of those investors go forward once I tell them the legal risk they will face.

Can you discuss some of your most important recent cases?

The case for France to protect *La Trinité*, which ended last August with a victory for France was hugely important, in my view. *La Trinité* was lost just off Cape Canaveral in a September 1565 hurricane at a time when France had established a presence in the southeastern U.S. and Spain had not. *La Trinité* gave France clear military superiority over Spain. The loss of *La Trinité* allowed Spain to found St. Augustine and claim North America. As I think about it, *La Trinité* may be the single most historically important shipwreck in North American history. I am thrilled that we won quickly and decisively, so now France and Florida can proceed with archaeological investigation of the site and the finds will go to a museum.

The case for Spain against Odyssey Marine Exploration was also huge and clearly has had global impact. A US



Jim inspects a warship ram from the Egadi Islands with Peter Campbell and Bill Murray



Jim and Shelley Wachsmann, along with other INA Board members, enjoy a cruise in Santa Monica, California; Jim presents on the Odyssey Marine Exploration case

company that had illicitly taken what it claimed was the great treasure find ever - worth more than \$500 million, they claimed - had to turn everything they had taken over to Spain and to pay Spain a substantial penalty for having misled Spain and the Court about the identity of the shipwreck. That got worldwide attention and went a long way in driving home the message that treasure in treasure hunting actually comes from the bank accounts of the investors.

How can the relationship between treasure hunting and shipwreck archaeology be improved?

One point of tension I have noticed at times between nautical archaeologists and my legal practice is that some nautical archaeologists take the approach that if they’re conducting an excavation or examining a site, it becomes their property. And that is just not so. The ships belong to someone, whether the nation in whose waters they lie or the nation whose

flag they once flew. I think it should also be recognized that in every case I’ve been involved in, the nation that owns the ship is not a threat to nautical archaeology. The ultimate objective of virtually all the cases I’ve handled for nations has been to protect the sites from treasure hunting and unauthorized disturbance or destruction so that they can be studied as archaeological sites or protected as graves of the soldiers, sailors, and pilots who died in the service of their country. I have encountered a number of situations where I must say archaeologists can become insensitive to the fact that a site is also a maritime grave, not just a place to be studied. But it has been far more shocking to see how much commercial salvors and treasure hunters blatantly disregard the fact that many of these sites are maritime graves.

Do you have a favorite memory from an INA excavation?

Like all the veterans of Uluburun, I think

back on it with enormous fondness. The physical hardships and discomfort have long faded from memory and what remains is the fellowship of working together on this isolated site and living perched upon the cliff. The strong bonds that formed there continue to this day. Uluburun was a special place. I don’t believe any participant regrets it for a minute.

If you could find and excavate any type of shipwreck in the world, what would it be and why?

The answer for me is easy, one of my greatest hopes is to find a Minoan shipwreck.. It hasn’t happened yet, we always have at least a glimmer of hope. I don’t know of any Minoan shipwreck sites that have been reliably studied. I think the artifacts and Minoan culture that we see on land at Knossos and elsewhere on Crete are tremendously attractive. It would be the ultimate thrill, for me, to find a Minoan wreck.



THE 2019 UNESCO MEETINGS

On the Protection Of Underwater Cultural Heritage

BY MARIJO GAUTHIER-BÉRUBÉ

The International Conference on the Protection of Underwater Cultural Heritage (UCH) was held June 16–19, 2019 in Brest, France. It was followed by the 7th biennial meeting of the 2001 Convention on the Protection of the Underwater Cultural Heritage in Paris on June 20–21, 2019. These two meetings were attended by the UNESCO delegation, archaeologists, university members, NGO representatives, and other international experts.

THE 2001 CONVENTION

Well known among underwater archaeologists, the 2001 Convention on the Protection of the Underwater Cultural Heritage is a treaty adopted in 2001 by the General Conference of the United Nations Educational, Scientific, and Cultural Organization (UNESCO). It aims to encourage these basic principles for the protection of UCH:

- Obligation to preserve the natural context where UCH is located
- *In-situ* preservation as the first option, though excavation should be authorized for a significant contribution to the protection of or knowledge of UCH
- No commercial exploitation or pillaging of UCH
- Information sharing between States Parties and the promotion of training in archaeology and other related disciplines

This page: State Parties meeting in the UNESCO Headquarters. Opposite page: 2001 UNESCO Convention Meeting; discussion between workshops and seminars

The 2001 Convention also provides for a detailed cooperative system between the States Parties and a set of recognized practical rules for the research of UCH. As of June 2019, 61 States Parties had ratified the UNESCO Convention. The United States has abstained from signing the 2001 Convention, citing concern over the vague definition of UCH as "all traces of human existence". Countries that have ratified include Spain, Egypt, Argentina, Mexico, and Italy.

