

## A XIONGNU TOMB COMPLEX: EXCAVATIONS AT GOL MOD 2 CEMETERY, MONGOLIA (2002-05)

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**Abstract.** In July 2001, the 'Khanuy Valley Project on Early Nomadic Pastoralism in Mongolia' located and mapped a large cemetery believed to be associated with the Xiongnu. Named Gol Mod 2, the cemetery is located north of the Khangai mountain range in central-north Mongolia, some 12 kilometers east of the river Khanuy in Arkhangai aimag's Ondor Ulaan sum, in a sandy level area of the valley's flanking hills at an elevation of 1800 meters (N48°00'00" E101°13'00"). The cemetery, which measures 2.2 km west-east and 1.3 km north-south, consists of over 400 burials. Since the initial discovery and mapping of Gol Mod 2 in 2001, the Khanuy Valley project has carried out three field seasons at the cemetery (in 2002, 2004, and 2005). Work has focused on the excavation of 27 satellite burials arranged in an arc along the east side of the cemetery's prominent 'Tomb 1 complex. In conjunction with the on-going analysis and publication of the excavated material discussed in this paper, upcoming field seasons at Gol Mod 2 will focus on the excavation of the burial under the central platform and of the large burial #28 beside it. Exploratory excavations in the vicinity of the Tomb 1 complex will also be carried out in the hope that other (possibly non-funerary) structures may be located. The excavation of all features present at Tomb 1 complex is certain to provide a more complete and inclusive view of funerary behavior as it pertains to the Xiongnu nomadic elite, while investigations of smaller elite burials will prove useful in helping to clarify Xiongnu socio-political structure.

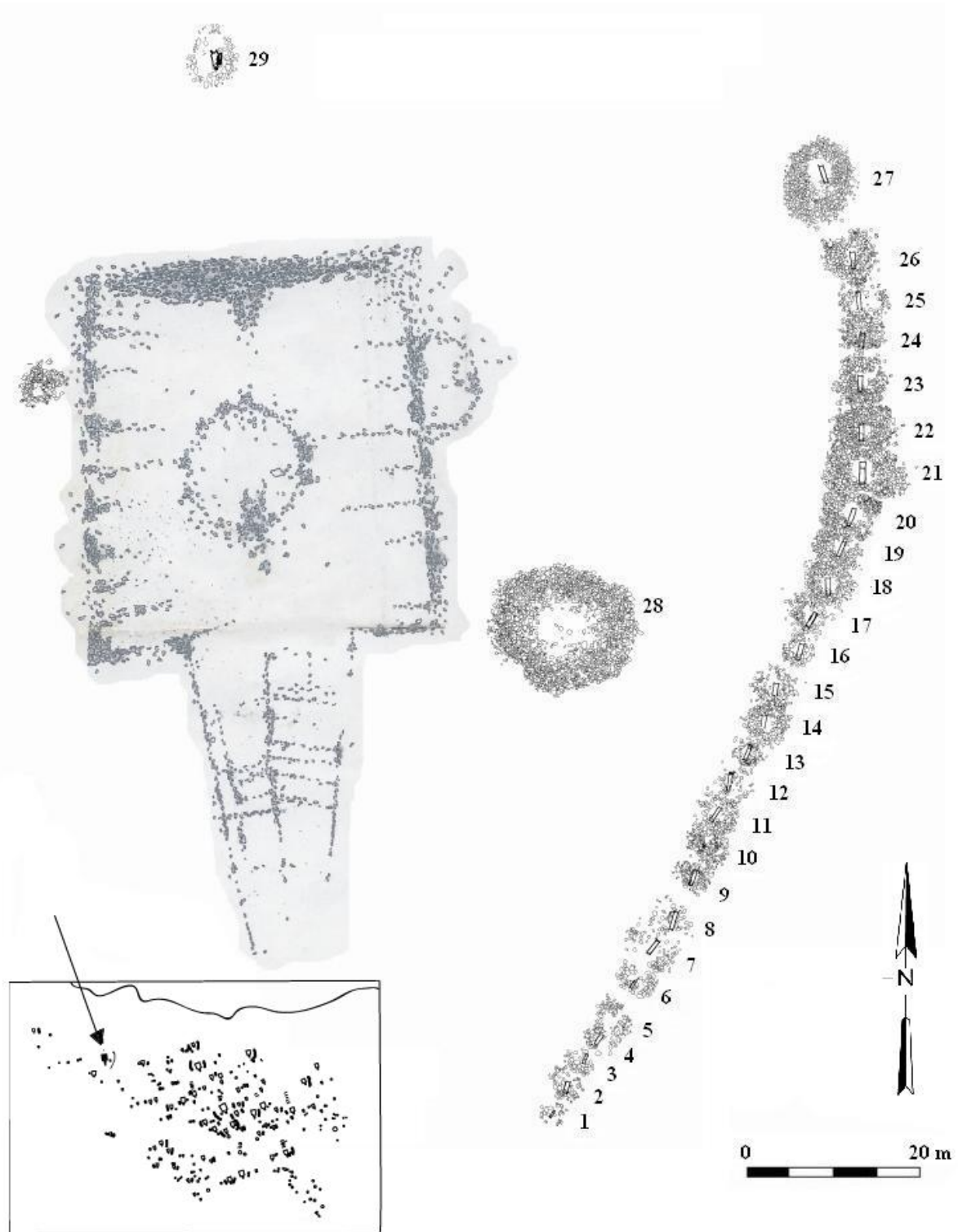
In July 2001, the 'Khanuy Valley Project on Early Nomadic Pastoralism in Mongolia' located and mapped a large cemetery believed to be associated with the Xiongnu, a powerful confederacy of mobile pastoralists that is mentioned in China's Han dynasty texts and that came to occupy portions of present-day Mongolia and surrounding regions between the 3<sup>rd</sup> century BCE and 2<sup>nd</sup> century CE (Allard et al. 2002). Named Gol Mod 2, the cemetery is located north of the Khangai mountain range in central-north Mongolia, some 12 kilometers east of the river Khanuy in Arkhangai aimag's Ondor Ulaan sum, in a sandy level area of the

