

***THE PALEOLITHIC ARCHAEOLOGY OF
NORTH CENTRAL MONGOLIA***

2002 FIELD REPORT*

A Preliminary Description of Activities of the
Joint Mongolian-Russian-American Archaeological Expedition (JMRAAE)
in 2002

by

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Abstract

An interdisciplinary approach to the investigation of Mongolia's earliest prehistory has again in 2002 yielded a range of archaeological, paleoecological, paleogeographic, and geological data that collectively describe a complex, changing pattern of prehistoric human occupation of Mongolia. The Joint Mongolian-Russian-American Archaeological Expedition (JMRAAE) carried out three principal activities during its 2002 field season in Khovsgol and Bulgan *aimags*, north central Mongolia: (1) the vicinity of Lake Khovsgol was reconnoitered; (2) a preliminary archaeological survey was conducted in the Darkhad Basin (*Mong.* Darkhadiin Khotgor); and (3) archaeological reconnaissance and test excavations were conducted in the valleys of the middle Selenga river and several of its tributaries.

Introduction

From 25 May through 04 July 2002 the Joint Mongolian-Russian-American Archaeological Expedition (JMRAAE) continued a program of Paleolithic field research initiated in 1995. The preliminary results of the 1995—1998 expeditions have been published as trilingual monographs (Derevianko, Olsen, and Tseveendorj 1996, 1998, 2000). A similar monographic discussion of the results of the 2000 and 2002 expeditions is currently in preparation and in-depth results of JMRAAE investigations at Tsakhiurtyn Hondii (Flint Valley) in 1995 and 1996 were published as a trilingual book in 2002 (Derevianko, Zenin, Olsen, Petrin, and Tseveendorj 2002).

Three principal activities were carried out this summer: (1) the territory surrounding Khovsgol Nuur was reconnoitered, yielding evidence of prehistoric occupations on both the lake's east and west shores, (2) a preliminary archaeological survey was conducted in the Darkhad Basin (*Mong.* Darkhadiin Khotgor), west of Khovsgol Nuur, as far north as Tsagaan Nuur and the headwaters of the Little Yenisei River, and (3) archaeological reconnaissance and test excavations were conducted in the valleys of the middle Selenga river and several of its tributaries.

A total of two North American (one US and one Canadian), one Japanese, nine Russian and three Mongolian participants took part in the 2002 expedition. This configuration allowed the expedition to

conduct simultaneous excavations and undertake reconnaissance of prospective new areas for archaeological work in the Khovsgol Nuur region and the greater Selenga watershed.

Investigations in the vicinity of Lake Khovsgol

The expedition's priority in 2002 was to extend our area of field operations north out of the Gobi Desert and into the mixed steppe-taiga zone surrounding Lake Khovsgol (Irkutsk State University *et al.* 1989). Based on the presence of extensive surficial limestone outcrops and previous reports of numerous caves (Aoki 1996) in the vicinity, we determined that our 2002 field activities would concentrate on the identification of prehistoric sequences in Khovsgol *aimag*.

After establishing a base camp on the east bank of the Egiin Gol near the *suum* center of Alag Erdene (formerly Mankhan), we divided our research team into two groups and set about investigating fluvial terraces on both the east and west banks of the uppermost 20 km reach of the Egiin Gol as well as making preliminary preparations for reconnaissance of the eastern shore of Khovsgol Nuur. While one field party initiated excavations of a stratified microlithic occurrence on the Egiin Gol north of Alag Erdene, another group established itself in quarters belonging to the Institute of Limnology of the Russian Academy of Sciences at the port of Khatgal (N 50° 27' 32.9", E 100° 10' 27.8").

Using a combination of land-based GAZ-66 and UAZ-452 field vehicles and two motorized watercraft (an aluminium speedboat and a Russian inflatable craft) the expedition was able to reconnoiter the complex eastern shoreline of Khovsgol Nuur. The track north from Khatgal, following Khovsgol Nuur's east shore, is perhaps one of the worst roads in Mongolia, often alternating between basalt boulder fields and low-lying swamps. Nonetheless, the combination of aquatic and terrestrial access to the shore allowed us to effectively overcome the problems of poor road conditions and late spring ice that blocked some bays until mid-June. Ultimately, expedition members were able to visit most exposed sedimentary sequences as far north as Khovsgol Nuur's northern port at Khankh (formerly Turt; N 51° 30' 12.8", E 100° 39' 38.4"). No cave localities were discovered along Khovsgol Nuur's east shore (nor

were any expected; geologically, the territory immediately east of Khovsgol Nuur is unsuitable for cave formation), but nine distinct open-air prehistoric sites were investigated at the following locations:

Khatgal 01: N 50° 31' 14.1", E 100° 23' 49.8" (1667 meters asl)

Khatgal 02: N 50° 45' 20.9", E 100° 30' 50.6" (1672 meters asl)

Khatgal 03: N 50° 59' 35.9", E 100° 42' 39.5" (1686 meters asl)