The Scientific and Technical Advisory Body (STAB) was created as an expert panel to provide advice about technical matters. STAB advisors can be sent to support, investigate, and assist with the implementation of the 2001 Convention. There are several non-governmental organizations (NGOs) accredited to STAB including INA.

Finally, there is the UNESCO University Twinning and Networking Program

(UNITWIN) on underwater archaeology which encompasses those universities with an educational program in UCH. This group hopes to enhance dialogue through cooperation between participating countries and by connecting professional training institutions and universities.

THE INTERNATIONAL CONFERENCE

The 2019 conference enabled delegations to meet with various experts and listen to presentations that emphasize the importance of UCH. The various events attracted almost 200 people from more than 65 countries!

M. Vladimir Ryabinin, Executive Secretary of the Intergovernmental Oceanographic Commission and Assistant Director General of UNESCO, delivered a speech regarding the importance of the UN's Decade of Ocean Science for Sustainable Development (2021–2030).





The period in question is dedicated to ocean science and the sustainable development of natural resources, but it also addresses cultural resources, within which UCH is prominent. Ryabin invited archaeologists to engage in discussion by prompting “*A new social contract for climate science should be made with the humanities to build a new ocean narrative [...] The ocean is too big to be ignored*” [Author translation]. The spirit of the partnership between ocean science, underwater archaeology, and other related disciplines triggered many discussions about future meetings and collaborations.

In the Q&A session, someone asked the delegates about the obstacles that exist for countries who have not ratified the 2001 Convention. Marc-André Bernier (Parks Canada) explained that each country has its own reasons, but mentioned that many need to set up an adequate legislative context before being able to endorse the Convention. He added that timing and opportunity play a big role in raising awareness with government officials; countries often need inspiring and

symbolic projects to put on the table for discussing endorsement of the Convention with their respective governments.

During the three days of the conference, different speakers presented their recent, ongoing, and future underwater projects. Two of these include the excavation of the Nanhai I wreck in China and the *Amsterdam* Project (1749), a future plan to excavate a wreck in an “aquarium museum”. Participants also discussed the Law of the Sea beyond state territory in international waters.

THE STATES PARTIES MEETING

The next meeting took place over two days at UNESCO Headquarters in Paris. The States Parties meet at least once every two years to discuss many topics, including the election of the Bureau, amendments to the Rules of Procedures, follow-up on missions and recommendations, admission of new NGOs, etc. At these meetings only States Parties may speak; delegates of countries that have not ratified the convention, NGOs, and UNITWIN representatives are allowed only as observers.

My attendance was, however, very informative to understand the inner workings of the 2001 Convention and how important decisions impacting our field are made. All the working

documents are available on the UNESCO website (give URL). Many points were discussed, but I limit myself to a few that are significant for their impact on our discipline.

In 2019, an international evaluation was organized to assess the effectiveness and efficiency of the support UNESCO has provided, as well as the implementation of the 2001 Convention.

Among the Evaluation Office’s key findings, the 2001 Convention standards are implemented by most archaeologists regardless of whether their countries have ratified it or not. However, according to many stakeholders, the definition of UCH in the 2001 Convention is too narrow, focusing on shipwrecks within oceans and seas to the detriment of other bodies of water and other types of cultural heritage. The Evaluation Office also highlighted that UCH has different meanings around the world and that it should be widened accordingly. It is a primary challenge for the discipline of underwater archaeology to embrace different points of view to bring UCH to its fullest potential.

