

***THE PALEOLITHIC ARCHAEOLOGY OF
THE GOBI DESERT, MONGOLIA***

1995 FIELD REPORT*

A Preliminary Description of Activities of the
Joint Mongolian-Russian-American Archaeological Expedition (JMRAAE)
in 1995

by

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Introduction

During the months of June through early August 1995 our combined team of Americans, Russians, and Mongolians implemented a course of Palaeolithic archaeological field research that sets the stage for cooperative expeditions of this type through the end of the decade and beyond. Before field investigations began, the three sides concluded a five-year (1995-1999) memorandum of understanding that grants our combined expedition official and unrestricted access to two of Mongolia's largest southern provinces (Bayan Hongor and Gov' Altai *aimags*). A third province (Ovor Hangai), and possibly a fourth (Omnogov'), may be added to the expedition's authorized territory in 1996.

The American and Russian participants in the 1995 expedition, totalling 15 persons, convened in Novosibirsk at the end of May where equipment and provisions unavailable in Mongolia were purchased and packed in three Russian vehicles (two 2.5-ton lorries and a seven-passenger van) which then drove in convoy for six days from Novosibirsk to Ulaanbaatar via Lake Baikal, crossing the Mongolian frontier south of Kyakhta. No unforeseen difficulties were experienced at the border and the convoy arrived in Ulaanbaatar without incident.

Excavations in Tsagaan Agui Cave

Following several days of discussion at the Mongolian Academy of Sciences which culminated in the trilateral agreement referred to above, the full party of 24 participants set off for southern Mongolia where a base camp was established and excavations initiated in Tsagaan Agui (White Cave), located at N 44°42', E 101°10' in the eastern Gobi Altai range.

Discovered in September 1987 and tested in 1988 and 1989 by the former Joint Soviet-Mongolian Historico-Cultural Expedition, Tsagaan Agui is a solution cavity formed in a dolomitic limestone outlier of the Ikh Bogd Uul range. The cave's main rooms, including a narrow, inclining (25°) entryway and a rotunda-like main chamber, total 38 meters in length while the width of the cave at the drip line is 7.9 meters. The main chamber's height averages four to five meters and its anterior, western margin is presently exposed to the sky by a solution chimney approximately two meters in diameter. There are, in addition, at least two smaller chambers behind the main rotunda that are now nearly filled with debris and can only be reached by crawling on one's stomach through a four to five meter-long passage. These innermost chambers were not systematically investigated during the 1995 field season and may not be in future out of deference to local inhabitants who continue to use that area of the cave complex as a locus for ritual activity.

In 1988 and 1989, the joint Soviet-Mongolian expeditions excavated a 16 x 2 to 6 meter trench spanning the drip line along the south margin of the cave's inclined entryway. In 1995 we cut back the north profile of that trench an additional 50 cm and extended it two meters east into the cave's main chamber. Reaching bedrock at depths of as much as three meters, this trench yielded stratified stone tools and vertebrate fossils, including a range of microfaunal remains, currently under analysis. A 2 x 2 x 4.5 meter *sondage* was excavated in 1995 near the northeast margin of the main chamber in the hope that the stratigraphy of that area and the cave's entry passage might be correlated. Analysis of these profiles as well as artifacts and animal (including microfaunal) remains encountered in the *sondage* is currently underway. Red ochre geometric drawings discovered in the main rotunda appear similar to known Bronze Age images but their absolute antiquity cannot yet be determined. The cave's "lower grotto" was also partially excavated in 1995 yielding several bifacial core tools unlike stone artifacts excavated elsewhere in Tsagaan Agui. This typological disparity and the presence of fully fossilized remains of *Equus*, *Gazella*, and other mammalian and avian species suggest this locus may ultimately prove to contain evidence of the cave's earliest inhabitants.

More than 800 stone artifacts were recovered in the Tsagaan Agui excavations in 1995. While all artifacts were preliminarily classified in the field, only 365 pieces have thus far been thoroughly analyzed. From these data, the following general conclusions can be drawn: (1) raw material appears exclusively local (within just a few hundred meters of the cave entrance) and consists mostly of jaspers and other cryptocrystalline quartz, (2) a stratified cultural sequence representing the late prehistoric/early Bronze Age through Middle Palaeolithic has been identified, (3) tools recovered from the deepest strata consist mostly of flake scrapers and comprise only a small portion (4%) of the lithic collection from these horizons, (4) flakes seem to have been derived from both prepared platform (Levallois-like) and polyhedral cores with primary reduction having taken place outside of the cave at the source of the raw material. The limestone massif containing Tsagaan Agui is littered with the waste products of lithic reduction. Just above the cave entrance a concentration of jasper and jasper-like cobbles was located, many of which are surrounded by large primary flakes and smaller *débitage* indicating in situ reduction. Preliminary mapping and sampling of this workshop was undertaken and detailed examination is planned for 1996.

