



Maine Archaeology

The Newsletter of The Maine Archaeological Society

In this summer's newsletter Ellie Cowie and Mike Brigham remember Molly Neptune Parker, a Passamaquoddy basket maker and community leader. Dave Backman shares a few disparate but connected artifacts found eroding from a Casco Bay beach, and Danielle Jolie of UNE combines archaeology and marine biology to evaluate the impacts of ocean acidification on southern Maine's soft-shell clams (*Mya arenaria*). Finally, Arthur Spiess has another great odd artifact to share.

The pictures above are borrowed from several recent online exhibits highlighting Maine's history and archaeology that are worth checking out if you are social distancing at home. A few links are listed below. Also included is the Society for American Archaeology (SAA) call for archaeologists to confront racial injustice, also well worth a read.

Maine's Threatened Shell Middens: Losing a Link to Understanding Our Past

<https://umaine.edu/hudsonmuseum/exhibits/online/maine-s-threatened-shell-middens-losing-a-link-to-understanding-our-past/>

Holding Up the Sky: Wabanaki People, Culture, History & Art

<https://www.mainememory.net/sitebuilder/site/2976/page/4665/display>

Malaga Island, Fragmented Lives

<https://mainestatemuseum.org/learn/malaga-island-fragmented-lives-educational-materials/explore-malaga-island/>

State of Mind: Becoming Maine

<https://www.mainememory.net/sitebuilder/site/3012/page/4753/display>

SAA calls on Archaeologists to Confront Racial Injustice

<https://www.saa.org/quick-nav/saa-media-room/saa-news/2020/06/02/saa-joins-the-national-call-for-comprehensive-justice>

Comparative Shell Density of Recent *Mya arenaria* (soft shell clams) with a Woodland Period Site in Saco Bay
Danielle K. Jolie, University of New England

Ocean acidification is a prevalent issue in the Gulf of Maine as climate change continues to worsen across the globe. At University of New England (UNE), we propose to utilize archaeology and marine biology to analyze the effects of ocean acidification on *Mya arenaria* (soft shell clams). *Mya arenaria* are bivalve mollusks with a calcium carbonate shell. When the ocean is healthy its water is saturated with calcium carbonate that will be used by *Mya arenaria* in shell formation. Climate change is impacting the ocean's composition in the form of ocean acidification. Burning fossil fuels is increasing the amount of carbon dioxide in the air. The ocean absorbs about 30% of the carbon dioxide from the atmosphere. This added carbon dioxide creates carbonic acid in the seawater that makes the ocean more acidic. The more acidic the ocean gets the lower the availability of calcium carbonate becomes. A decrease in carbonate ion makes building and maintaining shells difficult because the organism must exert more energy to utilize the limited supply of calcium carbonate in the ocean.

Ancient *Mya arenaria* were collected from one shell midden deposit (site ME 5.06 on Saco Bay by Arthur Anderson) during

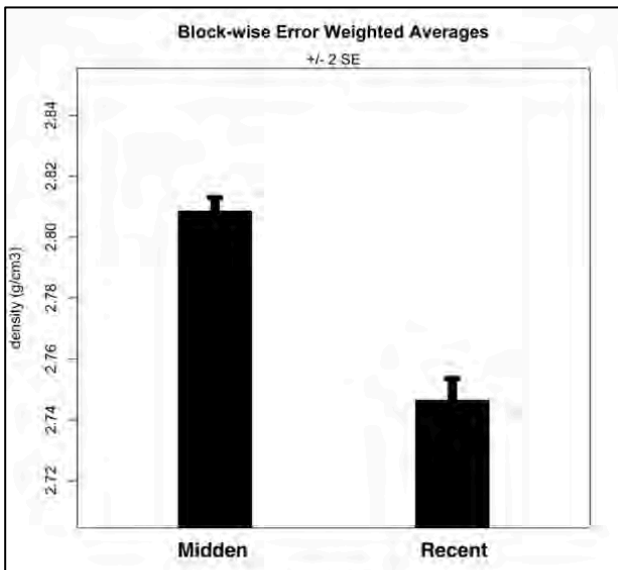
2017. Shell middens are anthropogenic deposits of shell on archaeological sites and in northern New England these are



UNE field school students – Marianne Hache, Sydney Rowinski and Andy Benckart

often comprised almost exclusively of *Mya arenaria* shells. Our fragmented samples were collected from an already disturbed context at a Native American shell midden that predates AD 1600. Similar stratified shell deposits at the site date to the earlier Middle to Late Woodland Period. The comparative live samples of *Mya arenaria* were collected by Joseph G. Kunkel and me during low tide on an intertidal beach less than a mile from the midden site.