Another key finding, and probably one of the most contentious regarding the 2001 Convention and its Annex, is the principle about *in-situ* preservation. The principle, based on the UNESCO Convention text, states that: “*The in-*

situ preservation of underwater cultural heritage (i.e. in its original location on the seafloor) should be considered as the first option before allowing or engaging in any further activities. The recovery of objects may, however, be authorized for the purpose of making a significant contribution to the protection or knowledge of underwater cultural heritage.” This article has caused heated discussions among archaeologists. Many are under the impression that *in-situ* preservation is the only option and that the 2001 Convention prohibits the removal of UCH from water for research purposes, thus creating a dead-end for anyone engaged in archaeological excavation.

The Evaluation Office strongly advised that the text must be explained carefully and thoughtfully to clarify any misunderstanding. The translation of the article is also problematic, as the nuances are lost across multiple languages and different interpretations result. It should be re-stated that *in-situ* preservation is the first option, but not the only one, if the right research and conservation techniques are applied for the site and its artifacts.

CONCLUSION

Both meetings, the International

Conference in Brest and the State-Parties Meeting in Paris, were unique opportunities to view the 2001 UNESCO Convention from the inside and to witness the decision-making process. Over the years, I have had many discussions about the 2001 Convention, its application, its impact, and *in-situ* preservation. Whether one agrees or disagrees with the 2001 Convention and its principles, it is important to discuss the practice of underwater archaeology in terms of ensuring the protection of UCH with the highest possible standards. The problems discussed by various experts highlight the challenges of UCH as part of our global heritage that needs to be promoted, shared, and protected.

ACKNOWLEDGMENTS

I would like to thank Dr. Deborah Carlson and Dr. Robyn Woodward for providing this great opportunity to represent INA at the various UNESCO meetings in June 2019. I am also thankful to Marco Meniketti (ACUA) for his help navigating the different events and understanding the different elements at stake. I also extend my appreciation to Marc-André Bernier and Mary Lou Doyle (Parks Canada) for their generous explanations during the meetings.

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AUTHOR



MARIJO GAUTHIER-BÉRUBÉ
Ph.D. Student,
Texas A&M University





EXCAVATING A 16TH-CENTURY GALLEON AT RIBADEO, SPAIN

BY MIGUEL SAN CLAUDIO

PHOTO: MARITIME ARCHAEOLOGY TRUST (MAT) XUNTA DE GALICIA (XDG)

In 1597, King Philip II of Spain controlled a vast empire stretching from Sicily to the Philippines. King Philip II's armies and warships were some of the best and most expensive in the world. Among them was the *Santiago de Galicia*, financed by Pedro de Ivella, a Ragusan nobleman, and built near Naples, Italy by some of the best shipwrights of the time.

Santiago de Galicia was launched in 1590 as part of the so-called Illyrian squadron. *Santiago de Galicia* was one of several ships employed to transport wheat from the Adriatic to Naples and wool from Spain to Livorno and Genoa. In 1594, the King ordered Ivella to prepare the entire squadron to depart for Spain. *Santiago de Galicia* became the *Almirante* (vice-flagship) of the squadron after the Turks captured *San Pedro*, the squadron's original vice-flagship, near Messina in northeastern Sicily. The squadron finally arrived in Lisbon, Portugal on 14 September, 1595. From that date until it was lost at the inlet of Ribadeo, Spain in November 1597, *Santiago de Galicia* served as a private vessel in the Armadas of King Philip II.

Santiago de Galicia was part of the 1597 Armada, Spain's third attempt to invade the British Isles during the Anglo-Spanish War. Spanish forces gathered at Ferrol in 1596, under the command of Martin de

This page: a diver examines the galleon's structure



Padilla, the *Adelantado de Castilla*, and Diego Brochero, the second in command. The fleet included Spanish, Portuguese, French, Danish, Scottish, German, Flemish, Venetian, and Italian vessels. Though the Armada was impressive and intimidating, its success was negligible. Upon entering the English Channel, the entire fleet was dispersed by a storm. Those who survived the storm and evaded capture by the English were forced to sail back to Spain.

After the failure of the 1597 Armada, in November of that year, the battered *Santiago* limped against the weather within sight of the Castle of Pardo Donlebún, named for the naval officer who defeated Francis Drake at Puerto Rico the previous year. *Santiago de Galicia* arrived miraculously at the inlet of Ribadeo, only to sink shortly thereafter. Abandoning ship, the crew of *Santiago* was welcomed and fed by the population of Ribadeo, a beautiful and wealthy village perched on the rocks that protect the mouth of the River Eo, which forms the border between the old kingdoms of Galicia and Asturias.