Khankh 01: N 51° 26' 57.9", E 100° 45' 55.7" (1704 meters asl)

Khankh 02: N 51° 21' 29.8", E 100° 48' 01.7" (1700 meters asl)

Khankh 03: N 51° 12' 57.6", E 100° 45' 25.1" (1701 meters asl)

Khankh 04: N 51° 10' 09.3", E 100° 44' 09.2" (1716 meters asl)

Khankh 05: N 51° 09' 32.4", E 100° 44' 39.2" (1698 meters asl)

Khankh 06: N 51° 03' 26.1", E 100° 44' 11.1" (1703 meters asl)

These sites yielded a broadly similar range of surface material culture dominated by a microlithic stone tool industry fashioned on wedge-shaped cores of chalcedony and cryptocrystalline quartzite, some in association with quantities of thick, sand-tempered plainware ceramic sherds. Khatgal 02 in particular yielded extremely small chalcedony cores and implements (one exhausted microblade nucleus measures only 1.5 cm in length and the largest of the thumbnail scrapers collected measures only 1.7 cm in diameter). One locality, Khankh 04, yielded sand-tempered ceramics in association with a microblade assemblage and a ground and polished nephrite ornament. Although no organic materials were found in these sites, their geological context and associated material culture, especially the combination of microliths and sand-tempered ceramics, suggest an early to mid-Holocene antiquity, especially when the available ¹⁴C date from the excavated Egiin Gol site, reported below, is taken into consideration.

A few potentially earlier lithic materials, including one large polyhedral core, were collected from the surface at Khankh 01. Based on a combination of typology, patination, and weathering these materials appear earlier than those observed at other east Khovsgol Nuur localities, but time constraints

prevented subsurface testing, thus this conclusion may or may not be borne out by subsequent work at the site.

While the land-based field party returned to Khatgal for reprovisioning, the expedition's boats crossed Khovsgol Nuur and returned to the southern port by water, following the lake's rugged western shore. The road that parallels the west shore is impassable after the spring thaw farther north than just a few kilometers north of Khatgal and large tracts are designated "specially protected zones" in which motorized travel is forbidden, thus reconnaissance of this region was restricted to areas accessible from the water. From a geological perspective, the territory bordering the west shore of Khovsgol Nuur, including the Khor'dol Sar'dag range, holds great potential for caves, hence we targeted this area for investigation in 2002. Although four more localities similar to those identified on the east shore of Khovsgol Nuur were found, all are open-air occurrences and none appear to pre-date the Pleistocene/Holocene boundary. Inclement weather and dwindling provisions and fuel forced the waterborne party to return to Khatgal camp earlier than anticipated, so we have some confidence that additional reconnaissance in the area will yield caves containing stratified archaeological sequences.

After returning to our base camp on the Egiin Gol, the expedition made a series of short excursions to visit previously reported caves west-southwest of Alag Erdene (Aoki 1996; Komatsu and Olsen 2002) as well as new fissures and caverns made known to us by local inhabitants. The carbonate rocks in this area are mostly Cambrian, but some outcrops may be older. The host rocks are, in general, heavily deformed due to accretional processes and orogeny. However, locally, original strata are preserved and cave formation occurs along the bedding planes of these layers. The majority of the caves we examined are solution cavities with strong structural control. The caves appear to have been occupied by animals, both wild and domestic, judging from concentrations of feces, fur, and feathers on the ground. There are also subfossil bones of animals in some caves, however we did not find unequivocal traces of human occupation except for short-term visits by recent nomads.

An important generalization to be drawn about caves in Khovsgol *aimag* is that evidence of human occupation is rare, even in the historic period. This is unusual since evidence of ancient human activity is common in the region. However, the majority of caves in this *aimag* appear to have been unused by prehistoric humans. Even occupation during the historic period may have been uncommon, except for occasional use by Buddhist practitioners during pilgrimages or meditational retreats. In several instances, poorly preserved Tibetan script painted on rock surfaces outside cave entrances is in most cases the six-syllable Chenrezig mantra, *om mani peme hung*, commonly seen in such circumstances. This situation stands in stark contrast to caves in the Gobi-Altai where evidence of human occupation extending well back into the early Upper Pleistocene is widely documented. The known caves in Khovsgol *aimag* are not large, but certainly large enough for occasional human occupation. Explanations for the lack of archaeological materials in these caves may include, 1) caves in Khovsgol *aimag* do not commonly occur near sources of high quality raw materials for the production of stone tools (e.g., quartzite, chert, obsidian, etc.), 2) caves are located too far from potable water, and 3) periodic inundation of caves by water or ice during various paleoclimatic intervals. The third point bears important implications for future archaeological work in the region. In some areas, the local water table has apparently fluctuated tremendously, therefore in the search for additional archaeological sites, past water tables must not be assumed to have mimicked present-day circumstances.