valley's flanking hills at an elevation of 1800 meters (N48°00'00" E101°13'00"). The cemetery, which measures 2.2 km west-east and 1.3 km north-south, consists of over 400 burials (see inset in Fig. 1). Of note, the burials include a total of 98 tombs whose external visible structure consists of a ramp leading up to a (usually) four-sided platform. Total tomb length (including the ramp and platform) ranges from 8 to 83 meters, while the orientation of the tombs (looking up from the ramp toward the platform) varies between 329° and 002° (i.e. northwest – north), with the tombs generally pointing toward the bottom of the gentler slope and the stream. The survey also identified and mapped a total of about 250 small circular 'satellite burials' that were usually placed in an arc on the east or west side of some of the largest ramped tombs. A third category of tombs includes approximately 85 large, circular, and apparently independent burials whose maximum diameter is 28.3 meters. The limited visibility of surface stones sometimes hinders the identification of individual satellite tombs, while their location does not always permit a clear determination of whether they are associated with a ramped tomb, or are in fact independent circular burials.

Since the initial discovery and mapping of Gol Mod 2 in 2001, the Khanuy Valley project has carried out three field seasons at the cemetery (in 2002, 2004, and 2005). Work has focused on the excavation of 27 satellite burials arranged in an arc along the east side of the cemetery's prominent 'Tomb 1 complex', whose (as yet unexcavated) 83 meter long ramp-platform tomb is the largest Xiongnu burial known to date anywhere (Fig. 1). This brief report focuses on the results of the excavations of satellite burials #1 - 27, as well as burial #29, which is located to the immediate north of the platform.

## RESULTS

As the most prominent funerary construction at the Gol Mod 2 cemetery, Tomb 1 complex has provided an opportunity to investigate the structure and contents of a large set of associated satellite burials, the excavation of which has occupied the project's field activities at the cemetery since 2002. Even though grass and a layer of sediments covered the entire tomb complex when first mapped in 2001, the protruding stones of the burial arc permitted the recognition of one visually arresting feature, namely a general – but on occasion interrupted – trend of increasing burial size as one moves 'up' (i.e. from south to north) the arc. While the subsequent removal of overlying sediments identified a few mistakes in our initial assessment of the location and size of the smaller burials, the overall impression of a planned set of burials was in fact further reinforced by such excavations.