HISTORICAL CONTEXT

Santiago de Galicia is a unique example of a Mediterranean-built warship from the 16th century. The 16th century was extremely violent in Europe, but was also a critical period in the development of the modern world, with technological advances and increasingly scientific world views. By 1597, Spain and Portugal had a long tradition of designing and building galleons, and one of the mysteries we have been trying to solve is how different Italian-built warships, such as *Santiago*, were from those built in the Iberian Peninsula. We have some documents pertaining to their construction, dimensions, and tonnage, but the size, shape, rigging, internal divisions, castles, and armaments are still unknown to us.

Very few studies of 16th-century Mediterranean ships have been published, and there are virtually no documents available that describe the construction of warships during this period. Considering how much we know about this century in Europe, not only its monarchs, warlords, mercenaries, battles, alliances, treatises,



PHOTOS: MAT/XDG; OPPOSITE PAGE: M.SCI/XDG, MAT/XDG, M.SCI/XDG, M.SCI/XDG

By 1597, Spain and Portugal had a long tradition of designing and building galleons, and one of the mysteries we have been trying to solve is how different Italian-built warships, such as *Santiago*, were from those built in the Iberian Peninsula.

but also its cuisine, painters, sculptors, architects, musicians, poets, and writers, it is amazing how little we know about the ships. We have a small number of archaeological examples of warships from this period, all built in northern Europe, but none from the Iberian Peninsula or the Mediterranean. Technical documents on shipbuilding appear in this period, but they do not describe Italian-built warships

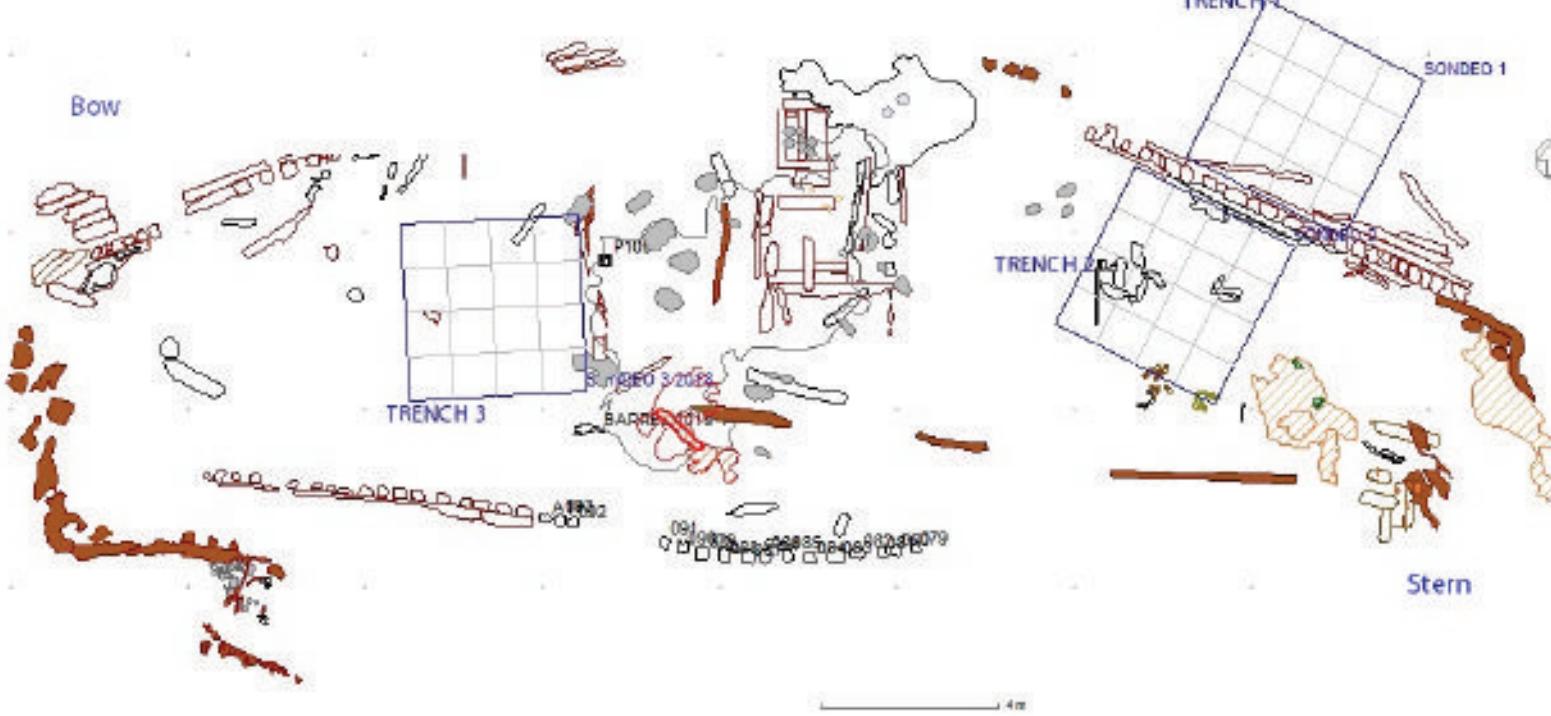
This page: a section of hull structure with artifacts *in situ*. Opposite page, from top: a bronze breech-block; a wooden cup; an olive jar; the site plan.

