A Unique Example of Repair to a Broken Abalone Shell Dish

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Abstract

A unique *Haliotis* dish residing in the collections of the Point Vicente Interpretive Center, Rancho Palos Verdes, is described. This abalone dish sustained impact damage resulting in a large hole, subsequently covered over using asphaltum and employing a small, whole abalone shell as a patch—a mode of repair previously undocumented.

Introduction

The most prodigious employments of fossil bitumen in the American West occurred in south central coastal California. Asphaltum served as glue, caulk, sealant, filler, and binder for such manufactures as tools, utensils, varied watercraft, ritual items, art objects, musical instruments, ornaments, gaming pieces, etc. It served as body and face paint and colorant for artifacts, and it could be a cosmetic, an insecticide, and a bug repellent. It was chewed as gum. Possibly it was a fuel. Asphaltum was employed in repair and restoration of both magico-religious objects and mundane artifacts such as abalone shell dishes, identified as such for the asphaltum plugs in their excurrent holes.

For example, Jones (1956:231, 260, 261) documented two such repaired specimens from his 1901 investigations on Santa Rosa Island. His Plate 111e shows an inside view of a *Haliotis* dish, a grave good, with repair. It is not clear whether the asphaltum is filling a breakage hole or only covering a cracked area. Jones' Plate 112e offers an example having more extensive repair, but again the tar obscures the exact nature of the damage. A WPA study (Winterbourne 1937) illustrated an abalone shell dish with tar cemented over a "broken crack" at the back side. The view inside is, however, "bright shiny," absent any bitumen save for the plugged excurrent holes. This article reports on another abalone dish damaged and repaired with asphaltum, but this specimen shows characteristics unique in the annals of regional prehistory.

The Repaired Dish

The repaired dish shown in Figures 1and 2 is curated at the Point Vicente Interpretive Center, Rancho Palos Verdes, Los Angeles County. The unusual artifact was a local find, exact provenance uncertain; the donor's name was not available.

The dish became an artifact with the plugging of its excurrent holes. Maximum length of this *Haliotis fulgens* (green abalone) shell is 146 mm, and it is 121 mm wide.

The species range of *H. fulgens* is further north than the often cited Point Conception, Santa Barbara County, somewhere on the Monterey County coast, and south to around Magdalena Bay, Baja California (see Morris 1966:53; McLean 1978:12-13). A specimen of its size is most likely from a subtidal area; they only infrequently occur deeper than 8 m (McLean 1978:12-13).

Figure 1. Broken abalone shell dish showing a gaping hole. The smaller abalone shell served as a patch to repair the larger shell. Note the asphaltum surrounding the hole, and note the mastic on the rim of the smaller shell.

Figure 2. Repaired green abalone (*Haliotis fulgens*) shell dish. The patch, a black abalone (*Haliotis cracherodii*) is shown in place.

A *Haliotis cracherodii* (black abalone) shell provided the patch that affixed to the margins of the hole that had been punched through the green abalone. This smaller shell measures 85 mm by 60 mm. It is free of asphaltum plugs.

Black abalone is mainly an intertidal species. Its range is from Mendocino County (or even a little further north into Oregon) to well down into Baja California (see Morris 1966:52-53; McLean 1978:12).

Damage to the green abalone dish resulted in a hole apparently too large to be easily covered over using just asphaltum. The best solution was to find a non-tar patch, and accordingly, a black abalone shell was size-selected to be set upon a thick coating of melted tar slathered over the external margins of the green abalone's broken out area. Ample bitumen adheres to the rim of the black abalone, but it is uncertain whether mastic was applied there or whether that tar resulted from pressing the valve into place against the larger shell. The refit of one to the other is exact.

Discussion and Conclusion

Examples of whole mollusk valves glued together appear infrequently in south central coastal California prehistory studies. Edwin Walker (1936:134, Figure 1; see also Koerper et al. 2005:87, Figure 5) described a San Nicolas Island "treasure-box" consisting of a solid mass of asphaltum that locked together two abalone valves. An x-ray photograph revealed that within this black mass were shell beads, pendants, possible stone knives, a spear or harpoon point, and possibly an arrowhead.

While Ford (1887:14) wrote of a *Haliotis cracherodii* valve with asphaltum and covered by a *Lottia gigantia* shell, he failed to indicate whether the two valves were actually glued together. Another Carpenteria find mentioned by Ford (1887:14) was asphaltum "enclosed in the two valves of Mytilus…"—another frustratingly vague observation. One wonders if his words referred to a mussel shell rattle (see Hudson et al. 1977:34, 69; Hudson and Blackburn 1986:333).

Interestingly, Fernando Librado informed J. P. Harrington that abalone shells were used to make percussive instruments. The context of this observation suggests he meant coadunated valves (see Hudson and Blackburn 1986:333).

The repaired shell dish described above adds to the very short list of shells stuck together with tarry mastic. It is a previously undocumented kind of artifact.

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