Underwater Archaeology

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The British collier, General Carleton of Whitby, under contract to the Royal Navy, sank during a Baltic storm northeast of Gdansk, Poland, in 1785. Over 200 years later, the vessel was discovered; excavations revealed unique preservation. The wreck site is noteworthy as a distinctive vessel-type with contemporary examples reported in Virginia and Bermuda. The major importance of the General Carleton may be the survival of common sailors’ clothing preserved in tar. This paper will cover colliers in general but will concentrate on the common sailors’ clothing and a ship’s stove that were recovered.

When the Maritime Museum in Gdansk, Poland, was founded in 1960, director Przemyslaw Smolarek hoped that collections of historical maritime objects could be assembled from underwater sites in Polish territorial waters in the Baltic. Such work had never been undertaken in Poland, so a long-range underwater program had to be devised if underwater explorations were to be a permanent part of the Museum’s activities. Before commencing any underwater work, archives were studied to generate a list of ship disasters and sinkings that occurred in Polish waters (Smolarek 1991).

Archival sources, together with information from fishermen and residents of coastal towns, were combined with other materials available from port authorities. After creating an inventory, systematic investigation of the more interesting sites commenced. Determining which vessels to inspect first was based on personal interest and included three 18th-century sites, one 14th-century site, and a Swedish man-of-war.

During this initial phase, public interest about underwater sites grew and more information came in. In 1991, a sport diver reported a sunken sailing vessel at the mouth of the River Piasnica, near Debki on the Baltic Sea northwest of Gdansk. The site lies on a sandy bottom in 5-7 m (15-22 ft.) of water, about 400 m offshore.

The first archaeological dives on the site revealed timber frames and a British admiralty anchor jutting from the seabed. The frames’ angle indicated that the hull tilted toward the port side. Visible frames and fragments of planking showed a distinct outline of a ship hull. The upper hull was completely destroyed, but preliminary examination indicated that the lowermost elements were relatively intact. The wreck site was designated W-32.

Excavations were conducted on this site by the Museum’s Department of Archaeology in 1995. Once surface sand was removed, a second, denser layer was encountered. The second sand layer was composed of tar, sand, iron concretions, and artifacts. This concreted layer preserved intact planking and frames that extended deeper into the seabed. Operations continued to permit a general assessment of the hull. The intention was to inspect the midships, stem, and one side.

The lower portion of the hull, including the detached stern, was present. Surviving elements were 29 m (ca. 90 ft.) long and about 8 m (ca. 25 ft.) in beam. The height of the remaining hull was approximately 1.5 m (4.5 ft.) high. Surviving structural elements included the keel and keelson, stem, frames, ceiling, and outer planking. Three mast steps were located.

While clearing the hull of sand, 757 artifacts were found and recovered. These were chiefly kitchen and dining utensils, sailors’ clothing, navigational instruments, and ship fittings. The high number of personal effects included footwear, linen and woolen garments, buttons, buckles, and headgear reported here. The survival of these items reflects both differential preservation.

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and fortuitous events during the site formation process. Cloth was preserved because animal fibers (wool and, possibly, silk) were covered with birch tar that formed a protective coating over the bottom elements of the hull. The concreted sand/tar/iron conglomerate was so dense that hammering was necessary to free artifacts from the matrix.

The artifact assemblage suggests that the vessel’s living quarters were preserved to an unusual extant. A camboose (ship’s stove) was found as well as bottles, ceramics, and utensils. What might be a portion of the cargo is represented by some 140 shoe buckles, iron bars, and iron plates. It is possible some of these iron artifacts are ballast.

Colliers

Colliers were bulk carriers, typically involved in the English coastal, North Atlantic, and Baltic trades. They were frequently chartered to the Royal Navy as troop, equipment, and supply transports (Syrett 1970:61-106). As a class of vessel, they were of moderate size, well-built, with a shallow draft. Construction features observed on archaeological sites suggest the framing was fairly heavy. Three colliers have been investigated archaeologically to date, the Betsy at Yorktown, an unidentified vessel off Bermuda, and The General Carleton of Whitby.

The Yorktown collier, probably the Betsy, was sunk in 1781 and investigated during the 1980s. Identification as a collier was made possible by a variety of non-structural elements, such as barrel heads with the master’s initials, as well as heavy construction and tightly fitted bilge ceiling for bulk cargoes (Morris 1991; Morris et al. 1995).

