PRECISION MICROBLADE TECHNOLOGY FROM THE CENTRAL BC COAST

Aubrey Cannon

Microblade technology is widespread around the world and is a well-known component of early lithic assemblages on the Pacific Northwest Coast. It is recognized for its precision, the skilled craftsmanship it represents, and its efficient use of raw materials. Here I describe a single find of a complete obsidian microblade that demonstrates all of these qualities to perhaps the highest degree possible. Its find does not represent any new insights into regional archaeological history, but it does allow an appreciation of lithic technological skill that is rarely surpassed. I think it is also a thing of beauty that goes beyond its utilitarian or archaeological value. The photographs shown here are better viewed in the web-based version of this article at: http://www.socsci.mcmaster.ca/anthro/emplibrary/microblade.pdf

The artifact was found during the microscopic analysis of matrix samples from the site of ElSx-10, a coastal shell midden located in the traditional territory of the Heiltsuk First Nation on the central coast of British Columbia. The site is one of several shell midden sites on Fougner Bay, on the mainland just north of Namu. It, along with fifteen other sites in the area, was the subject of core and auger sampling I undertook in 1996 and 1997. Small diameter cores provided intact sections of deposits for radiocarbon dating, while larger matrix samples obtained with a larger diameter bucket-auger were used for the recovery and analysis of fish and shellfish remains. The results of site dating and faunal analysis are described elsewhere (Cannon 2000a, 2000b). The matrix recovered in the auger samples was sufficient to give a good indication of the variety and intensity of marine fishing and shellfish gathering.

Figure 1: ElSx-10 Microblade with a Penny for Scale.

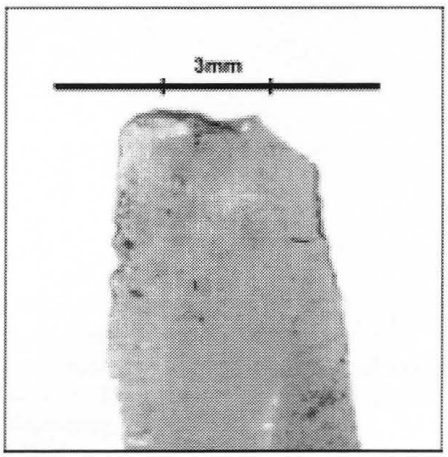

Figure 2: Ventral Surface Showing the Bulb of Percussion and Vertical Stress Lines.

The small volume of the samples resulted in the recovery of very few artifacts. One exception was the obsidian microblade shown here, which was recovered from near the back of the midden deposits at ElSx-10, some 30 metres from the shore at a depth of 104-117 cm below the surface. A radiocarbon sample from the same level in the adjacent core section yielded a calibrated date of 4245-3965 BC, or around 6000 BP. This date fits within the range of microblade technology on this part of the coast. Microblades are found in deposits dating from 9000 to 5000 cal. BP at the nearby Namu site (Carlson 1996). What sets this particular example apart is not its presence in this location at this time, or its manufacture from obsidian, the material of choice for microblades at Namu (Hutchings 1996:170), or even the means by which the artifact was recovered and dated. What sets this particular example apart from the majority of microblades recovered from sites on the BC coast, and those found in most other parts of the world, is its very small size.

This artifact is nearly complete. Only the very tip of the distal end is missing. It measures a mere 2.2 mm in width and 5.8 mm in length (Fig. 1). It is so small, it can hardly be handled. Its form is typical, with a striking platform on

