



PRELIMINARY REPORT OF THE DIVING EXPEDITION
SIERRA LEONE 2012



TABLE OF CONTENTS:

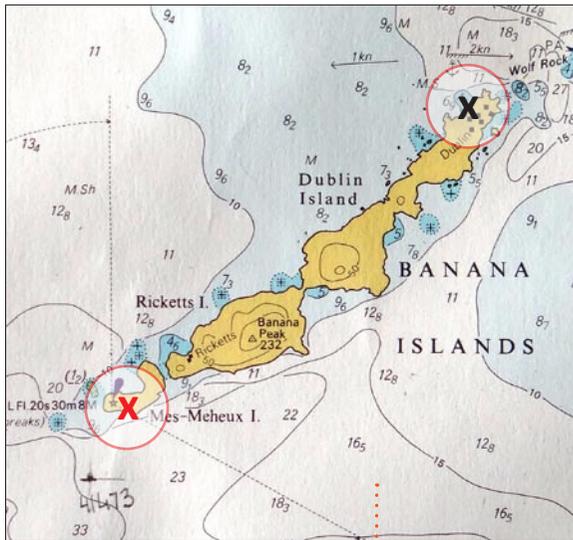
Page 1	Substantive part of the report - fieldwork
Page 19	Attachment regarding discoveries
Page 36	Attachment regarding anchors inventory
Page 45	Attachment regarding cannons inventory
Page 50	Expertise
Page 51	Cannons expertise by Ruth Brown
Page 54	Expertise by Waldemar Ossowski PhD
Page 55	Expertise by Marta Żuchowska PhD
Page 64	Bibliography



The First Polish Scientific Diving Expedition to Sierra Leone

took place between November 9 and November 23, 2012.

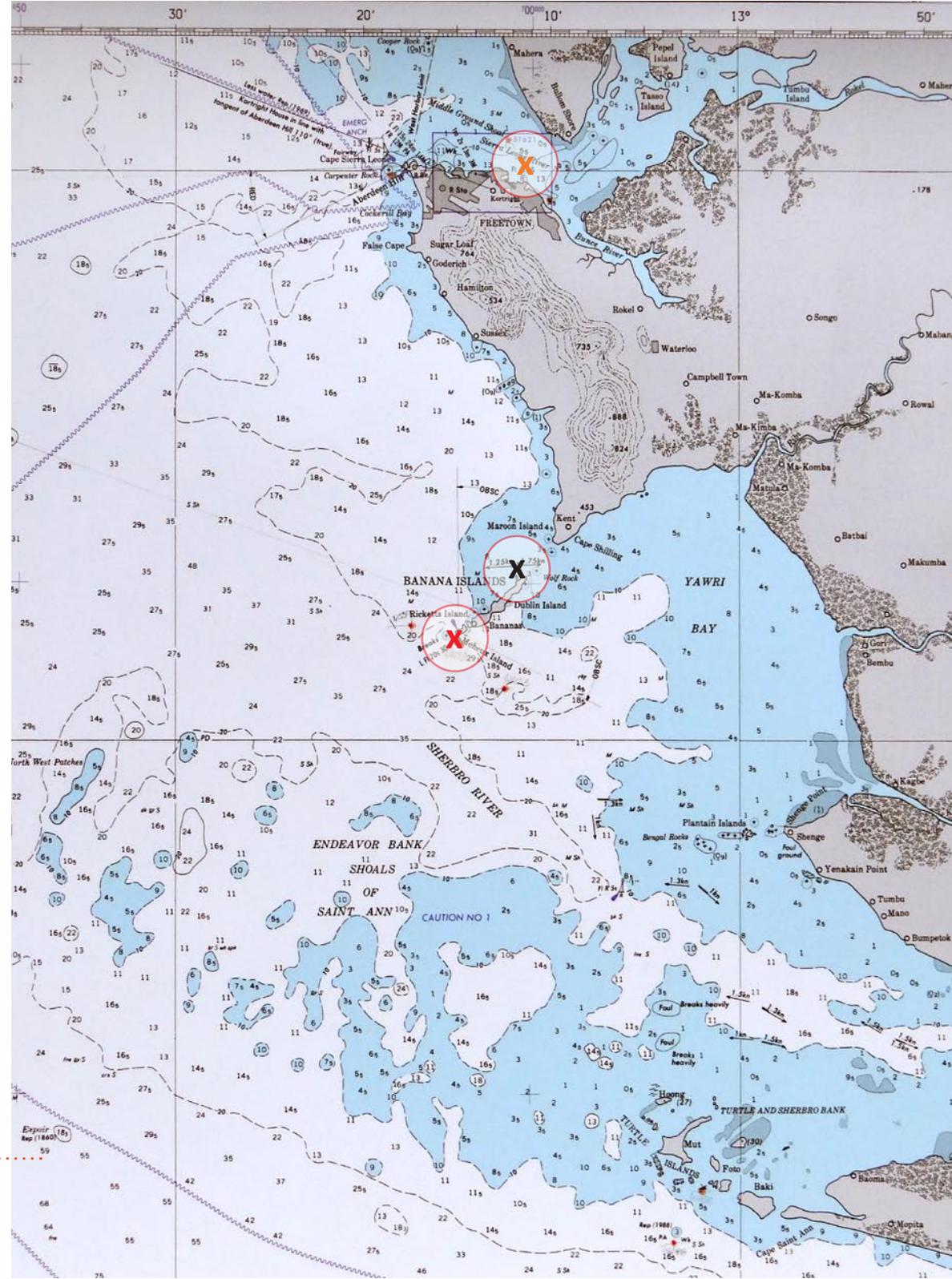
The purpose of our expedition was to find and explore shipwrecks located along the coast of Banana Island - a small archipelago lying about a day's way from the capital Freetown.



Yelibuya sound to Banana Islands
 © Crown Copyright 2003
 Admiralty charts and publications
 No. 10463
 Scale - 1:100 000

Cape Sierra Leone to Cape Mount
 © 1996 by the United States Government
 Prepared and published by the
 DEFENSE MAPPING AGENCY
 No. 51620
 Scale - 1:297 500

X Base **X** Wreck **X** Port





We started our research with underwater reconnaissance. Several days of searching our area of interest using the side scan sonar „StarFish 452F” did not bring any satisfactory results- we only found a few significant remains of modern shipwrecks. After an interview with the local fishermen and the owner of the local fledgling diving base we established that **on the south-western outskirts of the island are the remnants of a shipwreck probably from colonial times.** This wreck site was discovered several months earlier by Greg Delichristosa - the owner of the diving base and the small hostel, where our expedition had its operational base. This wreck site has never been examined or inventoried.



Observation of the monitor of the side scan sonar



The unknown shipwreck immediately piqued our interest.



One of the five anchors

The first dive was already very exciting

- it turned out that at the bottom of the sea lie cast iron cannons and anchors from a warship most likely from the second half of the 17th century or from the 18th century. We felt that such a unique wreck site must be duly and carefully examined and that it just might reveal a sliver of a mystery suppressed by the waters of the Atlantic Ocean for hundreds of years.



Determination of the position of an unknown shipwreck based on the local fishermen's story



The remains of the shipwreck rest on 08° 05' 31.84``E and 013° 14' 38.24``N from 5 to 20 meters (16 to 65 ft.) from the shore at a depth of 4 to 10 meters (13 to 33 ft.) on a rocky bottom. After detailed visual inspection it has been determined that on the bottom there are 28 cannons - most of them do not exceed the length of 220 cm (7.2 ft.), but two of the greatest cannons are 305 cm (10 ft.) long. Eight of the cannons are broken, making it difficult to determine their original length. Between stones we came across a Cascabel Button element which probably belonged to the 29th cannon. Each of the eight damaged cannons has an easily recognizable Cascabel Button, meaning that the element that we found cannot belong to any of them. **We also found five anchors over 4 meters (13 ft.) long, two of which are armed with Ring and Flukes** proving their use before sinking. One of the unarmed anchors (no Ring and Flukes) has a broken arm, which can also indicate that the anchor was used and that the arm broke under the force acting upon it. The missing arm has deteriorated to this date. In the latter part of the report are detailed descriptions of the discovered cannons and anchors.

