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A diachronic perspective on Great Basin projectile point morphology from Veratic Rockshelter, Idaho

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ABSTRACT

Veratic Rockshelter (10CL3), located in the Birch Creek Valley on the northern border of the Snake River Plain, has long been considered among the most significant prehistoric sites in southeastern Idaho. Initially excavated by Earl Swanson in 1961, this site produced over a thousand stone tools from stratified contexts, including hundreds of diagnostic projectile points ranging from the late Paleoindian to the late prehistoric period from 13 cultural horizons. This paper provides a new evaluation of the geochronology of the site using 18 new AMS radiocarbon dates acquired from charcoal features sampled during the original excavation. These new ages are then compared with metric analyses of diagnostic projectile points from the existing assemblage to examine diachronic variability and morphological discreteness in this artifact class to tie them to existing Snake River Plain and Intermountain West projectile-point typologies as well as answer questions about late Paleoindian and Archaic spear- and dart-point variability. Results indicate that: 1) Western Stemmed Tradition points at Veratic date to significantly later than previously thought (9500–10,000 cal B.P.) and have a relatively broad spectrum of morphological variability, 2) Elko and Northern Side Notched points found in a middle-Holocene horizon (~6000 cal B.P.) are morphologically distinct from each other, supporting the concept of an Elko "long chronology." 3) Elko Corner Notched and Eared, Northern Side Notched, Stemmed Indented Base (including Gatecliff and possibly Pinto forms), Humboldt, and Salmon River points were found together in multiple middle-Holocene components at Veratic, indicating a period of greater variability that ended with the onset of the late Holocene by 3200 cal B.P., after which only Elko Corner Notched forms continued.

1. Introduction

Projectile-point typologies have long been an important tool used by archaeologists to assign chronometric ages to archaeological components without datable geological contexts. Thomas' Monitor Valley/Gatecliff Rockshelter chronology for the central Great Basin (1981), for example, provided a much-needed standardization of projectile-point variability using metric attributes. However, it is becoming increasingly apparent that different regions of the Intermountain West have variations in form and chronology inconsistent with Thomas' key (e.g. Holmer, 1986; Bettinger, 1999; Schmitt and Madsen, 2005). Most recently, Smith et al. (2013) suggested that, based on benchmark sites with established chronologies, the Great Basin has at least five areas with distinct projectile-point chronologies. These inter-regional differences go beyond merely affecting chronologies; they also have implications for understanding culture change and regional cultural interactions throughout the Holocene in the Great Basin. However, to establish these chronologies for specific regions, it is crucial to have stratified, well-dated benchmark sites with occupations containing diagnostic points spanning much of the Holocene. One such site is Veratic Rockshelter, located on the upper Snake River Plain, Idaho.

This paper evaluates the geochronology and projectile-point variability of Veratic Rockshelter, a multi-component, stratified site located on the northeastern edge of Idaho's Snake River Plain (Fig. 1). Veratic and adjacent Bison Rockshelters were originally excavated by Earl Swanson, Jr. and colleagues in the early 1960s as part of the Birch Creek archaeological survey project (Swanson, 1972). Swanson's excavations were cutting-edge for their time, applying stratigraphic and radiocarbon techniques to establish the context of over 400 diagnostic projectile points and 1100 other lithic artifacts from 13 components that ranged from 500 to more than 10,000 radiocarbon years ago (^{14}C B.P.). Not surprisingly, Swanson's study played a key role in developing projectile-point typologies for the Snake River region (Butler, 1978; Holmer, 1986, 2009).