Results of Reconnaissance Trips

With the successful initiation of excavations in Tsagaan Agui, a ten-member party embarked on three extended and several local reconnaissance trips designed to examine areas previously unexplored by the joint Russian-Mongolian expeditions. Complete circumnavigations of the Ikh Bogd Uul and Arts Bogd Uul ranges were completed as was a 250-km transect west-northwest of base camp along the north face of the main Gobi Altai massif yielding abundant evidence of long-term occupation by prehistoric populations. Particularly noteworthy is the discovery of an extensive quarry-workshop on the south face of Arts Bogd Uul with such abundant surface materials that a camp was established and work carried out at the site over a period of ten days. Called Tsakhiurtyn Hondii (Flint Valley) by local inhabitants, three randomly-selected loci (up to 25 square meters in area) were selected for thorough documentation and 100% sampling to provide the basis for statistical comparison of these surface occurrences with the excavated sequence from Tsagaan Agui as well as with open-air, buried fluvial terrace deposits in the Nariyn-gol and Orkhon valleys. The Flint Valley assemblages are impressive both in terms of their areal extent and richness (densities exceeding 1000 artifacts per square meter were recorded over an area of nearly three square kilometers). Relatively pristine, unabraded microlithic cores and their products comprise one element of these surface occurrences while heavily worn, patinaed large cores and flake tools (the “Levallois” component described by earlier Soviet workers) point to a much earlier facies of utilization as well. While the Flint Valley locality is clearly a palimpsest, its abundance and typological evidence indicating a long period of use encourage us to return to the site for additional work in 1996.

Other reconnaissance trips undertaken in 1995 yielded scattered, mostly late prehistoric and Mongol-period archaeological traces at nearly every stop, but only trial excavations conducted in Chikhen Khuver rockshelter, some 200 kilometers west of Tsagaan Agui, produced stratified remains in an apparently undisturbed depositional context. The meter square that was opened in Chikhen Khuver yielded an aceramic microlithic assemblage underlain by a non-microlithic flake industry thought to reflect the Upper Pleistocene occupation of the region. It is not now known whether additional excavation in Chikhen Khuver rockshelter will bring to light earlier archaeological remains although additional testing is planned for 1996.

Shorter reconnaissance forays included visits to archaeological complexes first reported by the Andrews Central Asiatic Expeditions of the 1920s in the vicinity of Orog Nuur (Orok Nor) and the famous “Dune Dweller” sites near the Flaming Cliffs at Shabarakh Usu (Baindzak or Bayan Dzak).

Conclusions & Prospects

As part of our cooperative research agreement, the Tsagaan Agui and other collections have been transported to Novosibirsk, Russia where better facilities than those available in Ulaanbaatar will allow the remaining artifacts to be thoroughly analyzed before our next field season in 1996. Olsen and Richard Reeves (Geography, University of Arizona) will return to Novosibirsk in December, 1995 to participate in the analysis of these materials as well as assist in the preparation for publication of the first field season's annual report. Bone and geological (including stalactite) samples are being submitted for radiometric age determination to help refine the chronology of the cave sequence. Our trilateral agreement specifies that annual reports will be produced in Russian and English with a Mongolian abstract. Although the Novosibirsk branch of the Russian Academy of Sciences will publish these annual reports, preparation of a monographic treatment of the Tsagaan Agui excavations is planned for publication in the U.S.

Limitations of space prevent us from fully describing the degree to which all three sides contributed to the practical implementation of this course of research. The high degree of cooperation that characterized the summer's work cannot be underestimated in terms of its impact on the acquisition and analysis of the data described in this report. During discussions held in Ulaanbaatar after our return from the field, it was agreed that immediate goals for 1996 include continued excavation of Tsagaan Agui's main chamber, further testing of Chikhen Khuver rockshelter, and additional reconnaissance and analysis of the Tsakhiurtyn Hondii localities. Results of analyses currently underway will refine these general goals in the context of strategic planning for expeditions to be carried out in 1997-1999.

Summary

In June 1995, American, Russian, and Mongolian archaeologists signed a memorandum of understanding outlining five years of trilateral cooperative research on the Palaeolithic archaeology of Mongolia. Fieldwork initiated in June through August focused on the recovery of buried remains as well as surface traces in several areas of the Gobi Altai range. Test excavations of a limestone cave, Tsagaan Agui, yielded a stratified sequence of stone artifacts and well-preserved faunal remains spanning the period from the Bronze Age to the Middle Palaeolithic. Bedrock has not yet been encountered in soundings in the cave's main chamber, thus earlier archaeological assemblages may be discovered below the currently excavated horizons. A smaller rockshelter, Chikhen Khuver, was tested and found to enclose a stratified sequence of probable Upper Pleistocene prehistoric materials.

Extensive quarry-workshops were discovered in an area of the eastern Gobi Altai district (Tsakhiurtyn Hondii or Flint Valley) unexplored by previous Soviet and Mongolian expeditions. These open-air palimpsests were sampled intensively and hold promise as a source of vital information on typological variability and raw material use over a long period; perhaps the whole of the Pleistocene and early Holocene.

Plans for future fieldwork include continued excavations in Tsagaan Agui and Chikhen Khuver, further investigation of the Tsakhiurtyn Hondii localities, and the search for additional stratified cultural sequences.