One of the two armed anchors with a cannon visible on the left side

Dimensioning and description of the cannon No.2





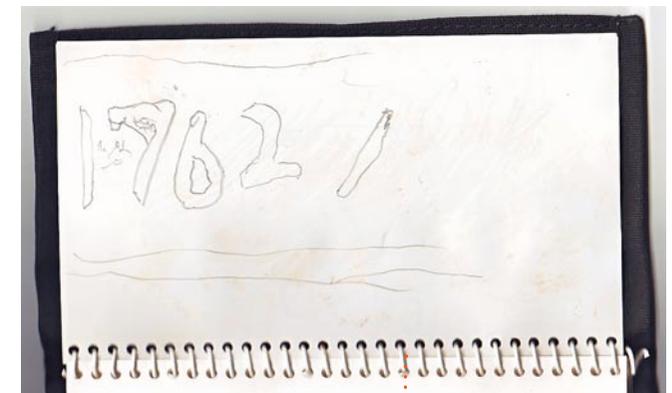


Upper part of the anchor No.2 with a well-preserved ring



The revealed inscription on the back of the cannon

All cannons and anchors are overgrown with a thick layer of coral. During the cleanup of one of the smaller cannons **we were able to reveal the number „1762” on its surface - probably the year of its manufacture**, which indicates it to be a “pre-colonial” ship. Just next to the digit „2” we came across the well visible diagonal character „/” where on the right side (very poorly visible) was a piece of character forming together the upside down letter „V”. However, it is not certain whether it is just a crack in the cast iron. We did not find any other inscriptions, decorations or reliefs on the cannons. We searched the seabed around the wreck site within 100 meters (330 ft.) at a depth of 4 to 10 meters (13 to 33 ft.), but did not find any other evidence of the disaster. Water visibility during exploration ranged from 3 to 8 meters (10 to 26 ft.) depending on the day and the tides. The water temperature was 28 degrees Celsius (82° F.) Currents and water movements were strong, especially close to the shore.



Drawing of the inscription revealed on one of the cannons



We also built an airlift and used it to excavate deeper sandy parts of the wreck site.



Preparation of the airlift



Installation of the airlift



Searching the sandy bottom using the airlift

We used the airlift to excavate sand to a depth of not more than 50 cm (2 ft.) and we did not encounter remains of the shipwreck. Before using the airlift, we searched the sandy bottom using an underwater metal detector „Aquavision Pro,“ but we found no clear traces of metal parts of the wreckage. We did find, however, broken fragments of glass bottles - part of the bottom was made of green color glass and part of the neck and side of the bottle was made of red-orange color glass. **There is a large amount of gas bubbles in both pieces of glass, which suggests that they were produced in the second half of the 17th or in the 18th century.** We also came across bricks that were most likely from the forge or kitchen and a bent piece of a square sheet of lead. None of these items have a characteristic inscription or emblem which can identify their manufacturer. The obtained samples will be handed over to experts for further examinations.

Searching for special characters on the extracted china pottery





On the southwestern edge of the wreck site at a depth of about 10 meters (33 ft.) we excavated large quantities of porcelain pottery - probably Chinese. **Unfortunately, none of the pottery was preserved intact** as the movements of the water and the shoal irreversibly destroyed them. All of the specific photos are presented in attachment No. 1



The fragments of the porcelain cups

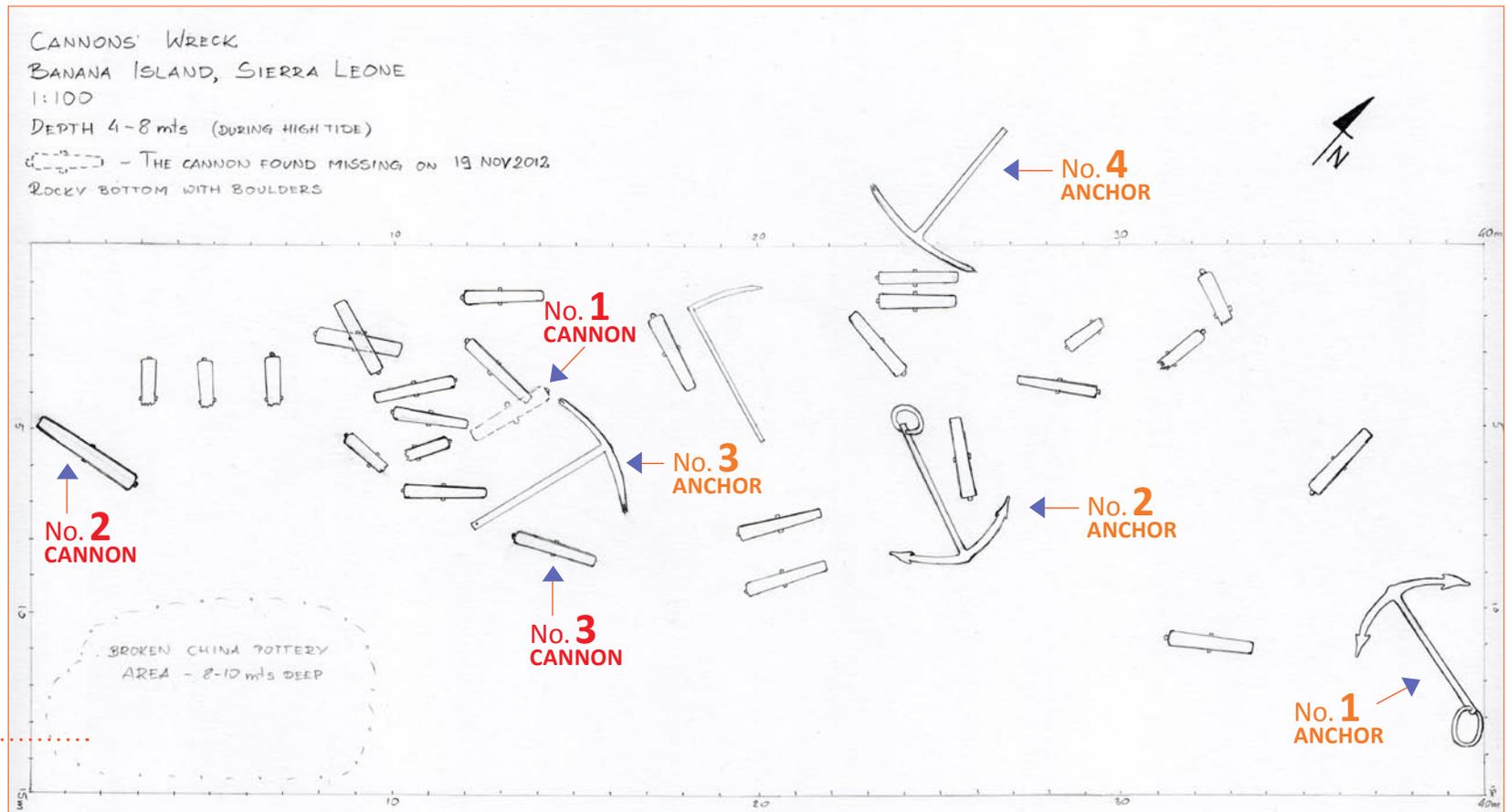
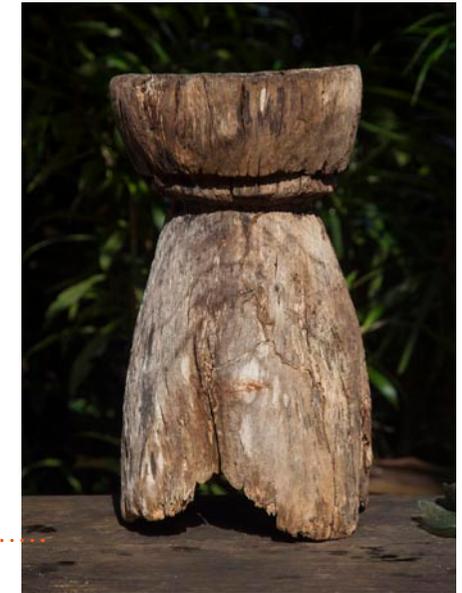


Place where the ship sank



We made a detailed drawing of the wreck site and the exact location of each item (illustration below). We also have a lot of photo-video material of the wreck site. We also searched the shore in the immediate vicinity of the wreck site to a height of 5 meters (16 ft.) above sea level. In the crevices of a rock, we found fragments of glass and pottery with features similar to the ceramics from the wreckage underwater. On the shore, we came across a wooden vessel- probably used to break up the grains (a type of vertical spacing, mortar) - of undetermined origin, whose relationship to the shipwreck is not clear. Studies were not conducted in the dense jungle that grows on the shore.