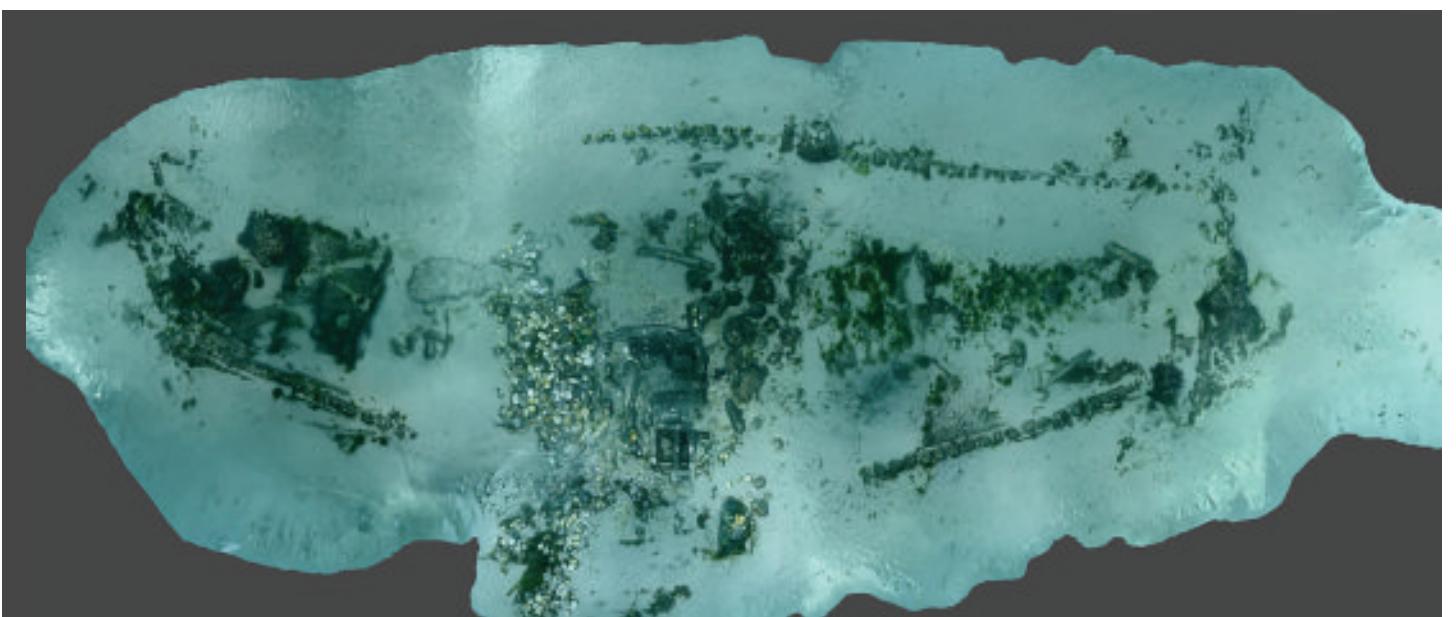
in any detail. All we have are sets of measurements that indicate ship sizes, but not their shapes or structural design.

