

**S. 9.1. – WOODEN SHIPBUILDING**  
**Chair: Ana Rita Trindade**  
**(CSIC)**

## *Bezaisen or Domestic Merchant Vessels from the 16th to 19th Century in Japan*

AKIFUMI IWABUCHI (Tokyo University of Marine Science and Technology)

NORIKO NAGAI (Tokyo University of Marine Science and Technology)

### **Abstract**

Japan has a long history of wooden vessels. At the beginning of the 17th century, the Tokugawa shogunate closed the country to foreigners and banned to build ocean-going vessels. As the national distribution-related economy advanced, contrariwise, the business culture of domestic merchant vessels was greatly evolved across the whole extent of Japan. The bezaisen (弁才船) typed merchant vessels, which were originally started to be built during the 16th century in western Japan, drove out other styles of domestic vessels, and its type became the standard form of freighter. In the early days every bezaisen was designed for both sailing and rowing, whereas later it was only for sailing to reduce the number of crewmen. The bezaisen's hull was becoming larger and larger and its sailing speed increased toward the end of the 18th century before the Western typed merchant vessels introduced to Japan. Since 2010 the Asian Research Institute of Underwater Archaeology and Tokyo University of Marine Science and Technology have researched upon a wreck of bezaisen off Hatsushima Island, eastern Japan. Although the shipwreck has been noticed by islanders since the 1980s, its destruction has been avoided partly because they have stayed away from the wreck site which the ghost of samurai is said to haunt. It lies on the seabed at a depth of about 20 metres and its visible surface relics consist mainly of rooftiles, which are concentrated in 5 square metres, stacked orderly up, and tied solidly each other like rocky reefs. Seen from the above, these relics or quasi-rocky reefs create the U-shape. There is a cramped rectangular sandy area at inside of the U-shaped relics, under which a part of its wooden hull is buried. This bezaisen, sailing from western Japan, is estimated to have sunk at the beginning of the 18th century, judging from the shapes and patterns of its cargos of rooftiles and grinding bowls; all of the rooftiles were made by the purveyor to the shogunate.

### **Keywords**

Wooden Vessel of Bezaisen, Rooftile, Underwater Archaeology, Japan

### **Biography**

Akifumi Iwabuchi is Professor of Maritime Anthropology and Nautical Archaeology at Tokyo University of Marine Science and Technology, which is a member institution of the UNESCO UNITWIN Network for Underwater Archaeology. He is the ICOMOS-ICUCH National Representative for Japan and the Vice-President of the Japan Society for Nauti-

cal Research. He received his PhD from the University of Oxford in 1990. His publications include *The People of the Alas Valley* (Clarendon Press, 1994) and *Cultural Heritage under the Sea* (Kagaku-Dojin, 2012).

### **Biography**

Noriko Nagai is a PhD candidate at the graduate school of Tokyo University of Marine Science and Technology, which is a member institution of the UNESCO UNITWIN Network for Underwater Archaeology. She received her MA from Tokyo University of Marine Science and Technology in 2018. Her publications include 'The Interpretation of a Submerged Site off Hatsushima Island' in *Journal of the Japan Society for Nautical Research* No. 73 (2018) and others.

## *“Building England’s ‘wooden walls’: royal forests and the navy, 1660-1670.”*

SARA MORRISON (Brescia University College @Western University (London, Ontario))

### **Abstract**

The Restoration navy drive drew outlying royal forests into the orbit of London’s navy dockyards on the River Thames. Two case studies of midland forests are central to this study: the Gloucestershire Forest of Dean and Sherwood Forest in Nottinghamshire. Both were remote forests in the heart of midland England. Why were these outlying forests drawn into navy building operations during the 1660s? How was it achieved within a chaotic localized pre-industrial economy?