Wooden item found on the shore in the immediate vicinity of the wreck site



Scheme of the wreck site





The limited duration of the expedition (two weeks) and insufficient funds (lack of institutional sponsors) disabled us from exploring the wreck site more deeply. During the expedition we came upon a very unpleasant surprise: **on November 19, 2012 we noticed that the cannon with the relief "1762" was gone!** We suspect that local scrap iron collectors are responsible - who under the cover of night pulled the cannon to the surface. Unfortunately, Sierra Leone does not have any units that could effectively protect such a wreck site. Fearing for the fate of the other artifacts and for the preservation of the shipwreck for the world cultural heritage we informed the local UNESCO office of this theft and devastation. On December 10, 2012 we received an email that ensures us that during the regional meeting of underwater cultural heritage protection for Africa in March 2013 our case will be presented to the representatives of the government of Sierra Leone.



Work on the inventory of one of the cannons



The participants
of the expedition were:

Marcin Jamkowski

Peter Wytykowski
EXPEDITION LEADER

Roman Zajder
EXPEDITION LEADER

Robert Głuchowski

Piotr Kardasz



Attachment No. 1 of the report
DISCOVERED FRAGMENTS



The extracted fragments of the porcelain



Fragments of the cups



*Fragments of the cups
with zoomorphic motif*

*Fragments of a porcelain dish
with a convex design*



*Fragments of a cup
with a well-preserved floral motif*



Fragment of a cup



*Fragments of the cups
with zoomorphic motif*

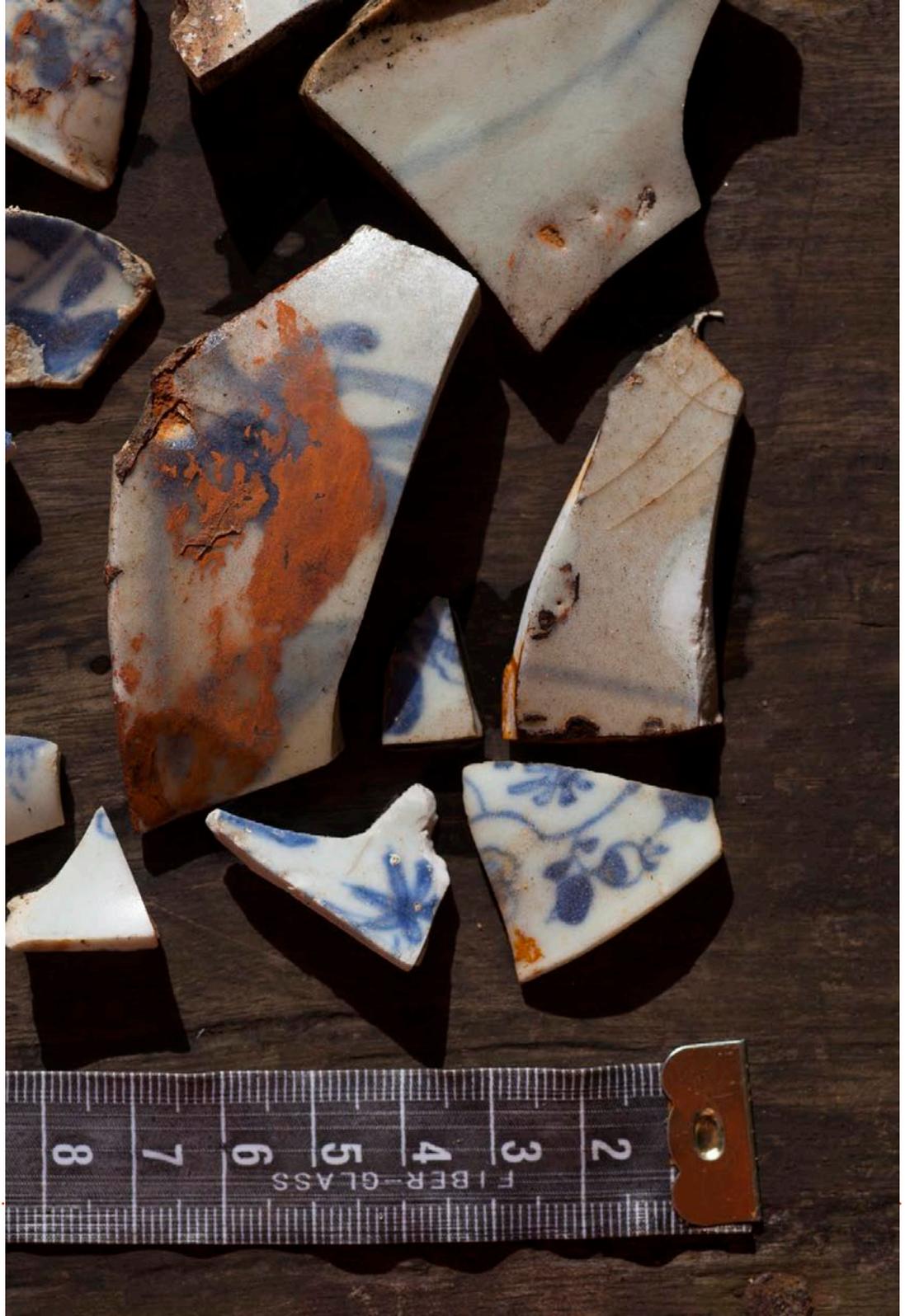


*Fragments of a cup with
a well-preserved floral motif*



Fragments of the porcelain





Fragments of the porcelain



Bottom fragment of a green-glass bottle

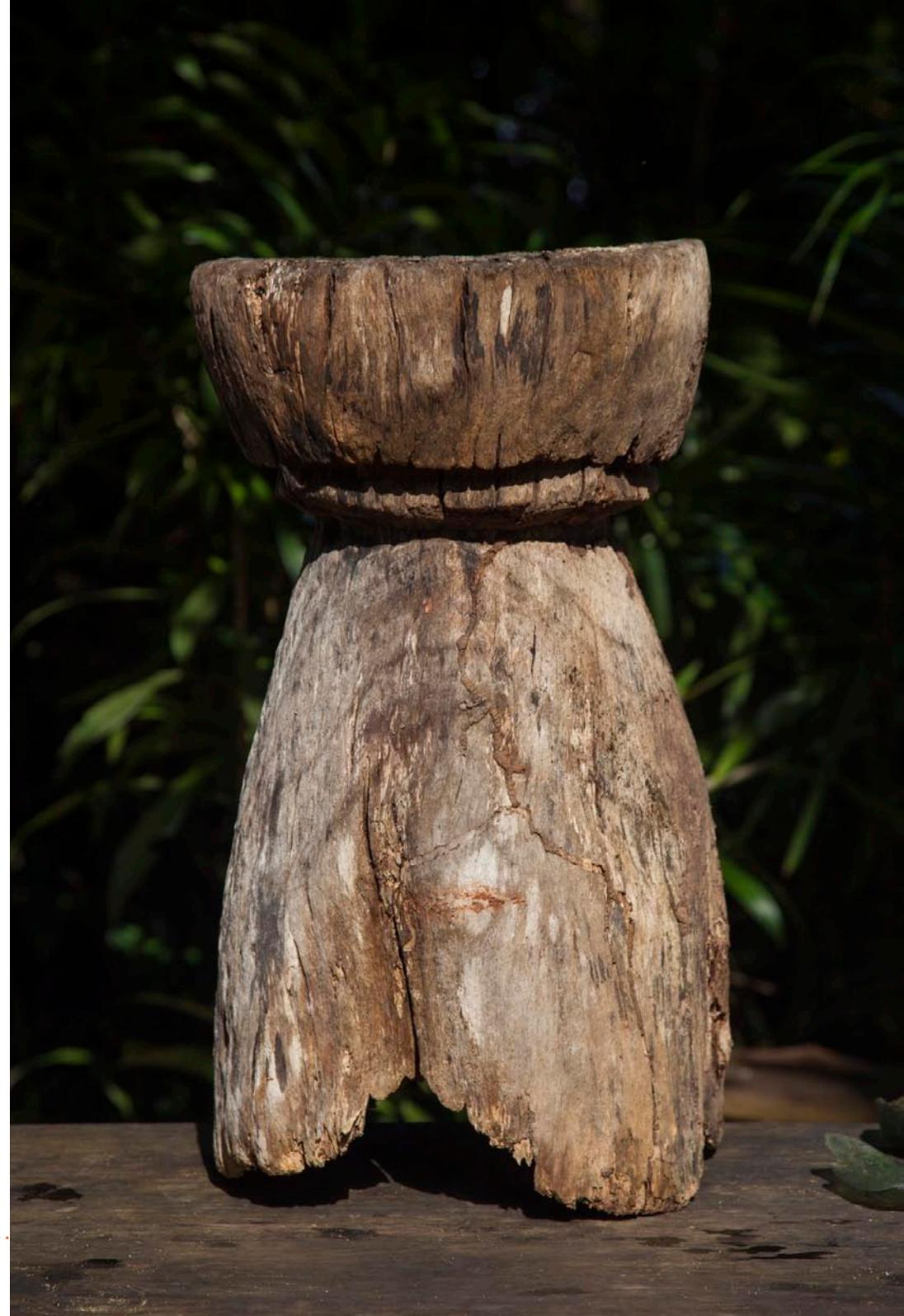


Fragments of clay pottery



Wooden item found on the shore in the immediate vicinity of the wreck site and fragments of porcelain

