

For: A1 Churchill, President, St. Croix Historical Society From:
Meg Scheid, Park Ranger Date: March 11, 2012

Re: In response to the Societies question to the public, "Can you tell me the nationality of these two fellows? Hint: They had been buried a few miles out of town for almost 400 years before their bodies were exhumed for scientific research. The bodies have since been reinterred."

The remains of the two individuals [in last week's photo] were excavated by National Park Service archeologists in 1969 and confirmed to be members of the French expedition led by Huguenot Pierre Dugua in 1604. The two men, along with 33 other settlers who had died of scurvy and were buried during the winter of 1604-05, lie in unmarked graves on Saint Croix Island. The Saint Croix Island settlement was the first attempt by France to establish a permanent settlement in Acadie. The island had excellent prospects both for defense as well as for trading with Native Americans. Only 44 out of 79 men survived that grueling winter, cut off from fresh water and game by dangerous ice flows. As spring arrived and native people traded game for bread, the health of those remaining improved.

When a relief party arrived in June 1605, the majority of buildings were dismantled and moved to the new settlement of Port Royal in today's Nova Scotia. The site was briefly re-occupied in 1611 by a Captain Platrier and four others, but any remaining buildings were entirely destroyed by an English expedition in 1613. Today, there are no visible remains of the settlement or cemetery.

The settlement history is described and illustrated in detail by Samuel Champlain, the expedition's mapmaker and navigator who used the island in 1604-05 as his base camp while exploring and charting the American coastline as far south as Cape Cod.

Archeology and Saint Croix Island

The origins of North American historical archaeology may be traced to Saint Croix Island. The 1784 Treaty of Paris set the northeast International Boundary of the United States at the river where the Dugua settlement was located, but the island itself had since been renamed and lost to historical memory. A boundary commission was established in 1794 to decide the issue, and for this purpose, finding physical evidence for the 1604-1605 settlement was critical. In 1797, Commission member Robert Pagan paid a visit to a local island named Bone Island that Native Americans claimed had been visited by the French in earlier times. Here, Pagan found piles of rocks that corresponded with structures shown in Champlain's plan. By verifying the location of the 1604-1605 Dugua settlement through fieldwork, boundary Commission members Robert Pagan and Thomas Wright helped to establish the International Boundary between Canada and the United States in 1797.

In 1949, Congress authorized that Saint Croix Island be designated a National Monument, protecting the island in perpetuity as a unit of the National Park Service. National Park Service Regional Archeologist J.C. Harrington developed an intense interest in re-locating the French settlement. He hired a local archaeologist named Wendell S. Hadlock to locate buildings and to "secure other information pertinent to the historic background of St. Croix Island." By trenching, Hadlock confirmed the locations of both the habitation area and cemetery depicted in Champlain's plans. But nearly twenty years passed until the National Park Service could acquire the entire island and conduct more extensive excavations.

In 1968, the island was re-designated as an international historic site in recognition of the island's significance to Canada. At the same time, National Park Service archeologist John Cotter hired Jacob Gruber of Temple University in Philadelphia to reveal more of the French period settlement. This led to extensive excavation of

both habitation and cemetery areas revealing poorly preserved architectural remains and a relatively well-preserved cemetery containing 23 graves. The archaeological team from Temple University, brought back some of the bones of each man to Philadelphia for more detailed analysis.

To commemorate the 400th anniversary of the Saint Croix Island settlement in 2004, the National Park Service decided to respectfully re-inter the remains removed from the site in 1969. Recognizing the historical significance of the settlement and the men who died there, the National Park Service arranged for a team of physical anthropologists to use 21st-century forensic science techniques to analyze the remains of these early 17th-century men.

Dr. Thomas Crist, associate professor at Utica College in upstate New York, led the team of forensic anthropologists analyzing the remains. As a graduate student in the early 1990s, Dr. Crist had studied the Saint Croix Island bones removed by the Temple University archaeologists in 1969 for his doctoral dissertation on scurvy, together with his wife Dr. Molly Crist, now an assistant professor at Utica College.

