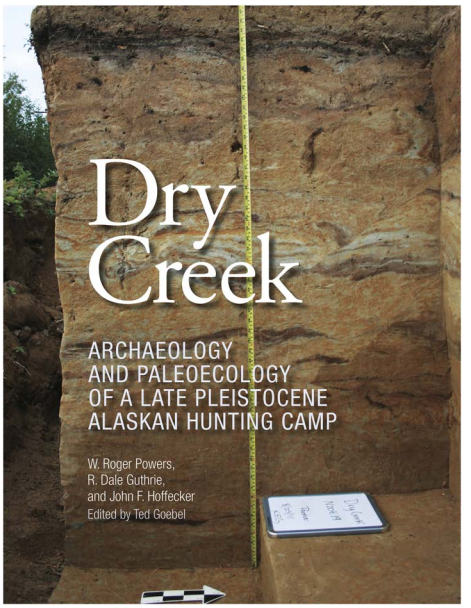
BOOK REVIEW



Archaeology and Paleoecology of Beringia Revisited: Review of W Roger Powers, R Dale Guthrie, and John F Hoffecker. *Dry Creek: Archaeology and Paleoecology of a Late Pleistocene Alaskan Hunting Camp.* Edited by Ted Goebel. 2017. College Station: Texas A&M University Press. ISBN: 978-1-65982-349-538-1; xi + 330 pages, with 127 illustrations and 44 tables. List price $50 US (hardback). Photo courtesy of Texas A&M University Press.

Reviewed by: Yaroslav V Kuzmin, Leading Research Scientist, Sobolev Institute of Geology and Mineralogy, Siberian Branch of the Russian Academy of Sciences, Novosibirsk 630090, Russia; and Laboratory of Mesozoic and Cenozoic Continental Ecosystems, Tomsk State University, Tomsk 634050, Russia. Email: kuzmin_yv@igm.nsc.ru; kuzmin@fulbrightmail.org.

The volume under review is about the Dry Creek site (Nenana River basin, central Alaska), one of the most important objects of multidisciplinary studies on the North American side of Beringia —the former landmass which connected Asia and the Americas in the Pleistocene, until ca. 11,000 BP (e.g. Hoffecker and Elias 2007). Even today, more than 40 years after its discovery in 1973, Dry Creek is the second oldest Pleistocene archaeological object in Alaska (e.g. Bever 2006; Potter 2008). The clear stratigraphic situation and the application of multiple geoarchaeological methods made it the key Paleoindian site in North America. This book is a long-awaited full report of the investigations conducted at the Dry Creek in the 1970s; previously, only a handful of published sources was available (e.g. Thorson and Hamilton 1977; Powers and Hoffecker 1989; Bigelow and Powers 1994). The main focus of this review is the chronology (uncalibrated ^{14}C dates are used throughout this text) and stratigraphy of the Dry Creek site.

The volume consists of a Preface (p ix–xi) written by T Goebel, and two parts (plus references cited, list of contributors, and an Index). Part 1 (chapters 1–7, p 2–214), authored by WR Powers, RG Guthrie and JF Hoffecker, is the slightly revised site's excavation report submitted to the US National Park Service in 1983 as a manuscript, and is now available for the first time

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as a published text with illustrations. Part 2, Chapter 8 (p 219–60), by KE Graf, LM DiPietro, K Krasinski, BJ Culleton, DJ Kennett, AK Gore and HL Smith, contains the results of the Dry Creek re-investigation conducted in 2011 (see also Graf et al. 2015). Chapter 9 (p 261–88), by T Goebel and JF Hoffecker, summarizes the knowledge on the Dry Creek site in a wider perspective.

As concerns the archaeological aspect, despite the large amount of lithic materials unearthed at this site, it is still not very clear: "[the] Dry Creek excavations demonstrated that even within the late Pleistocene, there was much variability in Beringian lithic technologies and tools, variability that we still do not completely understand." (p x). In brief, the oldest Component I contains 3558 artifacts, and their main types are bifacial knives; projectile points; side, transverse, and end scrapers; burins; flake tools; and cobble cores and tools (p 195). It represents the Nenana Complex initially described by Powers and Hoffecker (1989); its distinct feature is the absence of microblades (p 196), although the presence of microblades at the older Alaskan site of Swan Point dated to at least ca. 12,300 BP (charcoal-based ^{14}C value; e.g. Hirasawa and Holmes 2017) makes the Paleoindian archaeology of Alaska quite diverse. The younger Component II has a very large collection of 28,881 lithic items. Two main assemblages are distinguished: one with microblades, and another without them (p 195). As for the former, numerous microblades and microblade wedge-shaped cores, bifacial knives, core-scrapers, core-burins, and blade-like flakes are identified (p 195). With regard to the latter, burins, crude bifacial implements, shaped scrapers, and projectile-point bases are the most typical artifacts (p 195). The microblade-bearing assemblage of Component II is associated with the Denali Complex (p 105). The youngest Component IV (with 2372 artifacts recovered) belongs to the Holocene, ca. 5000–3000 BP, and contains artifacts associated with the Northern Archaic Tradition (p 203–14).

In terms of Dry Creek chronology, Component I was initially ^{14}C-dated to ca. 11,120 BP, thus making it the oldest archaeological site in Alaska as of the late 1970s (see Thorson and Hamilton 1977). Additional small-scale investigations in 2011 (see Graf et al. 2015) allowed the collection of more samples, and the results generated on hearth charcoal show an even older age of Component I: ca. 11,635–11,510 BP (p 242). As for Component II, the first ^{14}C date on charcoal collected from the hearth—10,690 ± 250 BP (SI-1561)—was obtained in 1973, soon after the discovery of the site (p 13). This gave archaeologists the assurance that they were dealing with a Paleoindian site, and the investigations were carried out at full scale thereafter. The 2011 excavations and sampling (also hearth charcoal) resulted in more ^{14}C dates: ca. 9480–9460 BP (p 240). They are somewhat younger than the ^{14}C value of ca. 10,690 BP, but if we take into account that each cultural component reflects multiple human visits/occupation episodes (see below), this should not be surprising. The new ^{14}C dates fit the general age-depth relationship at Dry Creek (p 18).