Wooden item found on the shore in the immediate vicinity of the wreck site





A piece of wood from the ship surrounded by coral reef with an inlaid fragment of porcelain at a height of the digit 13



Bent fragment of thick sheet of lead



View of the top



Bottom fragment of the porcelain pottery



Neck of the bottle- top view



*Neck of the bottle-
side view*



*Neck of the bottle-
side view*



*Neck of the bottle with the preserved
fragment of the bulge-
side view*

Bricks- top view



Bricks- side view





*Cascabel button from the cast iron cannon
broken off probably during the fall at the rocky
bottom of the sea- top view Cascabel button*



*Cascabel button from the cast iron cannon
broken off probably during the fall at the rocky
bottom of the sea- back view*



Attachment No. 2 of the report
DIMENSIONS OF THE ANCHORS



Anchor No. 1

date of inventory: **19.11.1012**

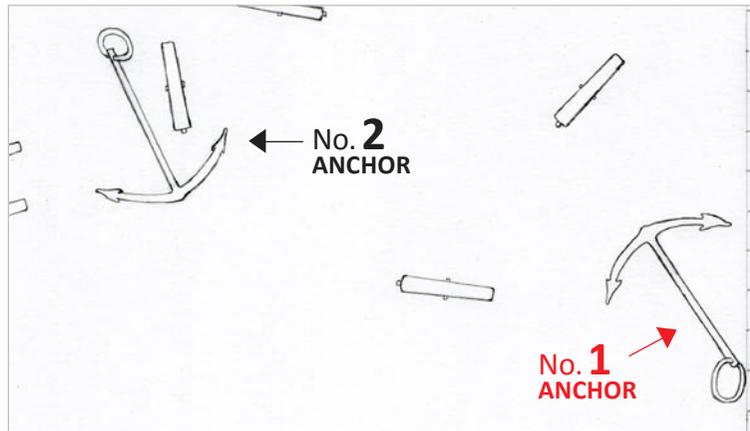
position of exploration:

08°05'31.84 E

013°14'38.24 N

Banana Island, Sierra Leone

Recording form based on the underwater drawing



Submit your anchor record to
www.biganchorproject.com

Iron Stocked Anchor Recording Form



Section 1: General Information

Context	
Category:	SHIPWRECK
Site:	CANNON WRECK
Location:	08°05'31.84 E 013°14'38.24 N
BANANA ISLAND, SIERRA LEONE	
Reference #:	ANCHOR No. 1
Ship name:	
Ship type:	
Ship size:	
Function:	
Anchor type:	
Category:	

Date and Origin	
Date:	
Period:	
Nationality:	
Certainty:	

Features	
Stock:	<input type="checkbox"/>
Squaring of shank:	<input checked="" type="checkbox"/>
Ring:	<input checked="" type="checkbox"/>
Shackle:	<input type="checkbox"/>
Number of arms:	2
Inscriptions:	<input type="checkbox"/>

Recorders	
Names:	ROMAN ZAJDER
Date:	19-11-2012
Group/Org:	WYPRAWY WRKOWE EXPEDITION "SIERRA 2012" WWW.SIERRA2012.COM
Big Anchor ID:	

Features	
Shape of flukes:	TIPPED SPADE
Stock type:	
Stock section:	
Stock shape:	
Stock fasteners:	
Stock key:	
Shank form:	FACETTED ?
Crown:	TIP
Arms:	STRAIGHT
Weight:	

Section 2: Anchor Dimensions (recorded in m(Ⓜ)mm units)

Shank	
Length of shank:	420
Diameter of top of shank:	100
Diameter of bottom of shank:	95
Diameter of stock eye:	
Arms	
Length of one arm:	200
Amplitude of arms:	400
Height of bills:	160
Distance between bills:	290
Shackle	
Diameter of shackle:	
Diameter of eye of shackle:	
Thickness of shackle pin:	
Opening of shackle:	

The Big Anchor Project is coordinated by the Nautical Archaeology Society - www.nauticalarchaeologysociety.org

Key	
Height of key:	
Distance of key:	
Fluke	
Width of fluke:	67
Length of fluke:	85
Ring	
Diameter of ring:	85
Diameter of eye of ring:	
Thickness of ring:	47
Stock	
Length of stock:	
Max. diameter:	
Min. diameter:	
Max. thickness:	
Min. thickness:	
Max. width:	
Min. width:	



PHOTO Anchor No. 1





Anchor No. 2

date of inventory: **19.11.1012**

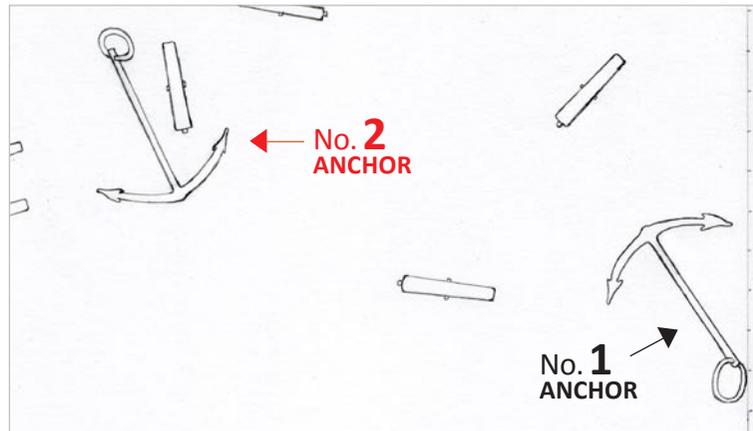
position of exploration:

08°05'31.84 E

013°14'38.24 N

Banana Island, Sierra Leone

Recording form based on the underwater drawing



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www.biganchorproject.com



Iron Stocked Anchor Recording Form

Section 1: General Information

Context	
Category:	SHIPWRECK
Site:	CANNON WRECK
Location:	08°05' 31.84 E 013° 14' 38.24 N BANANA ISLAND, SIERRA LEONE
Reference #:	ANCHOR No. 2
Ship name:	
Ship type:	
Ship size:	
Function:	
Anchor type:	
Category:	

Features	
Stock:	<input type="checkbox"/>
Squaring of shank:	<input checked="" type="checkbox"/>
Ring:	<input checked="" type="checkbox"/>
Shackle:	<input type="checkbox"/>
Number of arms:	2
Inscriptions:	<input type="checkbox"/>

Recorders	
Names:	ROMAN ZAJDER
Date:	19-11-2012
Group/Org:	WYPRAWY WRAKOWE EXPEDITION „SIERRA 2012“ WWW.SIERRA2012.COM
Big Anchor ID:	

Date and Origin	
Date:	
Period:	
Nationality:	
Certainty:	

Features	
Shape of flukes:	TIPPED SPADE
Stock type:	
Stock section:	
Stock shape:	
Stock fasteners:	
Stock key:	
Shank form:	FACETTED ?
Crown:	TIP
Arms:	STRAIGHT
Weight:	

Section 2: Anchor Dimensions (recorded in mm (cm) mm units)

Shank	
Length of shank:	460
Diameter of top of shank:	80
Diameter of bottom of shank:	80
Diameter of stock eye:	
Arms	
Length of one arm:	160
Amplitude of arms:	420
Height of bills:	170
Distance between bills:	300
Shackle	
Diameter of shackle:	
Diameter of eye of shackle:	
Thickness of shackle pin:	
Opening of shackle:	
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Key	
Height of key:	
Distance of key:	
Fluke	
Width of fluke:	70
Length of fluke:	74
Ring	
Diameter of ring:	80
Diameter of eye of ring:	
Thickness of ring:	50
Stock	
Length of stock:	
Max. diameter:	
Min. diameter:	
Max. thickness:	
Min. thickness:	
Max. width:	
Min. width:	