In June 2003, National Park Service excavations for reinterment were led by Dr. Steve Pendery from the Northeast Region Archeology Program. He was joined by the Crists and Dr. Marcella Sorg, Maine State Forensic Anthropologist, and physical anthropologist Dr. Robert Larocque from Universite Laval in Quebec. "It was important to the success of the excavation and skeletal analyses that we engage a multi-disciplinary team," Dr. Molly Crist said, "one that reflected the historical significance of the site to Americans and Canadians."

Apart from documenting and recording the skeletal markers of scurvy (vitamin C deficiency) and infectious disease displayed by the men's bones, two additional graves were located. The project team's most exciting discovery, however, stood out - the skull of a young man who had been autopsied by the Champlain expedition's barber-surgeon.

"I was brushing the soil away from his skull when I first noticed the saw marks through his forehead," Dr. Molly Crist said. "Since there were no physical anthropologists on the archaeological team that first excavated him in 1969, no one had realized that this man was autopsied."

Several thin cut marks aligned across the back of the skull show that the surgeon began the autopsy by using a thin-bladed knife, somewhat like a modern scalpel, to cut through the young man's scalp and pull it forward over his face. Using a thicker saw, he then cut from left to right through the skull itself, removing the top of the head to expose the brain.

"This is the same procedure that forensic pathologists use to conduct autopsies today," said Dr. Thomas Crist. "What makes this man unique is that he was autopsied during the winter of 1604- 1605, the earliest known evidence for this practice found so far in the Americas."

"We know that the first European autopsy of an adult in the New World was ordered by the French explorer Jacques Cartier in 1536 " Dr Crist continued "His surgeon autopsied one of Carrier's crew members, 22-year-old Phillipe Rougemont, who had died of scurvy near what is now Quebec City." None of the remains of Carrier's crew have ever been found.

Scurvy claimed the life of the man autopsied at Saint Croix Island. His leg bones showed evidence of bleeding in his knees and ankles along with swelling and bruising of his shins. About 18 years old when he died, this young man had lost many of his front teeth before his death, a classic sign of scurvy.

Scurvy is the result of prolonged vitamin C deficiency and results in increasing blood loss from the arteries and veins throughout the body as their walls break down and leak. The gums swell from inflammation and the single-rooted front teeth can be easily pulled out of their sockets.

Why was this young man autopsied? The answer lies in Champlain's memoirs, which were published in 1613. In them, Champlain wrote that Pierre Dugua had ordered his surgeon to "open several of the men to determine the cause of their illness," which modern skeletal analysis confirms was scurvy.

As a sign of respect for his fallen comrade, the French surgeon replaced the autopsied skull cap back in its correct location before the young man was buried, exactly where it was found during the National Park Service's excavations 398 years later.

Despite their autopsies during the winter of 1604-1605, the leaders of the settlement could not identify the cure for scurvy and 35 of the 79 settlers died, including the surgeons who conducted some of the earliest forensic science in the New World.

The Saint Croix Island cemetery dating to 1605 is the oldest documented European cemetery in North America. Forensic studies, including DNA analysis, are ongoing, but data indicates the presence of 25 relatively young males ranging in age from 18 to 40. Ten graves remain unaccounted for.

Learn more about Saint Croix Island! Visit the new mainland ranger station at Red Beach in Calais. Open mid-May to Columbus Day, visitors can enjoy exhibits, artifacts, and ranger-led programs exploring island history and archeology. Due to its fragile nature both archeologically and geologically, visitation to Saint Croix Island is not encouraged.

Did you know? Saint Croix Island is one of three national park sites in Maine, including Acadia National Park and the Maine portion of the Appalachian Trail. It is the only international historic site in the US national park system, www.nps.gov/sacr.

This article was compiled by Meg Scheid, Park Ranger at Saint Croix Island International Historic Site, with excerpts from former National Park Service archeologist, Steve Pendery and National Park Service press releases with contributions by Dr. Thomas Crist.