

AN ANALYSIS OF SHARK TOOTH
TOOLS FROM THE BOCA WEIR SITE
IN SOUTH FLORIDA

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AN ANALYSIS OF SHARK TOOTH TOOLS FROM THE BOCA WEIR SITE
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The Boca Weir Site (PB-56), located just north of Boca Raton, Florida, between the Atlantic Ocean and the intracoastal waterway, was excavated between 1971 and 1972 under the auspices of the Department of Anthropology, Florida Atlantic University. A complete site report is on file at the University (Furey 1972) or available through University Microfilms. The habitation sequence dates from approximately A.D. 500 to 1600 and the dating is based upon ceramic seriation.

An examination of the many archaeological reports on the Glades subarea, or all of Florida for that matter, indicates that large numbers of shark tooth tools have been archaeologically recovered from only three sites: Key Marco (Cushing 1896), Fort Center (Steinen 1971), and Boca Weir (Furey 1971). Small numbers of teeth have been recovered from many Florida sites with a number of sites reporting only one or two shark tooth tools. At the Belle Glade site, Willey (1949) found evidence of their use as woodworking implements but recovered only a few teeth.

The sheer number of shark tooth tools recovered makes Boca Weir an anomaly and, since the shark teeth from Key Marco and Fort Center were not subjected to extensive statistical analysis, it is hoped this analysis will provide a foundation for further research concerning this tool type.

A total of 175 shark teeth were recovered at Boca Weir. The method of analysis utilized was partially based on the work done by Steinen (1971). The specimens were divided into six categories on the basis of species. Seven fragments of specimens were examined and in all cases were assignable to a species. Each tooth was then carefully examined under a variable power reflecting binocular microscope (5x to 30x) with a light source of three intensities, adjustable focus, height and angle. Each specimen could be twisted and rotated in relation to any of the variables for a complete examination of all surfaces. Notes on each tooth were taken with wear patterns, striations, blunting, notching, cracks, chips, and gum modification being the major observational categories. A chart of each species was then compiled which enabled the statistical treatment of each category. The charts' categories were: Tip: worn, not worn; Edge wear: mesial, distal, tip; Striations: mesial, distal, tip; Tooth cracked: yes, no; Blunting: mesial, distal, bilateral; Notching: mesial, distal, bilateral; Tip fractured or chipped and gum modified: yes, no (see Fig. 1). This system was devised to be flexible in recording all forms of wear/use and to enable combinations of variables to be computed. For

example, a tooth with mesial blunting could have distal notching, distal blunting or no modification on the distal edge. This system allows for single and multiple attributes to be recorded in one operation, and any combination of attributes can be computed from this. It also allows teeth to be rejected as tools by multiple criteria in relation to other teeth of the same species. Natural wear in shark teeth has not been an object of study and, as such, all teeth are considered artifacts until a number of areas of wear/use confirm their status as a tool. Patterns of wear/use within and between categories became quickly apparent through use of this method.

Description of the Teeth

Tiger Shark Galeocerdo cuvieri (N = 24, where N is sample size)

This category consists of five fragments, five unperforated and fourteen perforated specimens. A total of 20 (83.3%) specimens in this sample show wear/use patterns, while the remaining 4 (16.7%) show no signs of wear/use. On this basis, the 4 unmodified teeth are viewed as not having had enough use to show their status as tools or were not used as tools. The latter view is accepted in this analysis and unmodified teeth are classified as non-tools. Fourteen (58.3%) of the specimens had edge/tip wear and, of these 5 (35.7%) were worn only on the mesial edge, 4 (28.6%) only on the tip and 2 (14.3%) on the distal edge only. All other wear is insignificant as 7.1% in three other combinations of wear.

Striations were examined on 8 (33.3%) of the specimens and they were confined to the mesial edge in 50.0% of the cases, tip 37.5% and 12.5% on the distal edge only. No other striations were observed, and no teeth were chipped or cracked.

Hafting was accomplished in 58.3% (14) of the specimens by perforations as well as a combination of methods. Blunting was utilized as a method of attachment in 11 (55.0%) of the specimens, with 4 (36.4%) exhibiting bilateral blunting. Notching occurred on only 2 (10.0%) of the specimens with none exhibiting bilateral notching. Hafting was also accomplished by combinations (n = 9) with 7 (77.8%) having mesial blunting only and 2 (22.2%) with mesial notching only. Perforated teeth with bilateral blunting is the preferred method of hafting this species.

Lemon Shark Negaprion brevirostris (N = 74)

This species is the largest of the six, with all specimens being unperforated. Seventy (94.6%) of the teeth exhibit wear/use patterns while the remaining 4 (5.4%) are not worn and are classified as non-tools because of their lack of cultural modification. Of the 70 teeth with wear/use patterns, 30 (42.9%) are worn only on the tip, 17 (24.3%) are worn on the tip and mesial edge only. Wear on all three edges occurs on 15 (21.4%) of the teeth.