A Bermuda wreck site investigated during 1992 and 1993 contained lower hull elements with a striking similarity to the Betsy. The site’s interpretation as a collier was based on framing pattern and scantlings among other elements. Identification as a collier was aided by the presence of considerable amounts of coal residue in the bilge (Watts and Krivor 1995; Krivor 1998).

General Carleton of Whitby

A ship’s bell identified the W-32 vessel. Lloyds Register of Ships reports that the General Carleton of Whitby was built in Whitby, England, in 1777. Whitby was very heavily involved in the Baltic trade during the 18th century. In 1792, there were over 50,000 tons of shipping registered as owned in Whitby, making it Britain’s sixth largest ship-owning port (Johansen 1983, Table 2.3; Ossowski 1996:32-33).

The General Carleton of Whitby was designed to carry coal between the Tyne and Thames rivers with a second possibility of engaging in the lucrative Baltic trade. The ship was built before compulsory vessel registration began in 1786 so precise dimensions and tonnage are unknown. General Carleton was owned by N. Campion and captained by T. Pynam. The maiden voyage was to the Baltic port of Riga. Mrs. Margaret Campion, a freeman of the Russia Company, which controlled all British trade in the Baltic, managed the ship (Ossowski 1996:33).

By 1782, Lloyds’ register noted several important changes: the vessel had been sheathed and ten 6-pounder cannon were added. The new master was W. Hustler. The armament was increased when General Carleton was leased to the Navy Board as a transport. As a hired vessel, the General Carleton crew was protected from press gangs. A tin box recovered in 1995 contained an incomplete document granting “protection” from impressment for the vessel’s crewmen (Ossowski 1996:33).

At the time of the sinking, the master, William Hustler, had a mate, cook, carpenter, an unidentified number of sailors, and fourteen servants. These “servants” were young boys learning seamanship. The last ship’s muster roll shows that the vessel was lost on 27 September 1785.

One unique artifact and a single artifact class will be discussed here, both because of their rar-
1785 COMMON SAILORS’ CLOTHING AND A SHIP’S CAMBOOSE FROM THE GENERAL CARLETON

**Clothing**

The most spectacular class of items found on the General Carleton is the sailor clothing. Most clothing found on the General Carleton seems to fit that generalized class of sailor’s clothing called “slops.” These were items of clothing purchased by the ship’s purser or steward for issue and/or sale to the crew. Slops could be issued when a man was pressed and without proper clothing or when their personal clothing wore out (Mountaine 1783:71-73, 190; Lavery 1989:204). Very little is known about slops beyond written references and no complete sets were known until this find. The General Carleton’s clothing was not unissued as repairs were noted on some items. Some button holes were distorted indicating that they had been worn and stretched. Thus, this clothing represents items actually worn by British sailors during the era of the American Revolution.

Sailors, as a class, had a very distinctive dress, called “short clothes,” to distinguish them from landsmen who wore long coat, breeches, stockings, and overalls. Sailor clothing was imminently functional in that it provided wide openings for legs and arms, could be rolled up, and the jackets were not swollen by entangling tails. These attributes were ideal for a seaman who needed great flexibility in his arms and legs when climbing and stepping onto ropes and yards. The ease with which breeches and trouser passed over the lower thigh and upper calf was essential to avoid tearing the cloth or splitting the seams (Lavery 1989:204; Babits 1996).

Thirty shoes were recovered. Some were partially disarticulated due to disintegrated thread. An additional 30 shoe fragments also were recovered. Analysis of the shoes is still underway but they seem typical of the late-18th century. One boot and the upper from a second boot were also found.

Thirty-two stockings were recovered (Figure 1). These were both knitted wool and sewn cloth. Some of the sewn cloth stockings had reinforced...
FIGURE 2. Breeches (rear) from the General Carleton of Whitby.

tops and toes. With one exception all were plain. The one exception was a knitted wool stocking with a ribbed upper. None exhibited clocking (Klinger and Wilder 1967:27; Baumgarten 1986:48), although some did have gussets at the ankles. While sailors of the late-18th century were often described as having striped stockings; no striped examples were found on the General Carleton.

Parts of at least three pair of breeches were found (Figure 2). These were made of, as yet, undetermined woolen fabrics. Analysis is still underway but the quality varied from fairly fine, though thick, fabric to rather coarse cloth resembling modern burlap. It is possible that the coarser materials were worn as outer garments to protect finer clothing.