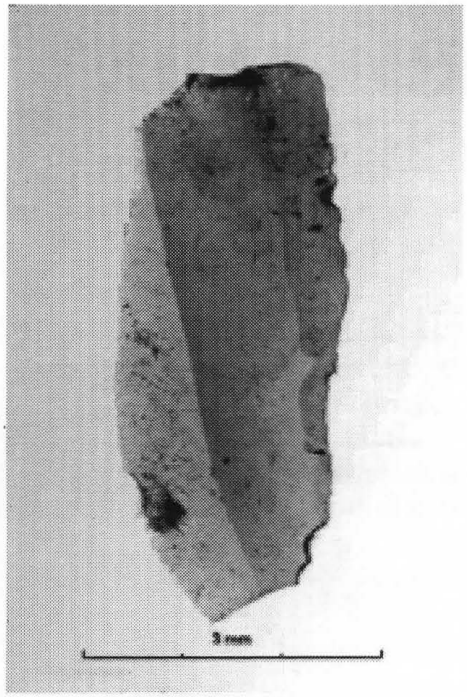

Figure 3: Dorsal Surface Showing Twin Arrises

the proximal end, a bulb of percussion on the ventral surface (Fig.2), and a pair of ridges or arrises on the dorsal surface (Fig. 3). The ridges and resulting trapezoidal cross-section of the blade show that an even smaller triangular blade or narrow flake was struck from the dorsal surface. Its manufacture is clearly an indication of remarkable skill. What is even more remarkable is that it shows signs of use damage, primarily along one edge (Fig. 4). I initially saw this as an indication it may have been hafted along the opposite edge in some form of composite tool. In preparing the photographs for this article I noticed what appears to be fine retouch on both edges near the proximal end. This suggests the blade was more likely end hafted. Experiments conducted by Karl Hutchings (1996) showed this to produce a more efficient and more precise cutting tool. In every respect, the ElSx-10 microblade represents the epitome of precision technology on this part of the BC coast. It is, however, not unique for its small size, though it does lie at the very smallest end of microblades from archaeological sites worldwide.

Metric data are not always available for assemblages recovered from Pacific Northwest sites in BC and Alaska, and when provided do not always include the size range of individual blades. Sufficient examples are available to show that this particular example is at the smallest end of blade size distributions. The dimensions of the smallest microblades yielded from a sampling of sites in BC, Alaska, the Yukon, and Alberta are provided in Table 1. The ElSx-10 example near or well below the size of the smallest examples reported from these sites, though there may be other examples not included in Table 1, or still others as yet unreported. The ElSx-10 blade is also at or near the smallest extremes from sites reported worldwide. In a study of more than 9500 microblades from 60 sites from the North American Arctic and the European Upper Palaeolithic, Linda Owen reported an average smallest width of 3.8 mm. Only seven sites yielded blades as narrow as 2.5 mm, and only three sites produced blades as small or smaller than the ElSx-10 example.

While it may not earn honours as the world's smallest, the ElSx-10 blade is among the smallest examples recovered from archaeological sites of microblade using cultures worldwide. It shows the highly developed skills of its makers, and deserves some recognition for that reason alone. It may represent a level of precision that is even more common than we presently know. Only the finest recovery methods are likely to find such small tools, but the opportunity to further appreciate the skills of ancient lithic technologists may make finer scrutiny of excavated deposits worth the extra effort.

Table 1 - Dimensions of the Smallest Microblades reported from Selected Sites in BC, Alaska, the Yukon, and Alberta (length is for complete microblades only, number in brackets).

Site	Number of Blades	Smallest Width (mm)	Smallest Length (mm)	Reference
Lawn Point, BC	168	2.0	-	Fladmark (1986)
Kasta, BC	?	2.0	-	Fladmark (1986)
Paul Mason, BC	116 (16)	3.3	9.6	Coupland (1996)
Namu, BC	39 (6)	3.0	11.6	Luebbers (1978)
Shoemaker Bay, BC	91 (28)	3.5	10.0	McMillan and St. Claire (1982)
Whalen Farm, BC	17 (5)	4.0	25.8	Sanger (1968)
Lochnore-Nesikep Locality, BC	677	2.4	-	Sanger (1968)
Campus, Alaska	604 (39)	2.0	7.8	Mobley (1991)
KbTx-2, Yukon	137	1.8	-	Clark (1992)
Bezya, Alberta	105 (11)	2.5	8.1	Le Blanc and Ives (1986)