The issue of widespread ^{14}C ages for components I and II deserves attention. It is concluded that the site represents a "temporary hunting camp, or 'spike camp', by early people." (p 5; see also p 146). In this case, one should expect a variation of ^{14}C dates within at least several hundred years in a single stratigraphic component, as it was suggested previously (Kuzmin and Keates 2005). One can clearly see this pattern for components I–II of the Dry Creek site, and it is not necessary to reject the ^{14}C value of ca. 11,120 BP from Component I and incline to its older age, ca. 11,600 BP (p 269).

Another issue is the presence of several ^{14}C age outliers in paleosols 2–3 (between components I and II); the ^{14}C dates ranging from ca. 23,930 BP to ca. 9340–7985 BP are very different from the values obtained on charcoal collected in the occupation levels (p 34–6). A possible

explanation for this is contamination by airborne fossil coal dust, although this conclusion is still of a tentative nature (p 36).

Some of the cultural correlations between the Dry Creek site (and Alaska in general), the neighboring region of Kamchatka in the former Beringia, and the Paleoindian Clovis Complex as presented in Chapter 8 require some comments. It is stated that the Layer 7 of the Ushki site cluster on Kamchatka is contemporaneous with Component I of Dry Creek (p 259). However, the extensive ^{14}C dating of Ushki's Layer 7 shows that it existed from ca. 14,300–13,600 BP to ca. 11,320–11,060 BP (e.g. Kuzmin and Dikova 2014; Kuzmin et al. 2010), and therefore covered a longer time span than the Dry Creek's Component I; this opinion by Y Kuzmin and his co-authors is somehow ignored in Chapter 8. As for ^{14}C dating of the Clovis Complex, the authors prefer the "short chronology" (p 260) based on the work by Waters and Stafford (2007) who determined its age as ca. 11,050–10,800 BP. This opinion does not take into account the vast corpus of ^{14}C dates associated with the Clovis Complex in the interval of ca. 11,570–10,900 BP (e.g. Taylor et al. 1996; Haynes 2002; Bever 2006). Component I of Dry Creek is therefore contemporaneous with Clovis, *contra* to the authors who state that "new mid-Allerød-aged dates from Dry Creek now make it a pre-Clovis site" (p 260).

Finally, this book is a nice tribute to William Roger Powers (1942–2003), one of the first Western scholars who introduced the Siberian Paleolithic to the international scientific community (see Powers 1973). With Dry Creek on the North American side of the Bering Strait, Powers in the 1970s "stood" on both sides of Beringia!

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REFERENCES

Bever MR. 2006. Too little, too late? The radiocarbon chronology of Alaska and the peopling of the New World. *American Antiquity* 71(4):595–620.

Bigelow NH, Powers WR. 1994. New AMS dates from the Dry Creek Paleoindian site, central Alaska. *Current Research in the Pleistocene* 11:114–6.

Graf KE, DiPietro LM, Krasinski KE, Gore AK, Smith HL, Culleton BJ, Kennett DJ, Rhode D. 2015. Dry Creek revisited: new excavations, radiocarbon dates, and site formation inform on the peopling of Eastern Beringia. *American Antiquity* 80(4):671–94.

Haynes G. 2002. *The Early Settlement of North America: The Clovis Era*. Cambridge: Cambridge University Press. 345 p.

Hirasawa Y, Holmes CE. 2017. The relationship between microblade morphology and production technology in Alaska from the perspective of the Swan Point site. *Quaternary International* 442(B):104–17.

Hoffecker JF, Elias SA. 2007. *Human Ecology of Beringia*. New York: Columbia University Press. 304 p.

Kuzmin YV, Dikova MA. 2014. Chronology of the Late Pleistocene archaeological sites in Northeastern Siberia: the 2014 state-of-the-art. *Rossiisky Arkheologichesky Ezhegodnik* 4:8–22 In Russian with English abstract.

Kuzmin YV, Dikova MA, Cruz RJ. 2010. Radiocarbon age of the Paleolithic layers at Ushki 1 site, Kamchatka (Northeastern Siberia): new dates from the N. N. Dikov excavation in 1989. *Current Research in the Pleistocene* 27:44–5.

Kuzmin YV, Keates SG. 2005. Dates are not just data: Paleolithic settlement patterns in Siberia derived from radiocarbon records. *American Antiquity* 70(4):773–89.

Potter BA. 2008. Radiocarbon chronology of central Alaska: technological continuity and economic change. *Radiocarbon* 50(2):181–204.

Powers WR. 1973. Palaeolithic man in in Northeast Asia. *Arctic Anthropology* 10(2):1–106.

Powers WR, Hoffecker JF. 1989. Late Pleistocene settlement in the Nenana Valley, central Alaska. *American Antiquity* 54(2):263–87.

Taylor RE, Haynes CV Jr, Stuiver M. 1996. Clovis and Folsom age estimates: stratigraphic context and radiocarbon calibration. *Antiquity* 70(269):515–25.

Thorson RM, Hamilton TD. 1977. Geology of a Dry Creek site: a stratified early man site in interior Alaska. *Quaternary Research* 7(2):149–76.

Waters MR, Stafford TW Jr. 2007. Redefining the Age of Clovis: implications for the peopling of the Americas. *Science* 315(5815):1122–6.