Excavations of a stratified aceramic lithic assemblage on the east bank of the upper Egiin Gol (N 50° 14' 55.6", E 100° 05' 52.6") yielded a collection of several hundreds of artifacts and débitage in a datable context. The sandy-loess composition of the enclosing sediments made identification of distinct occupation horizons problematical, but the horizontal distribution of the artifacts themselves is highly suggestive. Most importantly a rock feature interpreted as a hearth near the north end of the excavation yielded a quantity of charred material sufficient for accelerator dating. An AMS date on this sample of 5340 ± 40 BP (Beta-170893), two-sigma calibrated to 6265-6235 BP and 6210-5995 BP, indicates mid-Holocene antiquity, perhaps correlated with the postglacial hypsithermal. The chronological and

behavioral relationships, if any, between this site and those discovered to the north on the shores of Khovsgol Nuur remain to be explored.

Archaeological Reconnaissance in the Darkhad Basin

In mid-June 2002 a three-day reconnaissance was undertaken of potential archaeological localities west of the Khor'dol Sar'dag range in northwestern Khovsgol *aimag*, north of the settlement of Ulaan Uul (N 50° 40' 20.7", E 99° 13' 18.8"). Although no unequivocal Pleistocene sites were discovered either in caves or open-air contexts, the reconnaissance was useful in identifying the presence of cave-rich limestone outcrops and extensive high strand lines of paleo-Tsagaan Nuur that may eventually be correlated with archaeological materials. The expedition's brief visit to the headwaters of the Little Yenisei River whetted our appetites for further work in the region since the topography and geology, as well as the presence nearby of Lake Tsagaan Nuur, all suggest the likely presence of prehistoric remains.

Archaeological Reconnaissance and Test Excavations in the Selenga Watershed

In late June, the expedition moved its focus of activities south and east to the middle reaches of the Selenga River and its tributaries. The expedition established a base camp at N 49° 07' 35.1", E 102° 47' 47.8" (1302 meters asl), a few kilometers south of Un't *bag* (brigade) in Khutag Öndör *suum*, Bulgan *aimag*. Over the course of the next ten days 15 localities were identified and investigated on loessic fluvial terraces on the west bank of the Tolbor River, south of its confluence with the Selenga. The localities investigated include:

Tolbor 01: N 49° 18' 35.8", E 102° 57' 46.9" (1017 meters asl)

Tolbor 02: N 49° 18' 02.4", E 102° 57' 53.3" (1059 meters asl)

Tolbor 03: N 49° 17' 52.3", E 102° 57' 56.1" (1050 meters asl)

Tolbor 04: N 49° 17' 28.5", E 102° 58' 08.4" (1073 meters asl)

Tolbor 4a: N 49° 17' 23.7", E 102° 58' 14.2" (1075 meters asl)

Tolbor 05: N 49° 17' 13.7", E 102° 58' 09.2" (1089 meters asl)

Tolbor 06: N 49° 14' 57.3", E 102° 57' 05.2" (1147 meters asl)

Tolbor 07: N 49° 13' 12.1", E 102° 55' 49.8" (1175 meters asl)

Tolbor 08: N 49° 13' 03.7", E 102° 55' 32.2" (1186 meters asl)

Tolbor 09: N 49° 12' 12.5", E 102° 54' 35.0" (1205 meters asl)

Tolbor 10: N 49° 12' 11.2", E 102° 54' 12.4" (1178 meters asl)

Tolbor 11: N 49° 10' 25.4", E 102° 51' 36.2" (1211 meters asl)

Tolbor 12: N 49° 10' 06.5", E 102° 51' 16.6" (1229 meters asl)

Tolbor 13: N 49° 09' 40.2", E 102° 49' 58.7" (1247 meters asl)

Tolbor 14: N 49° 09' 35.7", E 102° 49' 56.8" (1251 meters asl)

These localities represent primarily surface and shallowly buried occupations on fluvial terraces. All are aceramic and non-microlithic, and none yielded datable organic materials, although only one site (Tolbor 05) was subsurface tested. The typology of the aggregate Tolbor lithic assemblages suggests early Upper Paleolithic affinity; large side scrapers (*skreblo*), polyhedral cores, notched flakes, and large blades and blade fragments exhibiting secondary retouch dominate the collections. Typologically, these materials resemble a large blade assemblage excavated in 1999 by the Egiin Gol Survey Project at Site EGS 082, east of the Tolbor localities investigated by JMRAAE. A standard radiometric date of 27,000 ± 390 BP (Beta-136515) was derived from a *Bison* calcaneum recovered in good stratigraphic context at EGS 082 (William Honeychurch, personal communication 2002).

Conclusions & Prospects

The bulk of the 2002 archaeological and other collections have been transported to Novosibirsk, Russia and Tucson, Arizona where better facilities than those currently available in Ulaanbaatar will allow artifacts and other samples to be thoroughly analyzed before our next field season.

The joint expedition's goals will continue to include elucidation of the initial peopling of Mongolia and subsequent population dynamics. Results of chronometric and other analyses currently

underway will refine these general goals in the context of strategic planning for JMRAAE's 2004 expedition.

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