**Fig.1** Tomb 1 complex and its location in the Gol Mod 2 cemetery (inset): Burial number and coffin placement are indicated for each of the satellite burials. Surface stones mark the outline and structure of the central ramped tomb, which has yet to be excavated.

The excavation of the arc's 27 satellite burials, all of which appear to have been looted in the past, has revealed a number of additional trends in the structure and contents of the burials, while also yielding artifactual and other evidence that marks Tomb 1 complex as a

significant funerary structure dating to the Xiongnu period. No less important, such evidence also provides insights into issues such as Xiongnu social dynamics, funerary practice and external relations, the discussion of which has heretofore frequently revolved around the interpretation of Chinese texts that are often incomplete and biased in their discussion of the Han's horse-riding northern neighbors. Without a doubt, such discussion is certain to benefit from the systematic excavation of Xiongnu sites and the interpretation of their archaeological remains, efforts which include work already completed at sites similar to Gol Mod 2 (Navaan 1999; Mission 2003; Dorjsuren 1961; Rudenko 1969; Kato et al. 1994; Konovalov 1976; Miniaev and Sakharovskaya 2002) as well as projects presently being conducted at various other cemeteries and settlements. The following sections review the main results of our investigations at Tomb 1 complex. Table 1 provides a summary of these same results.

### **Burial Pits and Coffins**

The removal of sediments overlying the twenty-seven satellite burials located to the east of the central ramped tomb revealed that adjacent burials were placed next to one another so as to form a continuous arc whose curvature was greatest at its northern end. All of the arc's burials were dug into sand. Although the circular ring of stones defining the surface perimeter of each burial was sometimes irregular in shape, an overall - and, again, sometimes interrupted - trend of increasingly large surface circles is evident as one moves up the arc. Keeping in mind that looting of these burials in the past disrupted and in many cases extended the surface appearance of the circles, a clear contrast nevertheless remains between burial #1, whose surface stones cover an area roughly three meters wide, and burials #21 and 27, the surface demarcations of which are three to four times larger. One noteworthy exception to this trend is the section of the arc encompassed by burials #22 - 26, whose surface circles are all smaller than that of burials #21 and 27.

The pits of each satellite burial contained the remnants of a wooden coffin, except for burial #5, from which no wooden fragments were recovered. The depth of the burial pits (measured as the depth of the coffin bottom below the present surface) ranged from 101 cm to 235 cm. Although the correlation between burial number and coffin depth is not very strong, the northern portion of the arc tends to have deeper burials than the southern end (Fig. 4). The coffins are typically long, narrow, and trapezoidal in shape, with the upper end slightly wider than the lower end, and the sides often extending beyond the coffin ends (Figs. 2 and 3). Along with the more common single coffins, internments also included four coffins surrounded by a stone cyst (burials #17, 22, 23, 27), one inner coffin surrounded by wooden