PHOTO Anchor No. 2





Anchor No. 3

date of inventory: **20.11.1012**

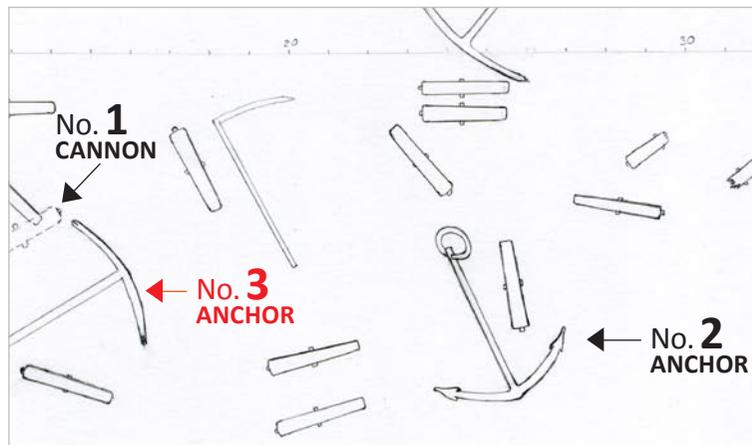
position of exploration:

08°05'31.84 E

013°14'38.24 N

Banana Island, Sierra Leone

Recording form based on the underwater drawing



Submit your anchor record to
www.biganchorproject.com

Iron Stocked Anchor Recording Form



Section 1: General Information

Context	
Category:	SHIPWRECK
Site:	CANNON WRECK
Location:	08°05'31.84 E 013°14'38.24 N
BANANA ISLAND, SIERRA LEONE	
Reference #:	ANCHOR No.3
Ship name:	
Ship type:	
Ship size:	
Function:	
Anchor type:	
Category:	

Date and Origin	
Date:	
Period:	
Nationality:	
Certainty:	

Features	
Stock:	<input type="checkbox"/>
Squaring of shank:	<input checked="" type="checkbox"/>
Ring:	<input type="checkbox"/>
Shackle:	<input type="checkbox"/>
Number of arms:	2
Inscriptions:	<input type="checkbox"/>

Recorders	
Names:	ROMAN ZAJDER
Date:	20-11-2012
Group/Org:	WYPRAWY WRAKOWE "EXPEDITION SIERRA 2012" WWW.SIERRA2012.COM
Big Anchor ID:	

Features	
Shape of flukes:	
Stock type:	
Stock section:	
Stock shape:	
Stock fasteners:	
Stock key:	
Shank form:	FACETTED?
Crown:	TIP
Arms:	STRAIGHT
Weight:	

Section 2: Anchor Dimensions (recorded in m, cm, mm units)

Shank	
Length of shank:	450
Diameter of top of shank:	76
Diameter of bottom of shank:	76
Diameter of stock eye:	
Arms	
Length of one arm:	190
Amplitude of arms:	380
Height of bills:	76
Distance between bills:	290
Shackle	
Diameter of shackle:	
Diameter of eye of shackle:	
Thickness of shackle pin:	
Opening of shackle:	

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Key	
Height of key:	
Distance of key:	
Fluke	
Width of fluke:	
Length of fluke:	
Ring	
Diameter of ring:	
Diameter of eye of ring:	
Thickness of ring:	
Stock	
Length of stock:	
Max. diameter:	
Min. diameter:	
Max. thickness:	
Min. thickness:	
Max. width:	
Min. width:	

PHOTO Anchor No. 3





Anchor No. 4

date of inventory: **21.11.1012**

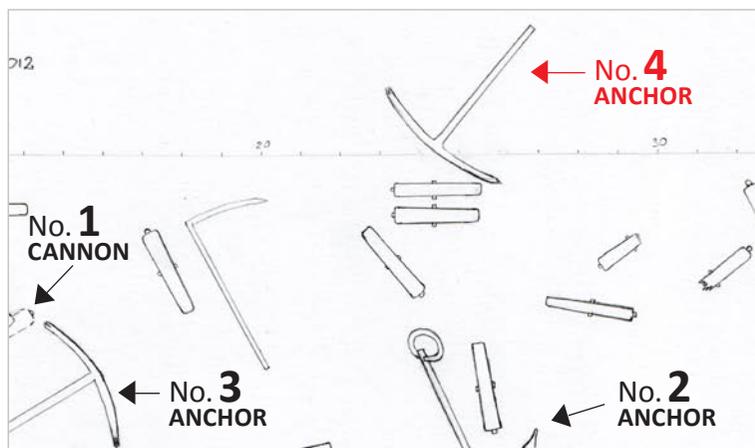
position of exploration:

08°05'31.84 E

013°14'38.24 N

Banana Island, Sierra Leone

Recording form based on the underwater drawing



Submit your anchor record to
www.biganchorproject.com

Iron Stocked Anchor Recording Form



Section 1: General Information

Context	
Category:	SHIPWRECK
Site:	CANNON WRECK
Location:	08°05' 31.84 E 013°14' 38.24 N BANANA ISLAND, SIERRA LEONE
Reference #:	ANCHORE No. 4
Ship name:	
Ship type:	
Ship size:	
Function:	
Anchor type:	
Category:	

Features	
Stock:	<input type="checkbox"/>
Squaring of shank:	<input checked="" type="checkbox"/>
Ring:	<input type="checkbox"/>
Shackle:	<input type="checkbox"/>
Number of arms:	2
Inscriptions:	<input type="checkbox"/>

Recorders	
Names:	ROMAN ZAJDER
Date:	21-11-2012
Group/Org:	WYPRAWY WRATKOWE EXPEDITION "SIERRA 2012" WWW.SIERRA2012.COM
Big Anchor ID:	

Date and Origin	
Date:	
Period:	
Nationality:	
Certainty:	

Features	
Shape of flukes:	
Stock type:	
Stock section:	
Stock shape:	
Stock fasteners:	
Stock key:	
Shank form:	FACETTED ?
Crown:	TIP
Arms:	STRAIGHT
Weight:	

Section 2: Anchor Dimensions (recorded in $m(\text{cm}, \text{mm})$ units)

Shank	
Length of shank:	420
Diameter of top of shank:	35
Diameter of bottom of shank:	30
Diameter of stock eye:	
Arms	
Length of one arm:	180
Amplitude of arms:	380
Height of bills:	94
Distance between bills:	290
Shackle	
Diameter of shackle:	
Diameter of eye of shackle:	
Thickness of shackle pin:	
Opening of shackle:	
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Key	
Height of key:	
Distance of key:	
Fluke	
Width of fluke:	
Length of fluke:	
Ring	
Diameter of ring:	
Diameter of eye of ring:	
Thickness of ring:	
Stock	
Length of stock:	
Max. diameter:	
Min. diameter:	
Max. thickness:	
Min. thickness:	
Max. width:	
Min. width:	



PHOTO Anchor No. 4





Attachment No. 3 of the report **DIMENSIONS OF THE CANNONS**

On the inventoried cannons we did not find Lifting Dolphins and on the remaining cannons which are heavily overgrown with coral it is not possible to identify the part or the cannon does not have it.