During the first Anglo-Dutch war (1652-1654) the Commonwealth relied on New England and Scottish timber supplies during a Dutch blockade of the Baltic. After 1660, the navy board planned future timber supplies for wars against the Dutch or other invaders. Fears of timber scarcity for naval use focused attention on timber oaks within royal forests. In the 1660s the navy board established a local shipbuilding industry in the Forest of Dean to build frigates. Located on the River Severn it was ideally situated to launch new vessels sailing to the Thames dockyards. Sherwood Forest’s navy drive in the 1660s was a little different. This landlocked forest in midland England lay within fifteen miles of navigable water on the tributaries of the River Trent. Navy commissioners transported large oaks overland by cart to river wharfs; shallow barges sent cargoes along tributaries of the River Trent; from the Humber estuary, small coastal boats navigated rough North Sea waters, hugging the eastern coastline towards navy yards at Deptford, Chatham and Woolwich.

### **Keywords**

Restoration navy; English royal forests; shipbuilding

### **Biography**

Dr. Sara Morrison is an Associate Professor at Brescia University College, Canada’s only women’s college, affiliated to Western University in London, Ontario, Canada.

I am completing a book on The Stuart Royal Forests. An environmental history.

Recently, I have published articles on “Good Stewardship and the challenges of managing the Stuart royal forests” (2014) and also on red deer in eighteenth century Sherwood Forest, entitled, “Bambi in Sherwood Forest and the great deer escape, 1703-11” (Springer, 2017) Most recently I contributed a chapter on early modern woodland conservation entitled “Conserving the ‘vert’ in early modern Sherwood Forest” to R. Keyser and A. Downing (eds.) *Nature’s Roots* (Berghahn Books forthcoming.)

## *Underwater salvages in Caribbean Sea in the modern period (XVI-XVIII centuries).*

VARGAS VELASQUEZ YAJAIRA (UBS-TEMOS / IPSO-FACTO Scop.)

### **Abstract**

During the modern period, Europeans from Spain, France, Holland and England frequented the Caribbean Sea. The main motivation for these trips was the desire to appropriate natural resources (pearls, gold, silver, emeralds, among others) and establish settlements to control these strategic places. The European expansion in America is well documented by the historical archives. The topics covered mainly concern navigation, trade, cargoes, ships and artillery in the Spanish colonies. On the other hand, the technical approach to salvage methodologies appears neglected.

The purpose of this study is to analyze a list of shipwrecks that occurred in the Caribbean Sea. They involve different nationalities: Spanish, French, Portuguese and English. Some case studies will be presented in this paper to examine the shipwrecking and recovery process of ships and cargoes by highlighting the technology applied by each country during these maritime missions. Understanding this fact should contribute to a better interpretation of the written sources used for the research of underwater archaeological sites.

Studies show that diving was implemented very early in the Mediterranean as a war strategy. Later, divers were mobilized to recover the lost cargoes. Some researchers have highlighted the existence of organized Spanish groups working to save gold shipments.

The analyzed data show that, out of 480 recorded marine losses, only 50 shipwrecks provided the opportunity for a rescue, while only 47 shipwrecks attest to a total loss of life and property. Of the remaining 259 wrecks, we have no indication of a possible salvage operation. Rescues are often carried out in stages and can take several decades. From the XVI to the XVIII centuries, there was in this respect a clear evolution in the techniques used in the field of diving methods, equipments, boats, or tools.

### **Keywords**

Salvage, shipwreck, Caribbean Sea, XVI-XVIII centuries.

### **Biography**

Yajaira Vargas holds an Anthropology degree obtained in 2006 From the Central University of Venezuela and a Master in Maritime and Coastal Archaeology in 2017 from Aix-Marseille Université. Professional diver class I B, since 2011 she has participated in underwater archaeological research in France, Greece and Venezuela. Yajaira has worked in ancient maritime port structures, submerged caves, palafittes, amerindian cemeteries, modern maritime wrecks and urban land excavations. Currently, Yajaira Vargas develops a PhD project, in the frame-

work of a CIFRE agreement between TEMOS-UBS , IPSO FACTO SARL Coop, Arkaeos and the Department of Underwater and Archaeological Research (DRASSM – MMC), financed by Brittany Region. The subject focuses on shipwrecks and cargoes recovery in the modern era in the Caribbean Sea. His research concerns the navigation, the evolution of techniques and materiel culture in modern transatlantic societies.