

Curator's Choice

By: Arianna Johnston, Conservator

Sharp Thinking

Conservators have many tools to clean artifacts at the Maryland Archaeological Conservation Lab (Figure 1). A new tool employed in the lab this summer can be sourced here on the grounds of the Jefferson Patterson Park and Museum (JPPM): thorns!

Thorns are ideal for cleaning soft archaeological artifacts that are easily scratched, like gold and gilt surfaces (Auffret and Nikolaus 2019). They're also sharper than other tools used around the MAC Lab, like bamboo skewers and porcupine quills, so they're great for getting into hard-to-reach places. Thorns are harvested, allowed to dry and harden, and mounted in a pin vice to make them a handheld tool to use under the microscope.

Thorns were most notably used by the UK conservation team that cleaned the Staffordshire Hoard, a collection of 4,000 7th century gold and garnet cloisonné and filigree artifacts excavated from a potato field in England. This team selected several types of plants based on what was available in England (The Institute of Conservation 2015). The thorny plants used by the Staffordshire Hoard team aren't available in Maryland. With the help of Lindsay Hollister, JPPM's horticulturalist, conservators selected two species that could be sourced here at the park.



Figure 1. Compare the tip size of common cleaning tools: 1) Steel scalpel, 2) bamboo skewer, 3) porcupine quill, 4) black locust thorn.

Black locust trees (*Robinia pseudoacacia*) are native to the western Maryland mountains but have since spread to most of the state (Ujeta-Estaban and Tayviah n.d.). They are fast growing trees that like sunny, disturbed areas, and thorns are more common on new growth (Huntley 1990). At JPPM, black locusts are found along field edges, and low hanging branches are often in the way of our mowing crews (Figure 2).



Figure 2. Black Locust, also known as false acacia, and its thorns.

Common greenbrier (*Smilax rotundifolia*) is a climbing vine with glossy green leaves native to the Eastern US including Maryland (JPPM n.d.). Individual vines grow into thickets that provide cover for birds and small mammals. Greenbrier thorns have black tips. At JPPM, greenbrier is common along field edges and occurs in patches in the woods (Figure 3).



Figure 3. Common greenbrier, also known as roundleaf greenbrier, and its thorns.



Figure 4. Conservator Arianna Johnston works on the copper alloy spur (TIMU 3082, NPS Timucuan Ecological and Historic Preserve) under the microscope.

Thorns recently helped in the cleaning of a historic copper alloy spur (Figure 4). A chalky white substance was embedded in microscopic divots across the spur. This may be an old coating or old polishing compound and needed to be removed. While a scalpel tip could fit in most of the divots, copper alloy is softer than steel and could be easily scratched. Both a bamboo skewer and porcupine quill were too large to fit into most of the divots, so a black locust thorn came to the rescue (Figure 5).

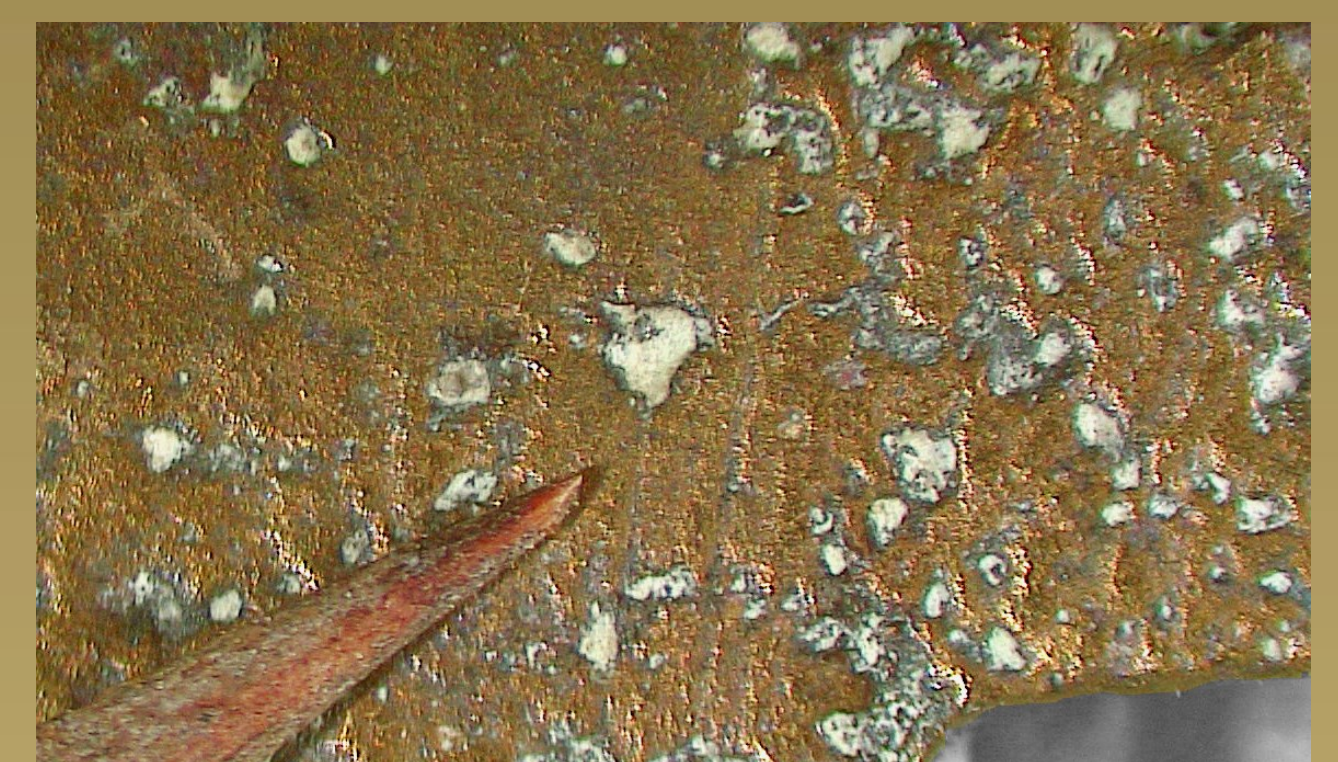


Figure 5. Microscope screenshot of a black locust thorn clears out the white accretions from the polished copper alloy surface. Magnification 1.38x.

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