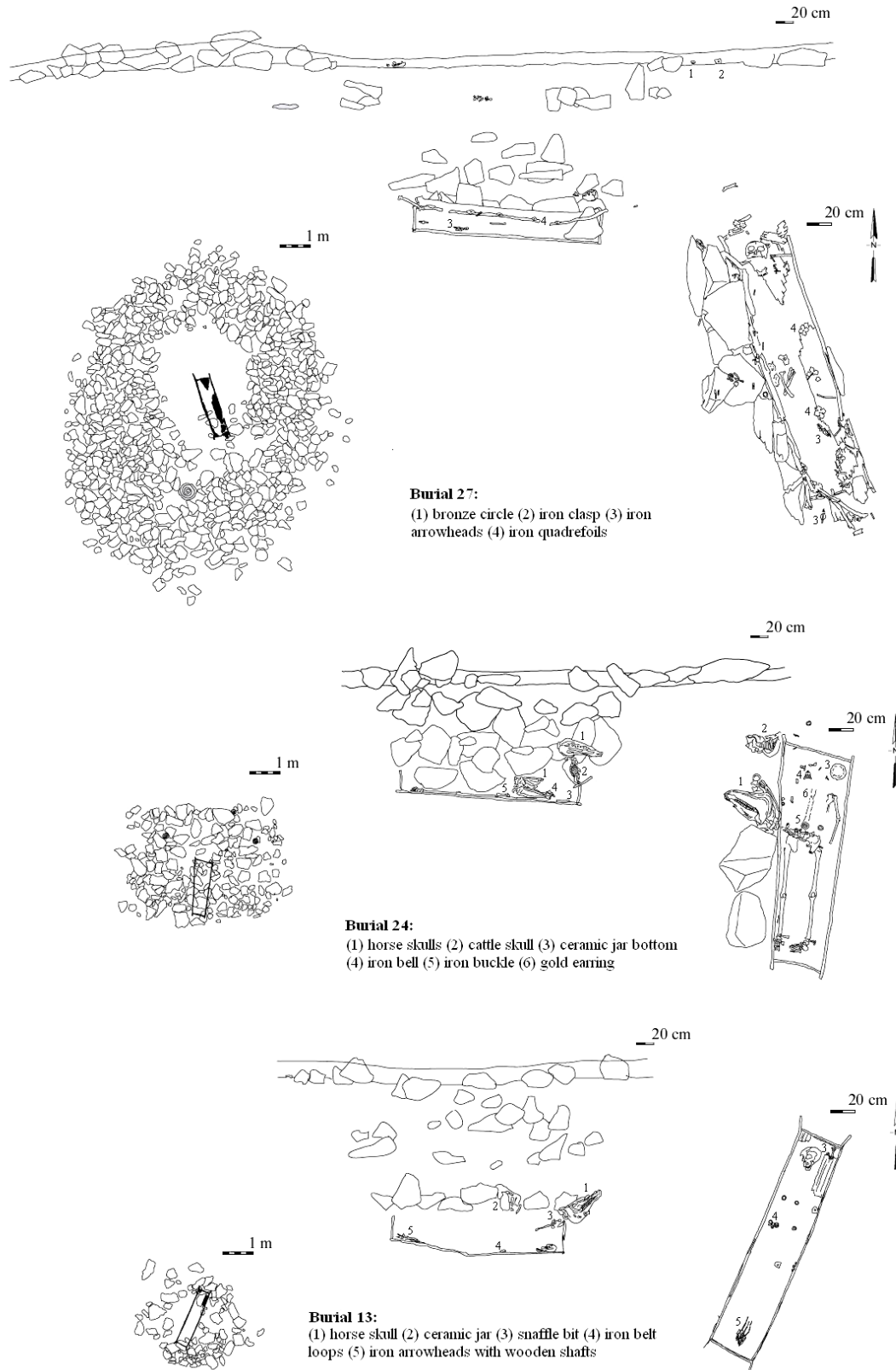
walls and capped with a lid of half-cut logs (burial #21), and two coffins with lattice work and quadrefoil iron decoration (burials #21 and 27). Putting aside the generally shorter coffins #1-4 and the much larger coffin #21, there is little evidence of a correlation between burial # and coffin length (Fig. 5). One further noteworthy trait is coffin orientation, which ranges from 344 to 35 degrees (i.e. from slightly west of north to northeast), and which is marked by an overall trend of counterclockwise rotation as one moves up the arc (Fig. 6).

### **Human Remains**

Twenty three of the 27 burials were found to contain human skeletal remains. The overall preservation of the remains was very poor, with no individual represented by more than 25% of the skeleton. Problems of preservation included the total absence of certain skeletal elements, the erosion of the ends of long bones, as well as the exfoliation of bone surfaces and tooth enamel. Some of the burials with no human remains contained only a faint outline of the skeleton along the bottom of the coffin.

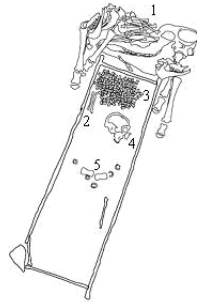
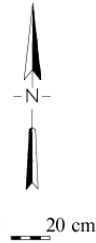
The sex of the individuals was determined, when available, from cranial morphology, overall robusticity, femur head diameter, and pelvic shape. Of the 23 sets of human remains available, nine were determined to be male. Owing to the fragmentary nature of the remains and/or young age of the interred individuals, sex could not be determined for the other twelve individuals, although two of these were probably male. Age determination was based on traits such as tooth eruption, relative tooth wear, epiphyseal union, and cranial suture fusion. For each of the 23 sets of human remains, age estimates are presented as ranges, with those seven individuals simply identified as ‘adult’ determined here to fall between 20 and 50 years old (Fig. 7). Even though the ranges preclude the identification of clear trends in the age of the deceased along the arc, it is at least possible to say that the majority of interred individuals were over 20 years old, with the internment of children and adolescents in the arc’s southernmost burials contrasting with that of older individuals in the rest of the arc. Above 20 years old (i.e. beyond burial #6), the location of the burial in the arc does not appear to be predictive of the age of the deceased, although more precise ages – particularly in regard to the seven ‘adults’ - might identify a stronger correlation.