The archaeological parallels available include: the shipwreck from Villefrance, believed to be *Lomelina*; a Genoese ship lost in 1516, Mortella 3; a Spanish ship built in Genoa and lost in Corsica in 1527, and Calvi 1, a Mediterranean ship lost in Corsica in the second half of the 16th century. The information available about the shape and wooden structure is not extensive; this makes *Santiago de Galicia* one of the most interesting early modern European shipwrecks known.

DISCOVERY AND EXCAVATION

The site of the *Santiago de Galicia* wreck was located in November 2011 during dredging operations. In June 2012, the site was revisited by a team of archaeologists including myself, Raúl González, and José L. Casabán (now an INA Postdoctoral Researcher) to assess its condition and establish its boundaries. We opened a test pit in the stern area, and although the current and low visibility complicated our assessment, the ship's hull was found to be deeply buried and in good condition. The team trenched in the area of the ship's bow, exposing the stem.





A test pit was opened in an area rich with artifacts, including stone cannon shot and a gun carriage wheel. Other objects which may have been used on board include ceramic jars, a wooden cup, and a copper cauldron.

Despite the difficult conditions caused by the strong tidal currents, the team was still able to map the visible wooden remains using 3D trilateration, underwater photogrammetry, and traditional mapping techniques. We collected 29 wood samples for dendrochronological analysis, which dated the ship to the 16th century. In addition, we recovered three bronze breech-blocks, stone cannon shot in four different calibers, and fragments of

pottery which also confirmed the date of the vessel. The site was then covered and protected with plastic mesh.

Due to its characteristics and date, it was decided that the wreck should be included within the Finisterre Shipwreck Project carried out between 2011 and 2015 with support from INA. In February 2015 the site was reassessed and we determined that the mesh was providing sufficient protection. In that same year the identity of the wreck as *Santiago de Galicia* was confirmed by Casabán while conducting archival research for his dissertation in the Nautical Archaeology Program at Texas A&M University.

This page, clockwise: divers examine hull remains; stone cannonballs; orthophoto of the shipwreck. Opposite page: a copper cauldron among other *in situ* artifacts.

Another assessment took place in June 2018, with the support of local authorities and the Spanish Navy, in order to determine the length, depth, and preservation of the shipwreck. An area of the starboard framing was inspected and sketched (Area 1). A large trench was opened in the stern (Area 2) outside of (2.1) and inside (2.2) the hull. Fine silt beneath a thin layer of sand preserved a large collection of organic artifacts but made it difficult to trench. A test pit (Trench 3) was opened in an area rich with artifacts, including stone cannon shot and a gun carriage wheel. Other objects which may have been used on board include

ceramic jars, a wooden cup, and a copper cauldron. In 2018 a full site map was produced, and photogrammetry was used to record the structure protruding out of the sand.

In 2019 the team carried out a second field season, with support from INA, the Spanish Navy, and local authorities. A 3 x 3 m trench (Trench 4) was opened in the area we believe to be midships. The bottom structure was exposed and recorded, but the large number of artifacts and our limited conservation capacity meant that progress was slow. We are hopeful that the information gathered this season will reveal aspects of the ship's construction, particularly the mast step and adjacent areas.

At the conclusion of the 2019 field season, we established the historical importance and geographical extent of this site, and we are pursuing a research strategy that will allow us to share the excavation with the widest possible audience. We are working closely with the city council, a local association of supporters, and local diving clubs. We want to share our data and encourage the public to ask questions and get involved in the excavation and interpretation of this important shipwreck.

ACKNOWLEDGMENTS

I want to thank the team of the 2019 field season: Ricardo Borrero, Filipe Castro, Arnaud Cazenave de la Roche, Ana Crespo Solana, Evan Fray, Christin Hemaegi, Brandon Mason, Gary Momber, Benat Eguiluz Miranda, and Nigel Nayling. I also want to acknowledge the support of the Spanish Navy team at Ferrol, and its commandant: ship lieutenant Ángel Lozano, Ribadeo Mayor Fernando Suárez Barcia, Ainhoa Rodríguez, President of the Amigos del galeón de Ribadeo, and Centro de Actividades Costa Lugo for their collective support.

Finally, I would like to acknowledge the wonderful support of La Botellería restaurant owner Jorge Trenor, and his staff for their patience as we turned his restaurant into our office and headquarters in Ribadeo.

The 2019 season was financed with grants from INA and the Consellería de Cultura de Galicia.