Cannon No. 1

date of inventory: 17.11.1012

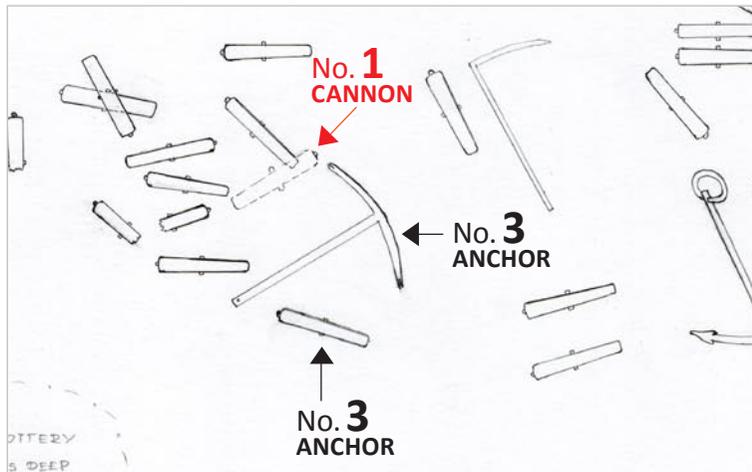
position of exploration:

08°05'31.84 E

013°14'38.24 N

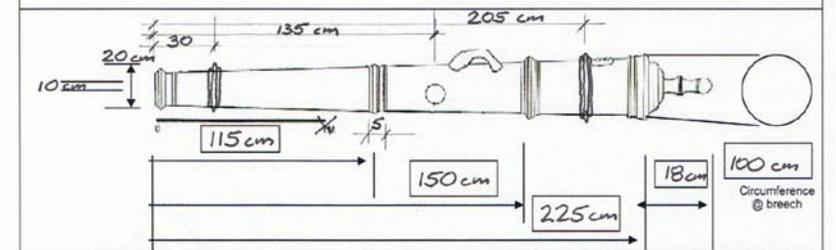
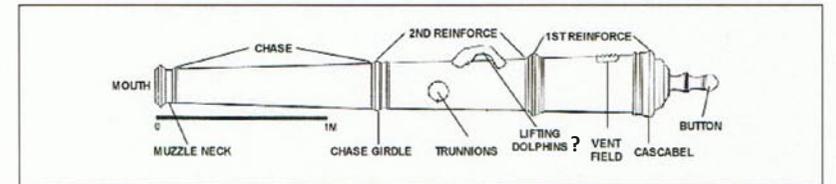
Banana Island, Sierra Leone

Recording form based on the underwater drawing



Recording Form Series
Gun Recording

PERSONAL DETAILS		SITE DETAILS
Name: <i>MARCIN JAMKOWSKI</i>		Site Name: <i>CANNON WRECK</i>
Contact details:		Location/position: <i>BANANA ISLAND, SIERRA LEONE</i>
		Orientation: <i>08°05'31.84 E 013°14'38.24 N</i>
Tel No.:	Date: <i>17-11-2012</i>	Archaeological references: <i>CANNON No. 1</i>
<i>THIS CANNON WAS STOLEN ON 19-11-2012</i>		Type of Gun:



Inscriptions Identified

	Inscription details	
	A	<i>1762</i> ✓
	B	
	C	
	D	
	E	
Identify location of inscription on diagram above		F

SKETCH



Cannon No. 2

date of inventory: **21.11.1012**

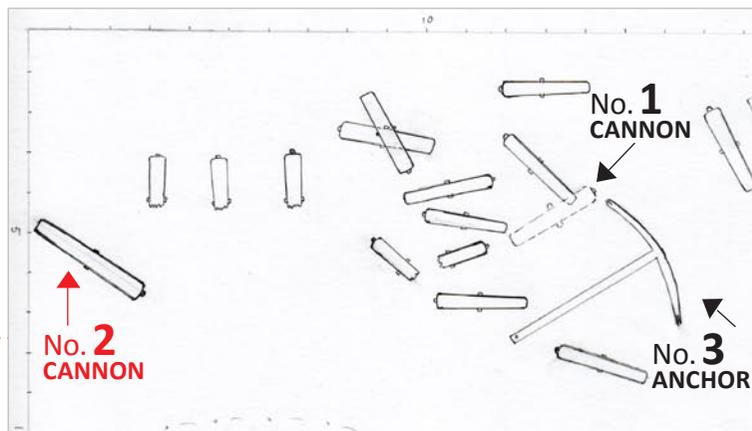
position of exploration:

08°05'31.84 E

013°14'38.24 N

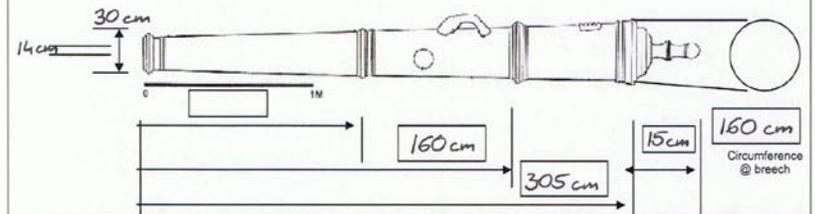
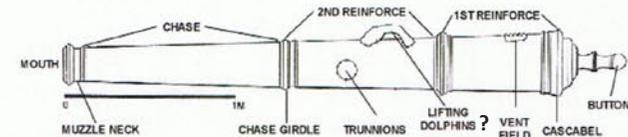
Banana Island, Sierra Leone

Recording form based on the underwater drawing

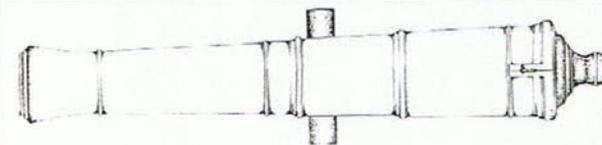


Recording Form Series
Gun Recording

PERSONAL DETAILS		SITE DETAILS
Name: <i>PETER WYTYKOWSKI</i>		Site Name: <i>CANNON WRECK</i>
Contact details:		Location/position: <i>BANANA ISLAND, SIERRA LEONE</i>
		Orientation: <i>08°05'31.84 E 013°14'38.24 N</i>
Tel No.:	Date: <i>21-11-2012</i>	Archaeological references: <i>CANNON No. 2</i>
		Type of Gun:



Inscriptions Identified



Identify location of inscription on diagram above

Inscription details	
A	
B	
C	
D	
E	
F	

SKETCH



Cannon No. 3

date of inventory: **21.11.1012**

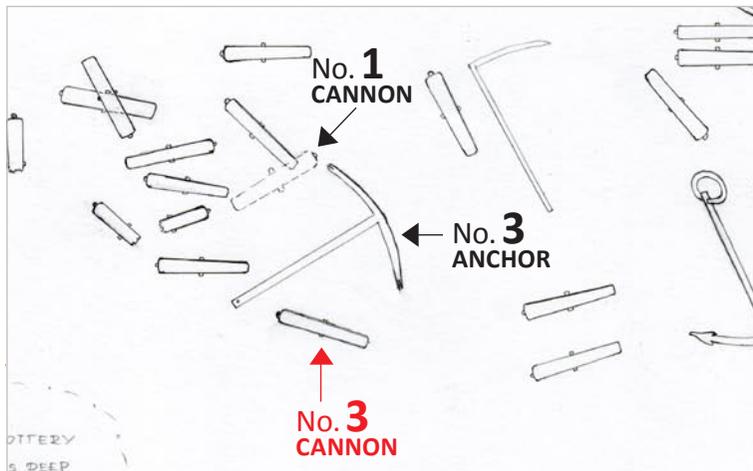
position of exploration:

08°05'31.84 E

013°14'38.24 N

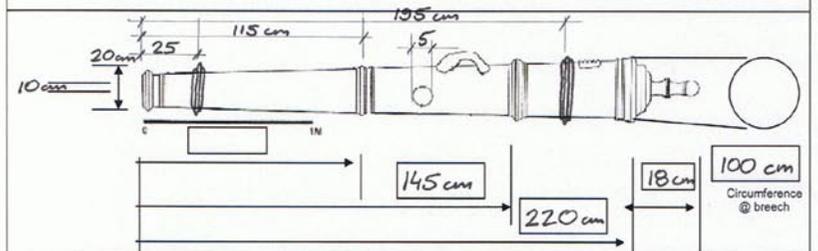
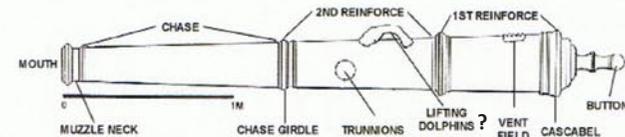
Banana Island, Sierra Leone

Recording form based on the underwater drawing

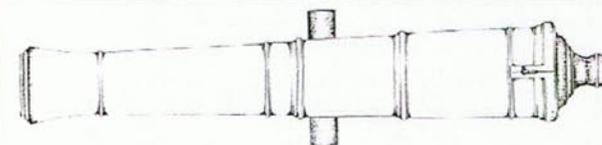


Recording Form Series
Gun Recording

PERSONAL DETAILS		SITE DETAILS
Name: <i>ROBERT GRUCHOWSKI</i>		Site Name: <i>CANNON WRECK</i>
Contact details:		Location/position: <i>BANANA ISLAND, SIERRA LEONE</i>
		Orientation: <i>08°05'31.84 E 013°14'38.24 N</i>
Tel No.:	Date: <i>19-11-2012</i>	Archaeological references: <i>CANNON No. 3</i>
		Type of Gun:



Inscriptions Identified



Inscription details	
A	
B	
C	
D	
E	
F	

Identify location of inscription on diagram above

SKETCH



PHOTO

Other discovered, but not dimensioned due to a lack of time cannons





EXPERTISE



January 31, 2013

Cannon expertise of Ruth Brown - a leading world expert on artillery.