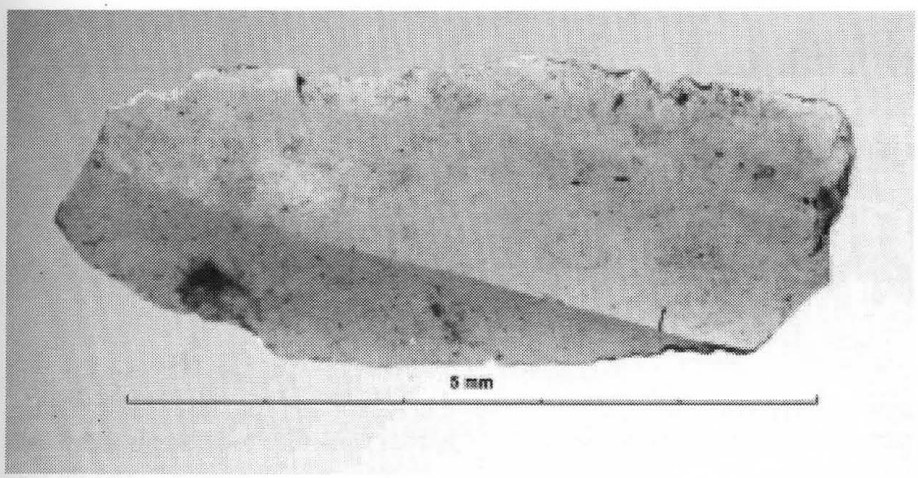

Figure 4: Use Damage on the Upper Edge

References

Cannon, Aubrey 2000a Assessing Variability in Northwest Coast Salmon and Herring Fisheries: Bucket-Auger Sampling of Shell Midden Sites on the Central Coast of British Columbia. *Journal of Archaeological Science* 27: 725-737.

2000b Settlement and Sea-Levels on the Central Coast of British Columbia: Evidence from Shell Midden Cores. *American Antiquity* 65:67-77.

Carlson, Roy L. 1996 Early Namu. In *Early Human Occupation in British Columbia*, edited by Roy L. Carlson and Luke Dalla Bona, pp. 83-102. Vancouver: UBC Press.

Clark, Donald W. 1992 A Microblade Production Station (KbTx-2) in the South Central Yukon. *Canadian Journal of Archaeology* 16:3-23.

Coupland, Gary 1996 The Early Prehistoric Occupation of Kitselas Canyon. In *Early Human Occupation in British Columbia*, edited by Roy L. Carlson and Luke Dalla Bona, pp. 159-166. Vancouver: UBC Press.

Fladmark, K.R. 1986 Lawn Point and Kasta: Microblade Sites on the Queen Charlotte Islands, British Columbia. *Canadian Journal of Archaeology* 10:39-58.

Hutchings, W. Karl 1996 The Namu Obsidian Industry. In *Early Human Occupation in British Columbia*, edited by Roy L. Carlson and Luke Dalla Bona, pp. 167-176. Vancouver: UBC Press.

Le Blanc, Raymond J. and John W. Ives 1986 The Bezya Site: A Wedge-shaped Core Assemblage from Northeastern Alberta. *Canadian Journal of Archaeology* 10:59-98.

Luebbers, Roger 1978 Excavations: Stratigraphy and Artifacts. In *Studies in Bella Bella Prehistory*, edited by James J. Hester and Sarah M. Nelson, pp. 11-66.Burnaby: Department of Archaeology, Simon Fraser University, Publication No. 5.

McMillan, Alan D. and Denis E. St. Claire 1982 *Alberni Prehistory: Archaeological and Ethnographic Investigations on Western Vancouver Island*. Penticton, B.C.: Theytus Press.

Mobley, Charles M. 1991 *The Campus Site: A Prehistoric Camp at Fairbanks, Alaska*. Fairbanks: University of Alaska Press.

Owen, Linda R. 1988 *Blade and Microblade Technology: Selected Assemblages from the North American Arctic and the Upper Paleolithic of Southwest Germany*. BAR International Series 441. Oxford.

Sanger, David 1968 Prepared Core and Blade Traditions in the Pacific Northwest. *Arctic Anthropology* 5:92-120.

Aubrey Cannon is a Professor in Anthropology at McMaster University. He received his Ph.D. in anthropology from Cambridge in 1987.