Stature (calculated from femur length) could only be determined for two males (burials #8 and 16). Their height, ranging between 158 and 170 cm, is similar to the 159 – 173 cm range estimated for the males excavated at the Xiongnu cemetery of Egiin Gol (Bass 1987; Nelson and Naran 1999; Waldron 1994).

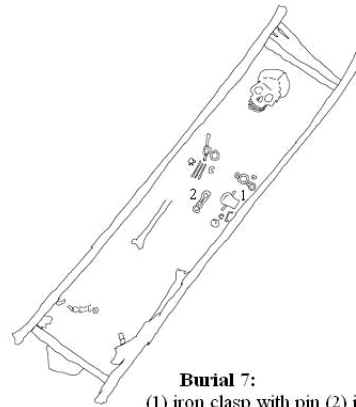


**Fig.2** Surface Stones (with relative placement of coffin), Cross-section, Coffin Level Plan, and Contents of Burials

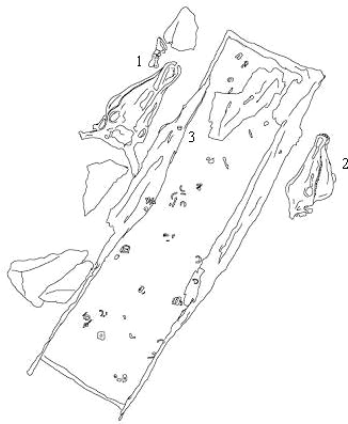
EXCAVATIONS AT GOL MOD 2 CEMETERY, MONGOLIA (2002-05)



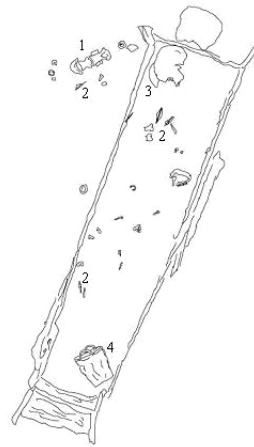
**Burial 3:**  
 (1) horse and sheep skulls and lower legs (2) sheep ribs (3) astragali (4) iron circle (5) iron clasps and rings



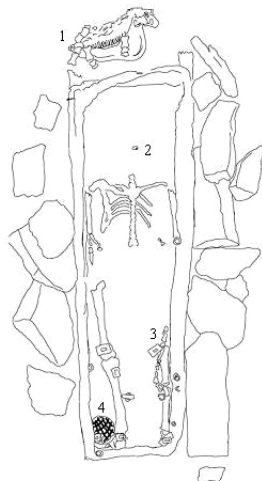
**Burial 7:**  
 (1) iron clasp with pin (2) iron strapping loop



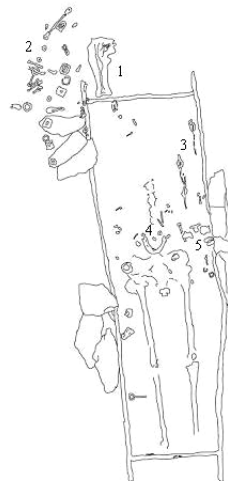
**Burial 17:**  
 (1) cattle skull and hoof (2) horse skull and hoof (3) amber spool bead