<http://www.basiliscoe.com>

Banana Island cast - iron gun assemblage - Preliminary thoughts

A group of 28 cast-iron guns have been located off Banana Island, Sierra Leone. Three were examined more closely and one, subsequently lost, had marks engraved on the basering.

Part 1 Cannon 1

Given the state of the cannon, and its subsequent disappearance, we are limited to commenting on the inscription and its measurements. You will be glad to know these do tell us something.

The gun is too concreted to give us details of the barrel. It has a calibre of approximately 10 cm, a length approximately 225 cm and the inscription **1762/** engraved on the basering.

Comments

The engraved mark is a weight, not a date. It should look like this:



Examples of cannon's weight marks

The dash at the end represents the letter A and shows the weight of the gun in Amsterdam pounds.



This indicates the gun passed through the Netherlands. The Netherlands was a major centre for arms dealing in the 16th, 17th and 18th centuries, not just for the various fleets that sailed from there: the Dutch East Indies Company (VOC); West Indies (GWIC) and the Dutch navy, but for other countries, too. The Dutch did not have the capacity to cast iron guns and bought them from Sweden and Great Britain. For much of the period of the VOC, most guns were of Swedish origin.

This weight, calibre and length suggests a 6 pounder cannon, which would have been carried by small and mediums sized VOC ships from the second half of the 17th century well into the 18th century.

What to look for

Engraved ownership- marks such as VOC- A ; VOC- D or VOC-M might found engraved on the barrel between the trunnions and the breech of the gun.



If the guns were made in Sweden, they should have a mark cast onto the trunnion like this: it should in the form of a single, double or triple letters. Some Swedish guns have numbers cast on one trunnion representing the date of casting. English guns before c1695 have a double letter engraved either side of the touch-hole or on the barrel between the trunnions and the breech. After 1695 English adopt the Swedish tradition of casting a mark onto the cannon trunnion. These marks help to identify and date the cannons.

This is the most common Swedish mark- F for Finspång.



Examples of ownership marks



Part 2- the cannon assemblage

We only have two pieces of information- a minimum number of guns and a weight mark. These indicate a well-armed merchant ship, probably originating in the Netherlands, or at least having some connection with it. The fact that the guns seem to be matched set of cast-iron guns suggest it does not date from the earliest period of exploration when ships carried mixed sets of guns of bronze, wrought-iron and cast-iron. Think roughly of the period 1650-1750, though of course you have to be alert to either end of that spectrum.

Here are a few websites in case you need to get up to speed on the Dutch East Indian Company (VOC):

https://www.gahetna.nl/sites/default/files/bijlagen/research_guide_to_dutch_maritime_shipwrecks_pdfa.pdf

<http://www.maritiemdigitaal.nl/>

<http://www.tanap.net/>

List of many VOC wrecks here:

<http://www.treasurenet.com/forums/shipwrecks/17237-list-all-653-dutch-voc-shipwrecks-1595-1800-a.html>

(the website mentioned appears to have vanished, sadly; there seems to be an awful lot of Dutch ships lost.)



Gdansk, January 31, 2013

Expertise of Waldemar Ossowski PhD – underwater archeologist, certified curator of the Polish Maritime Museum in Gdansk.

It's a very interesting discovery. Based on the attached materials I suggest another interpretation of this discovery, namely that we are dealing with a ship East Indiaman type. It was a large, armed merchant ship, which used sails as propulsion and was capable of traveling long distances as an independent travel to China or East Indies. These ships were used primarily by the commercial fleet of the British East India Company and the Dutch East India Company (VOC) (also by other European trading companies in a much lesser degree) from the beginning of the 17th century to the thirties of the 19th century.

The name East Indiaman comes from the English term warship: Man of War. In this case, this meant that a merchant ship in the service of the East India Company was the lead ship of war. These ships were heavily armed.

When it comes to the anchors, in the case of sailing ships, five anchors were standard equipment. They were different sizes depending on the carried out maneuvers. When it comes to the cannons, from the 18th century dolphin handles were no longer used. The presence of China indicates that the ship sank during the journey with a load of goods to Europe from the far East colonies. A similar vessel sank on the Baltic Sea close to the port before arriving in Goteborg, Sweden loaded with porcelain. There is a book regarding this subject which could be used as comparative material.



Because they were the largest ships of the era, their quantity was not too large, so it should be relatively easy to identify the shipwreck especially since it sank close to the shore. The wooden item found on the shore, however, has no connection or relation to the shipwreck.

Porcelain expertise by Marta Żuchowska PhD

SIERRA LEONE, BANANA ISLAND OFFSHORE WRECK EXPERTISE OF POTTERY CARGO AND SMALL FINDS

Following remarks concern a small group of finds coming from preliminary research on sunken shipwreck found close to banana Island, Sierra Leone. Among archaeological finds I got for present expertise ceramic artefacts prevail, there are also two pieces of glass bottles and one piece of lead sheet. Ceramic material is composed mainly of porcelain vessels, unfortunately none is complete, but most of the fragments are well preserved, so the decorative motifs can be reconstructed. None of collected pieces have any production mark, thus the only criterion for chronology may be typological analysis.

PORCELAIN CATALOGUE

No 1.

Two fragments of “Batavian ware” tea set – incomplete tea bowl and a rim of saucer. Plate I.1,2 (Bowl: diam. 7,4 cm; h. 4 cm; saucer: diam. 11,5 cm) Batavian ware is a type of Chinese export production characterised by brown or coffee-brown glaze applied together with the underglaze cobalt-blue decoration. Our pieces belong to the typical tea set with brown glaze covering outer walls of bowls and saucers and white inner surfaces with slight underglaze blue decoration which can not be described because the shards are too small. The name Batavian comes from the Dutch name of port – Batavia, present Jakarta, where cargo was transferred from Chinese ships to the Dutch ones and Dutch ships travelling from China or Japan to Europe stopped always for supplies and inspection. Batavian ware was especially popular during 1st half of 18th century, although it was still produced during the Qianlong reign (1736 – 1796).



Fig.1 *Batavian ware from Ca Mau wreck (1725)*

No 2.

7 fragments of shallow saucers decorated with cobalt blue underglaze motifs of peonies and bamboos. **Plate 1.8** (foot diam. 4,8 cm) Decoration is placed on the inner side of the saucers. The motif of peony and bamboo was very popular as decoration on the porcelain. Peony is a symbol of love, feminine beauty and full blossom flowers are considered as auspicious motif bringing good fortune, while bamboo is an emblem of longevity and often associated with sages. This motif was one of often represented on Chinese export production. It appear for example on the Batavian ware tea set found in so called Nanking cargo recovered from the Geldermalsen VOC wreck dated to 1752.

No 3.

3 fragments of small tea bowls with decoration of peony on the outer walls and small mark similar to Ö in the centre of inside part. Could be part of the set with above. **Plate 1.7** (diam. 5,6 cm, h. 3 cm)

No 4.

1 fragment of tea bowl with floral blue underglaze decoration representing motive of peony (diam. about 6 cm) **Plate 1.10**

No 5.

7 fragments of tea set with cobalt blue underglaze “pannelled border decoration” – 4 fragments of saucers and 3 fragments of bowls with undulated rims. **Plate 1.3,4** (bowl: diam. 6,8 cm; saucer: foot diam.6,4 cm). Decoration is composed by a series of vertical lines dividing a space of the outer walls of bowls and inner rim of saucers into smaller compartments in which flowers and butterflies can be recognised. The central space of saucers contained probably the scene of fishermen village, very popular on such porcelain, but only very small fragments are preserved. Pannelled border decoration refer to elder kraak porcelain, Jingdezhen kilns early export production of 16th and early 17th century. Such decoration appear still in early 18th century during emperor Kangxi (1654-1722) and emperor Yongzheng (1723-1735) reign, but is rarely seen later.



Fig.2 Batavian ware tea set with bamboo and peony motive, from Geldermalsen wreck (1752)

Similar tea bowls and saucers have been found on Ca Mau wreck of Chinese ship heading from Canton to Batavia (Jakarta) with ceramic cargo, dated to 1725. Fisherman village landscapes were very popular on the Chinese export porcelain.