AUTHOR



MIGUEL SAN CLAUDIO
Ph.D., Archeonauta, Inc.

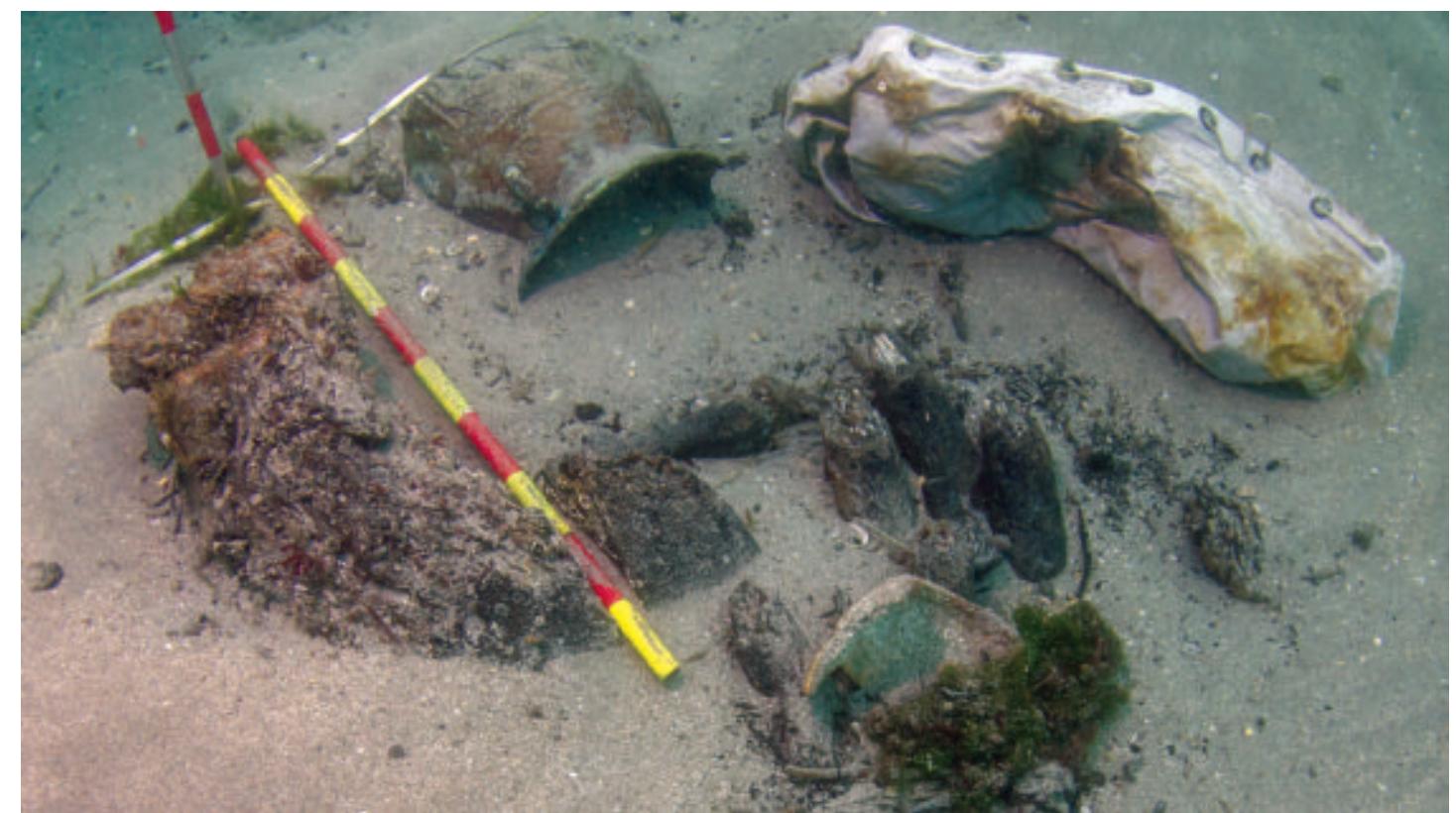
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TRIBUTE SEBASTIANO TUSA (1952-2019)

Archaeologist, Teacher, Heritage Advocate, Mentor, and Friend



Professor Sebastiano Tusa was born in Palermo, Sicily and earned a degree in Paleontology from Sapienza University of Rome. He went on to participate in and direct numerous important archaeological expeditions in Iran, Iraq, Japan, Pakistan, Tunisia, Turkey, and especially on the island of Sicily and in Sicilian waters. His excavations on the island of Pantelleria led to the discovery of three Roman imperial portraits; at Motya, he directed the excavations that brought to light submerged roads and quays. Tusa was directly responsible for the systematic underwater exploration of the Egadi Islands, near Trapani, where since 2004 nearly two dozen bronze warship rams have been identified as relics of the naval battle between Romans and Carthaginians that ended the First Punic War in 241 B.C.