**Burial 20:**  
 (1) horse hooves (2) iron arrowheads (3) bronze Chinese mirror (4) iron cauldron

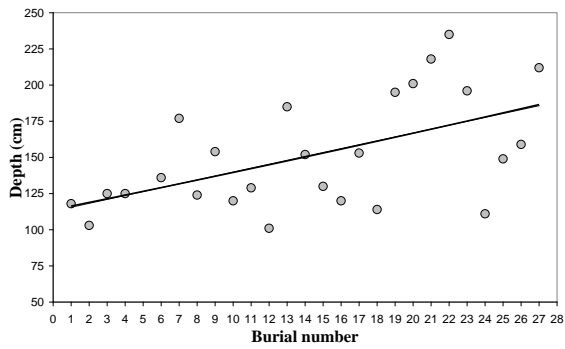


**Burial 22:**  
 (1) horse skull and hooves (2) amber bead (3) iron blade, broken (4) bronze mirror wrapped in textile

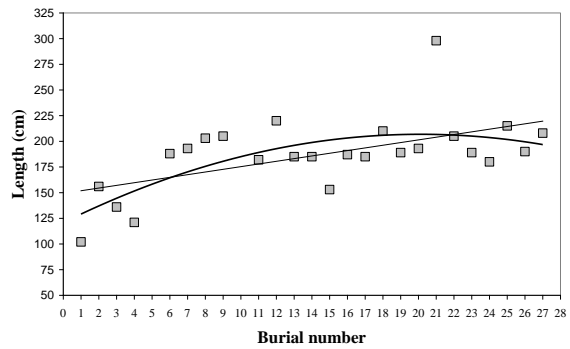


**Burial 26:**  
 (1) horse scapula (2) iron horse trappings - rings, buckles, shanks, snaffle bit (3) iron arrowheads (4) iron circle (5) iron clasp with gold foil

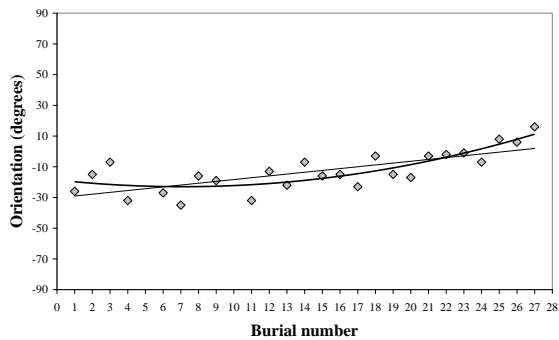
**Fig.3 Coffin Level Plan and Contents of Burials**



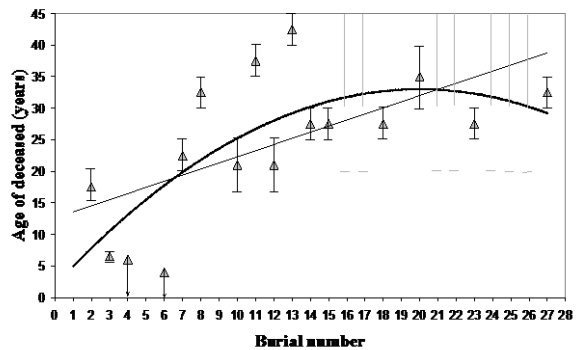
**Fig.4** Burial Depth (cm below present surface)



**Fig.5** Coffin Length (cm)



**Fig.6** Coffin Orientation



**Fig.7** Average Age of Deceased (with age ranges and grey lines for tentative range of 'adults')

Due to the poor preservation of bone and small quantity of bones recovered, an assessment of the overall disease load of this population could not be carried out. Of the four individuals exhibiting mild arthritic lipping of the bone, three had arthritis in the upper neck region (possibly due to movement of the head during long periods of horseback riding), while the fourth had arthritis in the temporomandibular joint (probably related to antemortem tooth loss and compensation during mastication). The individual in burial #27 exhibited evidence of a blade-type wound above the left eye orbit, most likely a sword cut consistent with a right-handed blow by an opponent to the left side of the face. There was no evidence of healing and the person died shortly afterwards.