The samples were scanned using a Bruker 3D X-ray tomography instrument. Two crystal standards were included with each shell fragment, Calcium Fluoride and Aragonite. The standards were chosen to be similar in penetration by X-rays. Standards were used to transform relative density of the shell fragments into estimated true density. The density of Calcium Fluoride and Aragonite are known and used as reference to create a linear regression for estimating the density of the shell samples. Each shell fragment and its standards were analyzed individually. The analysis showed a difference between the density of midden shell fragments and modern shell fragments.



Error weighted shell density with ~95% CI error bars, showing significantly higher density in midden shells.

It was novel to utilize a 3D X-ray machine when studying shells. The study demonstrates this device to be a potentially useful diagnostic tool for shell midden research. It is suspected that

ocean acidification is an issue in Saco Bay and this study provides evidence that shows this one midden of *Mya arenaria* shells to be more dense than recent samples taken from the same relative area in southern Maine.

Molly Neptune Parker,
February 6, 1939 – June 12, 2020
Ellie Cowie and Mike Brigham

Molly Neptune Parker was a fourth generation Passamaquoddy basket maker, a leader in her community and a dedicated mother - great grandmother of her large family. She came from a long line of Passamaquoddy basket makers with her mother, grandmother and aunts all making fancy ash baskets. In recognition of her skilled weaving and contributions to the arts, she was named a 2012 National Endowment for the Arts, National Heritage Fellow. Molly taught many young Passamaquoddy students the art of basket making as well as people from the other Maine Wabanaki tribes - Penobscot, Maliseet, and Mi'kmaq.



As archaeologists, we met Molly back in early 2000 while working at N'tolonapemk, the multicomponent site on the south shore of Meddybemps Lake. We stayed at her Mi'Khu Lodge on Louie Lake and had the great fortune of getting to know her a little bit. She was a kind, funny and a proud Passamaquoddy woman. Breakfast at Molly's diner was certainly one of the high points for most of the archaeology crew's day. Mike has fond memories of playing cards with Molly and her husband but couldn't quite keep up with their fast play and Ellie feels lucky to have examples of her beautiful baskets. She was a big supporter of the archaeology at N'tolonapemk, and she will be long remembered by the archaeology community of Maine.

Donations can be sent to: **The Molly Neptune Parker Mentor Fund, c/o Jeannette Parker Estate, PO Box 55, Princetown, Maine 04668.**

Donations will be used to establish a mentor scholarship program that supports the preservation of Passamaquoddy arts.

A Great Span of Time and Distance,
Dave Backman

Dave Backman has been an advocate for Maine archaeology for decades and served as President and a board member of the Maine Archaeological Society for over 20 years. He lives on Casco Bay's beautiful coastline where he has come across numerous artifacts eroding from the shore in front of his home. Dave records each of these finds with the Maine Historic Preservation Commission (MHPC) and his efforts have resulted in a great deal of information about people's past lives along the coast.

The Odd Artifact - Spear Point, Arthur Spiess

This spear point was brought to my attention recently by an active member of the Maine Archaeological Society (KM), who collects mostly from one eroded group of locations at low water in the Augusta/Gardiner area. The Maine Archaeological Society has been for 50 years or more an organization built to foster communication between avocational and professional archaeologists. This "odd artifact" is a perfect example. KM asked me what I thought it was, and I have added the artifact image to our record from that site area. What follows is an elaboration of my response for the MAS member, who has a rather rare artifact type identified now for his collection.

As well, KM and I have the advantage of knowing what he had been finding at this location from previous discussions about his collection: lots of Neville points, Otter Creek points, the occasional Stark point and maybe a bifurcate, and one possible St. Anne-Varney Late Paleoindian point base. So, the location was utilized during the period between about 8500 and 5000 years ago, likely at a time of lower water levels (warmer, drier climate).