Sebastiano Tusa was also a powerhouse in the protection of cultural heritage. Since 2004, he served the Italian Ministry of Culture as the first Superintendent of the Sea of the Sicilian region. In 2018, he was made Councilor for Cultural Heritage of the Sicilian Region. Tusa was the author of hundreds of scholarly articles and the recipient of numerous academic awards. More importantly, he was a dear friend and mentor to many in the INA family and many more in the field of maritime archaeology. Sebastiano Tusa died on March 10, 2019, in the crash of Ethiopian Airlines Flight 302 while en route to a UNESCO conference in Kenya; his death leaves an enormous void.

I was devastated when I learned that Sebastiano Tusa had perished in an airplane crash. Although we met only a couple of times, including during his 2007 visit to College Station, we corresponded for years. I greatly admired what he was doing for Sicilian marine archaeology and was thus most flattered when he asked me to write the Introduction to his beautiful coffee-table book *Archeologia e storia nei Mari di Sicilia* (Udine 2010). His death marks a huge loss for Mediterranean archaeology.

-GEORGE BASS

Sebastiano Tusa was about as special and memorable as a person can be, to say nothing of his world-class achievements in the field that he so dearly loved. It was 15 years ago that the RPM Nautical Foundation began to work with Seb as Co-Director of the Battle of the Egadi Islands Project. He has been a friend,

mentor, and role model ever since. Throughout the years, Seb has been the driving force of the project, as a historian,

archaeologist, and conqueror of all bureaucratic obstacles. During the 2019 Egadi field season, we will be joined by



the President of Sicily and numerous other dignitaries and colleagues of Seb, as we lower the ROV to place a plaque with the following inscription:

"With this marker we commemorate in July 2019 the achievements of Dr. Sebastiano Tusa as an exceptional archaeologist, scholar and protector of the history, monuments, and culture of the Region of Sicily. At this location in particular, we memorialize one of the crowning achievements of Dr. Tusa's world-famous career: the discovery and archaeological investigation of the site of the Battle of the Egadi Islands (241 B.C.), a central event in the rise of the ancient Roman civilization."

-JIM GOOLD

Seb had a breadth of vision unequaled in our field. He used every tool at his disposal to promote research and exploration of the maritime record, from earliest prehistory to the present. He embraced bold new ideas, through both his own pioneering projects and those of his collaborators, in a continuous effort to make underwater cultural heritage meaningful for the public. Working with him for a decade fundamentally changed how we practice maritime archaeology. His example and his support allowed the Marzamemi project to grow from scientific investigations of a single shipwreck into a broad program of analysis, museum development, and public engagement with millennia of cultural connectivity in southeast Sicily. Seb proudly opened the first of our public pop-up exhibits in Marzamemi in 2018, and he will continue to guide our future endeavors. We all benefited, directly and indirectly, from his tireless efforts. And we are all now poorer for his loss.

-JUSTIN LEIDWANGER, ELIZABETH S. GREENE, AND LEOPOLDO REPOLA

Sebastiano Tusa was my mentor for more than 10 years. He was not only an exceptionally passionate and intuitive

archaeologist, he was also a caring and resourceful person. During his career he delivered several hundred public lectures around the world at prestigious universities and to the general public. As director of the Superintendence of the Sea, Tusa encouraged international collaborations and always welcomed experimentation with new technologies for protecting submerged cultural heritage. He

worked in politically troubled zones and directed task forces to educate colleagues in underdeveloped countries about the importance of protecting their own submerged cultural heritage. Sebastiano Tusa was a truly special person, and his outstanding achievements will inspire future generations, but his absence is felt everywhere in the scientific community.

-ALBA MAZZA





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