No dental caries were found in this population, a finding consistent with a diet low in sugar and carbohydrates. Five individuals exhibited chipping of the dental enamel, suggesting the possibility that they used their teeth as tools or to bite on hard objects (Aufderheide and Rodriguez-Martin 1998; Larsen 1997). The cranial and dental morphology of the available skulls suggests that these individuals were biologically Asian. Traits common to the populations of Mongolia and China include a high frequency of shovel-shaped incisors and



Carabelli's cusps, the presence of supernumerary ossicles in the skull, the failure of suture fusion, as well as congenitally missing or smaller third molars. More specifically, the morphology and nonmetric traits of the skulls and teeth suggest not only that the individuals buried in the arc were Xiongnu, but also that they may have been related. Thus, the high oval skulls of this burial population are typical of skulls recovered from other Xiongnu burials in Mongolia and China, while many of the burials in the arc shared a mandibular and palatine torus, as well as cranial ossicles. Interestingly, the man interred in burial #27 lacked these traits and had a low, rounded skull, while his teeth exhibited a slower rate of enamel wear than that of dentitions recovered from other burials in the arc. Possibly, this individual spent his earlier years in another region and came to the region of Gol Mod 2 later in life. Of possible relevance is the fact that a low rounded skull is typical of Xianbei individuals, whose core area is believed to have been in eastern Mongolia or Manchuria (Su 1977).

### **Faunal Remains**

Twenty three of the twenty nine satellite burials excavated contained faunal material. These remains were limited to the following taxons: horse, cow, and sheep/goat. The recovered skeletal elements included mostly the bones of the skull, vertebrae, and lower limbs (podials, metapodials, and phalanges), a pattern found to be fairly consistent among all three taxons as well as in other Xiongnu graves in Mongolia and Buryatia. The distribution of animal remains varied between burials, with some containing a significant amount of faunal material (e.g. burial #21) and other burials (e.g. burial #14) limited to a single bone or bone fragment. The overall preservation of the faunal remains was fairly good. However, as was the case with the human remains, most of the bones located on or near the coffin had suffered from severe root damage.

Of the twenty-seven satellite burials in the arc, fourteen contained horse remains. The bones recovered consisted mainly of skull, cervical vertebrae, and lower limb elements. Of the fourteen burials, seven contained complete horse skulls, for a total of nine skulls. The remains of ten horses from eight burials could be aged on the basis of tooth eruption sequences or wear patterns of the lower incisors, including the nine skulls as well as mandible fragments and teeth from burial #19. Eight of the horses were between two and six years of age, while two horses from burials #22 and 24 were determined to be approximately 10 years and 15-17 years respectively. The sex of seven horses was also determined: three males and four females. Cut marks were found on the mandibles of the horse skull from burial #13 and two of the mandibles from burial #24. One of the horses in burial #24 had a significantly

larger and deeper cut mark on the right mandible, which looks to have been made by a different implement than those that were found on the other skulls. No cut marks were found on any of the recovered horse vertebrae.

Cow remains were present in only five of the twenty-seven burials, with burial #24 containing the remains of two cows. As in the case of the horse remains, recovered cow bones included mostly skull, vertebrae, and lower limb elements. Four of the six individuals were aged on the basis of average tooth eruption sequences: one between 2-2½ years and three over 2½ years. A fifth was aged by the presence of unfused epiphyses, indicating it not yet reached maturity. None of the cow remains could be sexed. Cut marks were identified on three mandibles and on one of the cervical vertebrae.