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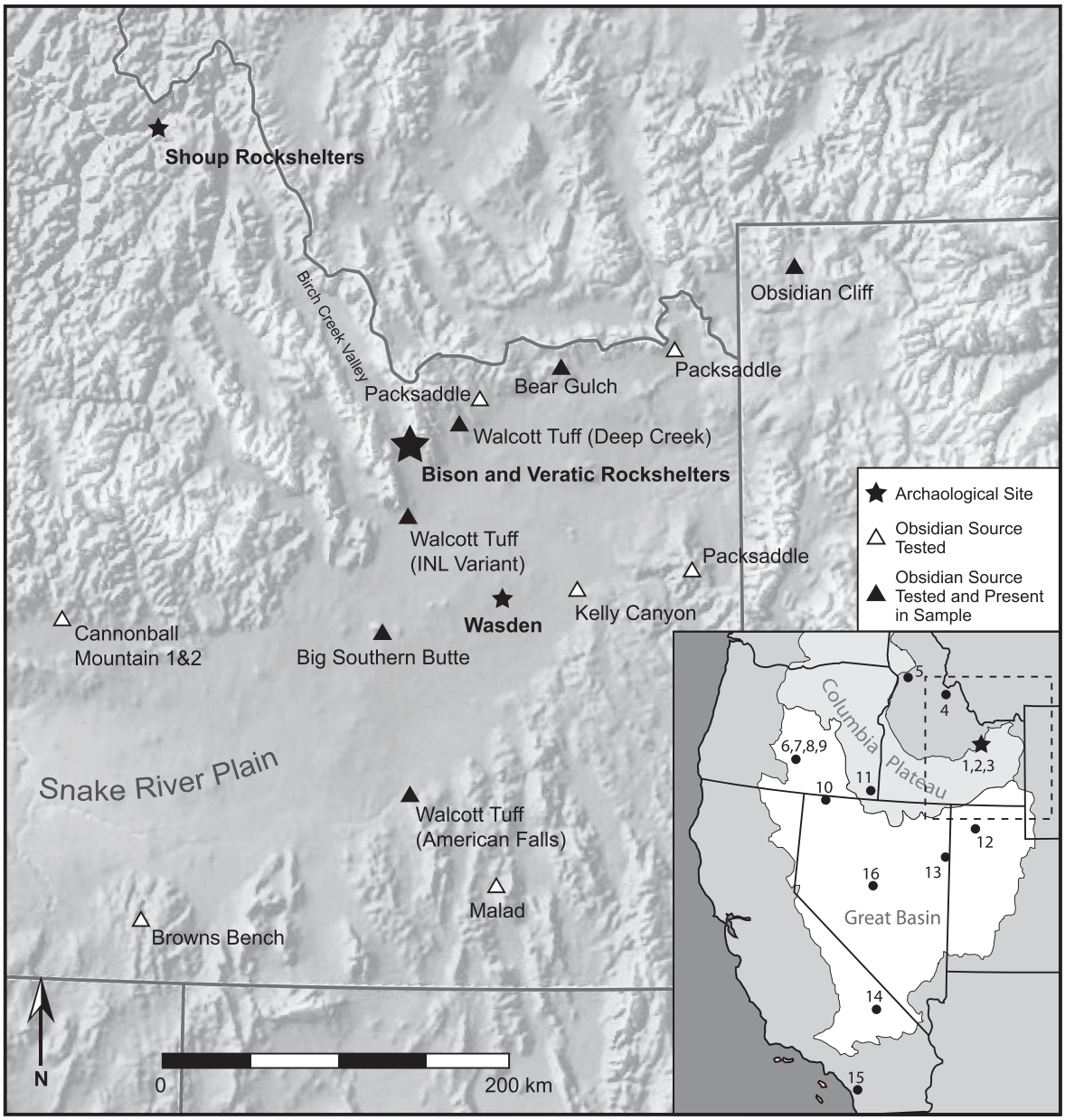

Fig. 1. Map of the Snake River Plain of southern with archaeological sites and obsidian sources discussed in text. Inset: 1) Veratic Rockshelter, 2) Bison Rockshelter, 3) Jackknife Cave, 4) Shoup Rockshelters, 5) Cooper's Ferry, 6) Fort Rock Cave, 7) Connley Caves, 8) Paulina Lake, 9) Buffalo Flat, 10) Last Supper Cave, 11) Dirty Shame Rockshelter, 12) Hogup Cave, 13) Bonneville Estates Rockshelter, 14) Henwood, 15) C.W. Harris, 16) Gatecliff Rockshelter.

Despite the significance of the Veratic and Bison records, no attempts have been made to re-examine the shelters since Swanson published his site report in 1972 (Lohse and Sammons, 1994; but see Hughes, 2007). The early conventional radiocarbon methods used to originally date the site required large bulk samples of organic matter, resulting in substantial standard deviations on combined samples spread across multiple features and even stratigraphic horizons (see Bradley, 2013, pp. 62). As a result, some of the original ages likely represent a mix of materials from multiple, non-contemporaneous features. Furthermore, detailed lithic analyses and stratigraphic contexts of specific artifacts were not reported by Swanson (1972), and diagnostic points were divided into numerous sub-groups, many of which do not match typologies in use today.

Using the curated assemblage at the Idaho Museum of Natural History, I examined diachronic variability in projectile points from Veratic Rockshelter using new accelerator mass spectrometric (AMS) radiocarbon dates and lithic analyses focusing on latest Pleistocene to late Holocene spear, dart, and arrow points. The large assemblage of artifacts as well as the still curated charcoal samples at the museum make the Veratic assemblage ideal for updating the Snake River Plain's regional point typology.

In addition to re-dating cultural components from the site and re-assessing the current lithic assemblage, the analysis focused on three questions: 1) What is the age of the stemmed-point component at Veratic, and how do these point forms correlate with Western Stemmed Tradition (WST) points from elsewhere in western North America? 2) What is the age of early Elko dart points from Veratic, and can they be distinguished from Northern Side Notched points? 3) How else can morphological variability be organized among point forms at Veratic Rockshelter, and how do relative frequencies of these forms change through time? These questions are further explained below.

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