The remains of three shirt sleeves were recovered. One sleeve with cuff appeared to be cotton or fine linen and its preservation was most unusual in that it was made of vegetable fiber that does not survive well in an underwater environment. It had a button cuff. The other two sleeves were not inspected.
Waistcoats, or vests, are represented by two examples. One is white wool; the other a light colored wool. The first vest is damaged on the upper part and the back is missing. It is double breasted, cut straight across the bottom front, and had welted pockets set into both front panels. Originally, this vest had two rows of eight buttons. It survived with eight, 14 mm, two-hole, cloth-covered wooden buttons still attached. On the left front panel, the third button from the bottom is at the top of the pocket welt. The front panels have a 16 cm wide inner facing composed of the same material as the vest body extending to the top of the pocket opening. It originally probably extended to the bottom of the vest as indicated by a line of stitching on the bottom right front panel.

The second vest is fragmentary, consisting of a single breasted, left front panel with an inserted pocket. This example was pierced for seven buttons. This vest had a 10.5 cm wide inner facing for the front panel. The line of stitching...
holes goes completely around the panel and is also found around the arm hole indicating this is a vest, rather than a jacket. The lower rear portion of the panel has a slight “tail,” to go under the extended rear panel tail (Klinger and Wilder 1967:7-8).

Both vests almost certainly had linings. This conclusion is drawn from the manner in which the bottom edge is turned up and from the missing pocket bags. It is likely the lining and pocket bags were linen or cotton and did not survive.

At least three woolen jackets were recovered (Figure 3). These were present in both single and double breasted form. There were no linings present but stitching and folding of the outer fabric indicates linings were once present. Typical linings were cotton or linen; it is likely that these coats had the cheaper linen linings. Both jackets were made of heavy wool fabric resembling broadcloth.

The double breasted jacket had welted pockets cut into the front panels. The front panels had an interior facing of the same material as the
jacket body. The jacket was fastened by two rows of eight buttons. The sleeve had slashed cuffs, closed by a flap and three buttons. Many cloth covered buttons were still attached to this jacket. The front panel buttons were approximately 20 mm and the sleeve buttons were about 14 mm. The single breasted jacket is represented only by one sleeve, cuff, and front panel. It is very short in length and might even be termed a sleeved waistcoat rather than a jacket.

Forty-two unattached buttons were recovered. These loose buttons were a mixed lot. They are largely cloth covered wooden buttons although some pewter, leather, or bone examples survived. Analysis of the buttons is continuing. Based on button diameters and the length of the button holes, it is probable that some of the buttons were once fitted to the jackets or breeches.

Two types of headgear were recovered, knit caps and felt hats. The one knit cap was a tasseled and fringed monmouth cap (Figure 4) with horizontal bands of decoration on the body of the cap. The bands are darker in color and were probably blue or black against a white or natural wool body. Monmouth, or stocking caps, were popular with sailors all through the 18th and 19th centuries (Lavery 1989:204) and survive today as watch caps.

Three felt hats were recovered. Two were once cocked, judging from holes for cocking ribbon in both crown and brim. There was evidence for binding on the brim edge on one hat. There was no surviving lining although some stitch holes and the hat shape suggested they were once lined or hat sweat bands. This style hat can be seen in most late-18th century military images although styles were changing to the chapeau de bras (Klinger and Wilder 1967:1-2; Howell and Kloster 1969:1-5; Baumgarten 1986:65, 71). The third felt hat was a sailor's "high hat" or top hat. This example had extant binding on the brim edge and almost certainly had a cloth lining, based on the stitch holes seen at the base of the crown. Illustrations of this style hat can be seen in Lavery (1989:130, 133, 176, 179, 202). This hat on the General Carleton seems unusual as the style was more common during the 1790-1815 period than earlier.

The final clothing items were a pair of woolen mittens (Figure 4) and a single glove. The mittens were undecorated and undyed. The left hand glove was dyed a darker color, possibly blue or black, and had a fringe around the wrist as well as a second line of fringing about 1.5 in. from the wrist. The glove and mittens did not show any wear damage.

Conclusions

The excellent fabric preservation represents an incredibly important collection of common sailors' clothing dating to the late-18th century. What is presented here is preliminary in nature because stabilization, analysis, and conservation are still underway. Nevertheless, the value to our understanding of maritime clothing can already be seen because this clothing provides examples of used sailor attire previously seen only in illustrations.

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