All I have seen is the photograph, but the artifact is so striking that the following observations are likely valid. It is a big piece, almost 4 inches long. It is made on a dull, patinated material that appears to be a mud-stone. It is likely a northern Maine "chert," but my guess is it was made on a locally-acquired glacial cobble. (The "Archaic" time period was not heavily involved in long expeditions to lithic outcrops.) The point (or knife) was made by driving a flake from a pre-existing core, arranged so that a ridge down the dorsal flake surface would reinforce the sharp point at the end. There is no follow-up work on the ventral flake surface, and the dorsal surface was simply retouched around the margins with two, small side- notches added (also by retouch). This is not a product of bifacial flint knapping skill!

Large points made on marginally-retouched flakes are rare but consistently present during the Archaic in Maine, and their marginal retouch was often used to make the edge "serrated." They contribute to the argument of possible cultural difference between the skilled biface-manufacturing folk who made Neville points and later Otter Creek points, and the "Gulf of Maine Archaic" generally without well-



Over the years, Dave has witnessed the dramatic impacts of erosion related to global warming, both on the mainland and on smaller islands, one of which he excavated under the auspice of USM and MHPC. He shared the following photo and information about three artifacts he recovered from a stretch of beach in front of his house (The text below highlights the 250 yards). The artifacts are all worked stone and represent over 12,000 years of Wabanaki history as well as the Revolutionary War era.

Here's Dave discussing the artifacts he identified:

1. A PaleoIndian sidescraper made of Munsungan chert which is sourced about 175 miles northeast of Freeport. This artifact is over 12,000 years old.

Note: Comments from professional archaeologists regarding this sidescraper include (1) "If you can find one more like this, you'd have a Paleo site."; (2) "This is the prettiest thing I've seen in over two years." (3) "Your ooohh so Paleo sidescraper."

2. A lobate base Early Ceramic biface made of high quality rhyolite from the Castine area. The Early Ceramic Period occurred between 2400-2800 years ago.

Note: Artifacts 1 and 2 represent the oldest and youngest periods of Native American cultural history recovered from the beach; i.e. they are the chronological bookends.

3. A blond blade type gunflint sourced from the Marne River in France. This was the principal gunflint used in the Revolutionary War due to its perceived better performance. The lithic source of this flint was over 3,300 miles from Freeport.

Note: Gunflint workshops produced a "killer dust" where fine flint particles cut into lung tissue producing an endless cycle of lung scar tissue buildup which meant that lungs were producing less oxygen. Thus many workers died before the age of 50. During the 18th Century, one in five sailing ships never made it across the Atlantic to its destination.

Summary: These three beautiful stone artifacts reflect enormous chronological, geological, and physical distances and yet, they were recovered from one small section of Maine beach in front of my home.

If you are interested in participating in documenting the archaeology eroding along Maine's coastline get in touch with the U of Maine's Midden Minders Project; middenminders@maine.edu.

The Maine Archaeological Society

Promoting Archaeological Awareness through Education and Publication, and encouraging Conservation

The Maine Archaeological Society

The Maine Archaeological Society (TMAS), a 501(c)3 non-profit organization, was founded in 1956 and currently consist of professional and avocational archaeologists, as well as individuals of the general public who are interested in furthering the objectives of the society. The organization's mission is to promote archaeological awareness through education and publication, and encourage archaeological conservation.

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The Odd Artifact continued...

made biface points. A similar but smaller flake point was recovered from the lower cultural component at the Wadleigh Falls site in New Hampshire (Maymon and Bolian 1992, Figure 3, #2), possibly a "Gulf of Maine Archaic" component with a radiocarbon date of 8600 BP. Marginally retouched flake knives from the Hathaway complex of the Moorehead Burial tradition (including the Godfrey cemetery, circa 6000 B.P.) are called "Godfrey knives" (Robinson 1996:6-7), but Brian preferred to reserve the name (Godfrey knife) for pieces from cemeteries specifically. A short, side-notched point with serrated edges made on a flake comes from the Laurentian (= Otter Creek points, circa 5000 BP) occupation at the Sharrow site (Petersen 1991:Figure 41). So, the point recovered by KM is perfectly "happy" coming from a site used from about 8000 to 5000 B.P. in central Maine. What it means in terms of why some folk put a premium on biface knapping skill and others did not is going to be a mystery for some time to come.

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