No 6.

One fragment of tea bowl with cobalt blue underglaze decoration of plum blossom. **Plate I.9** (diam. 7 cm, h. 4,1 cm)

No 7.

6 fragments of saucers decorated with cobalt blue underglaze representation of deer under the pine and “fungus of longevity”. **Plate I.6** (diam. 11 cm, h. 1,8 cm.) One more very popular motif full of symbolism – deer is an emblem of longevity and believed the only animal able to find the fungus of longevity. Together with the pine, because of being green throughout the year also being associated with long life this scene form a typical very auspicious landscape. Almost identical landscape is represented in the central part of the saucers with panelled border decoration found on Ca Mau wreck (1725).



Fig.3 Tea bowls and saucers with panelled decoration from Ca Mau wreck (1725)

No 8.

Two fragments of small bowls with blue underglaze decoration of the “fungus of longevity” on the outer wall. Might form a set with the above. **Plate I.5** (diam. 6,4; h. 3,6 cm.)

No 9.

1 fragment of small bowl with blue underglaze animal motif (deer? tapir?) on the outer wall.

No 10.

One fragment of a small bowl (bottom part) with blue underglaze landscape representation.

No 11.

One fragment of soup dish or bowl with underglaze decoration on both outer and inner surface. The shard is strongly destroyed. Decoration contain probably a horse in full gallop, but is too destroyed to reconstruct the full representation.

No 12.

One fragment of a big dish or plate with blue underglaze floral decoration representing peonies. The cobalt colour is very bright and porcelain very thin and of good quality. It had to be part of a dish fully covered by the floral decoration. Such plates were very popular during Kangxi(1654 – 1722) and Yongzheng (1723-1735) emperors reigns. Attached photo of plate sold on internet auction shows identical decoration on completely preserved piece.



Fig. 4 Saucer with panelled decoration and motive of the deer under pine tree. Fungus of the longevity can be seen left of the deer. (Ca Mau wreck 1725)

No 13.

Three fragments of a big dish with underglaze moulded relief decoration and additional blue underglaze strip of decoration around the rim. (diam. about 30 cm) Glaze is slightly greenish. Dish is much thicker than other pieces. The piece is quite uncommon one, because of mixing the technique of underglaze moulded relief decoration referring to celadon jars (usually stoneware with relief decoration and green transparent glaze which emphasize the relief by different shades of green due to diverse thickness, especially popular during Song dynasty reign – 960 -1279) and blue underglaze painting. Generally during the last period of Kangxi reign (1700 – 1722) and especially Yongzheng reign (1722 – 1735) we can observe growing production of imitations of ancient types of pottery, from the other side new types of decorations appear, mixing often two styles, for example relief and red painting. This make me suppose that the plate should belong to this period, but, because of its exceptional decoration it need more profound studies.



*Fig. 5 Plate with decoration of peonies.
The piece from Sierra Leone have to be a part of a very similar one.*

SMALL FINDS:

No 1.

6 fragments of a green bottle with concaved bottom (bottom diam. 11 cm). Only the bottom part is preserved, but it's characteristic highly concaved shape suggest that it may be so called "Belgian type" wine or spirit bottle dated to the early 18th century (about 1700 – 1730). So called English onion bottles are quite similar and are dated to the late 17th – early 18th century.

No 2.

One fragment of the yellow bottle (diam. of rim – 2,6 cm). Only the neck is preserved.

No 3.

A piece of folded lead sheet (7,5x10x0,3 cm) It could be a part of tea box lining, similar finds have been collected from Wung Tau wreck. The Chinese custom, adapted by some European companies was to transport tea in wooden large boxes lined with lead foil to avoid contamination of leafs during the transport. But according to the sources, VOC was the only company which did not use such boxes, transporting tea in the big containers lined with bamboo instead. This habit caused the tea transported by VOC being of inferior quality than this imported to Europe by EIC. VOC directives were to change the methods of transport, but they were usually not applied. Lead sheets could be used in many other ways of course



Fig. 5 *Belgian type bottle (left), English onion bottle(right)*



CONCLUSIONS

Among fragments collected around the wreck most belong to the tea sets. There are few types representing visibly mass production and most fall to the category of Chinese “export porcelain”. This suggests that the porcelain was a part of cargo, not of personal belongings of the crew. Growing popularity of tea in Europe in 18th century caused big demand for tea porcelain which was ordered in China, usually in Jingdezhen kilns, together with other types of tableware. We can expect that the wrecked ship was transporting also such objects as porcelain plates, candle-holders, mugs etc., tea leaves are also very plausible option for the part of cargo.

After losing Formosa (present Taiwan) in 40ies of 17th century VOC was buying most of porcelain ware via Chinese middlemen, who transported diverse kind of goods on their own ships to Batavia (present Jakarta). Political disorders caused by the establishment of Manchu dynasty (Qing) in China made trade with China more difficult than before and a part of porcelain goods were imported from Japan, especially in 70ies, after destroying a big part of Jingdezhen kilns by the fire. Starting from 80ies import from China was gradually growing, stimulated further by establishment of trading point in Canton around 1720.

Presence of Batavian ware places the Sierra Leone porcelain cargo well in the first half of 18th century. Long life of typical motifs represented on most of fragments found close to the wreck and lack of production marks on preserved parts of porcelain make more accurate chronology rather hypothetical. Presence of “panelled side decoration” porcelain and many similarities with the Ca Mau wreck cargo suggest rather early chronology within this period, probably about 1720 – 1735. The above chronology seems to be proved by the finds of glass ware. Further finds can slightly change this chronology.

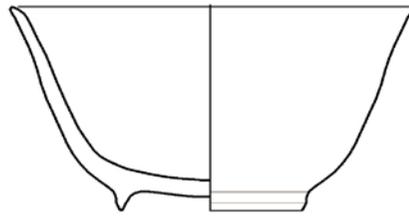
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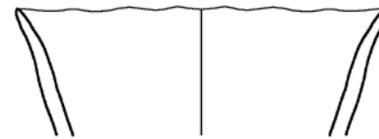
Warsaw, 2013

Marta Żuchowska PhD
Institute of Archaeology, University of Warsaw
Krakowskie Przedmieście 26/28
00-927 Warsaw, Poland
marta.zuchowska@gmail.com

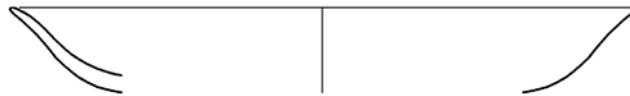
PLATE I: FORMS OF PORCELAIN VESSELS



1. Batavian ware tea bowl



3. Tea bowl with panelled decoration



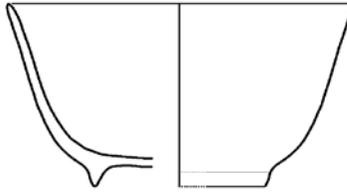
2. Batavian ware saucer



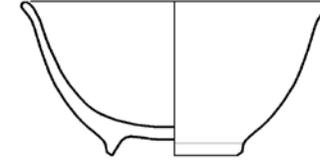
4. Saucer with panelled decoration

0 1 2 3 4 5cm
Drawing: M. Zuchowska

PLATE I: FORMS OF PORCELAIN VESSELS



5. Tea bowl with motive of fungus of longevity



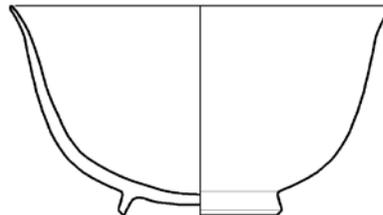
7. Tea bowl with floral decoration



6. Saucer with motive of deer under the pine



8. Saucer with motive of peony and bamboo



9. Tea bowl with motive of plum blossom



10. Tea bowl with motive of peony

0 1 2 3 4 5cm

Drawing: M. Zuchowska

AUTHORS OF THE PHOTOS:

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HISTORICAL CONSULTANTS:

Jaap van Overbeek / www.vocsite.nl
Dr. Rafał Reichert: rafreich@yahoo.com

Graphic design and text composition in the report:
Aleksandra Kasjańska / info@awo-art.pl

IN CASE OF QUESTIONS OR CONSULTATIONS PLEASE CONTACT:

Peter Wytykowski: pwtykowski@hotmail.com
Marcin Jamkowski: jamkowski@adventurepictures.eu

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