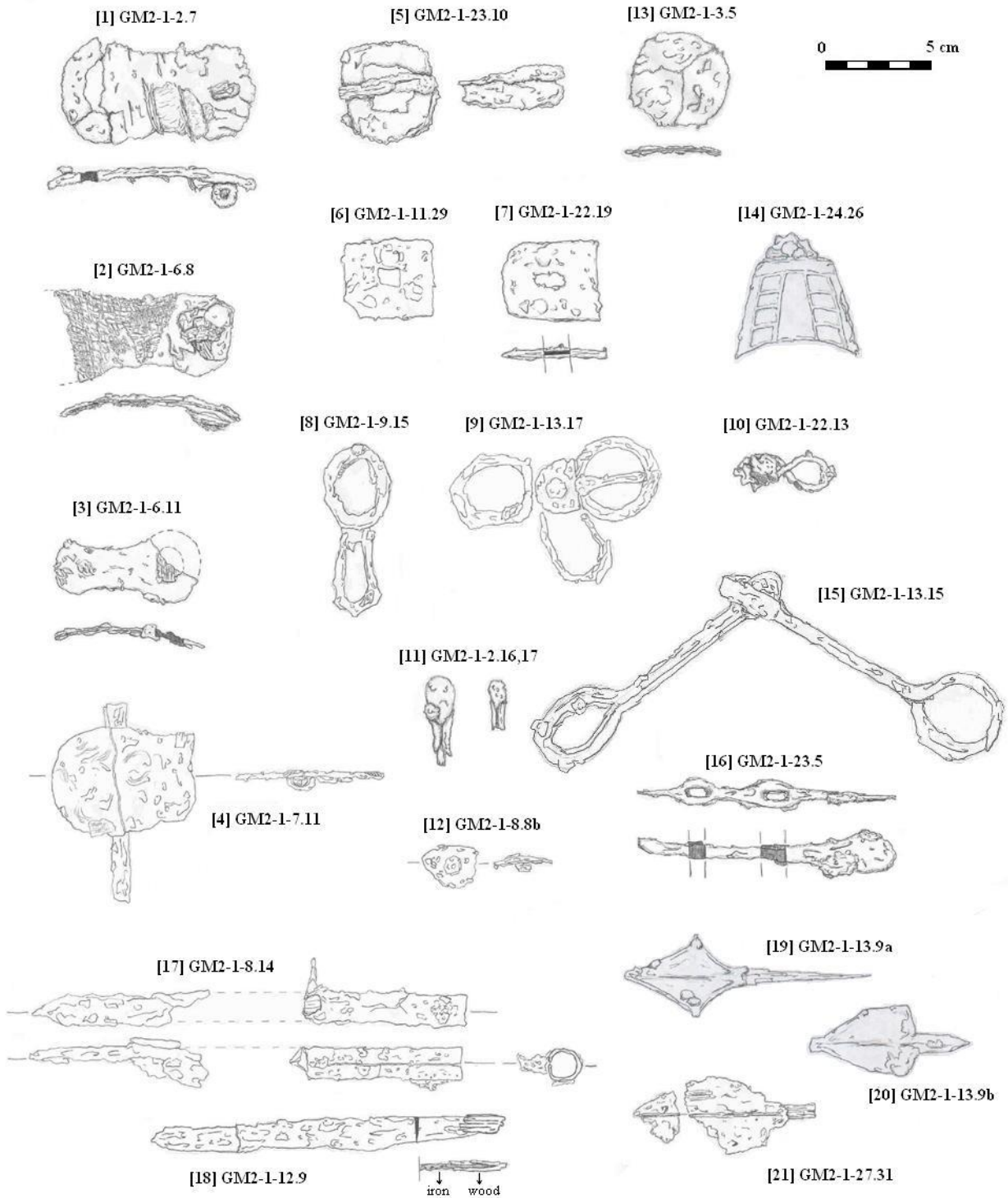
Eleven burials within the arc contained the remains of sheep/goats. Again, these remains consisted mainly of skull, vertebrae and lower limb elements, though most of these were fragmentary. Using the presence of unfused epiphyses as an indicator of age, it is believed that most of the sheep/goats were not mature at time of death. A more precise age of the individual in burial #24 (9-12 months) was determined by using average tooth eruption sequences. The four individuals from burial #3, whose skulls were fairly complete, are also thought to have been immature on the basis of the presence of deciduous teeth. The sex of the sheep/goat remains could not be determined. The only modified bone was a humerus in burial #8, whose distal end had cut marks.

Of note is burial #21, which contained the skull, vertebrae and lower limb bones of an adult female horse and two cows, as well as numerous fragments of mandibles, maxilla and lower limb bones of sheep/goat. While these are typical remains, the faunal assemblage also included the sacrum – but no pelvis – of the horse and two cows. An even more unusual deposit of animal bones was recovered from burial #29, which lies to the immediate north of the central tomb platform, and thus some distance from the arc of graves discussed thus far. The structure of the burial closely resembles that of the arc's burials: a stone circle marking the surface and a pit that is well over a meter deep. However, in contrast to the arc's human internments, burial #29 contained only the remains of a single horse, oriented toward the north (like the human burials) and missing the head and two vertebrae. The absence of the head precluded the sexing and aging of this individual, though the presence of fully fused bones suggests that it is an adult.

## Artifacts

Even though every satellite burial in the arc seems to have been looted, the excavations recovered a large number of typical as well as more unusual artifacts, some of which appear not to have been disturbed during the looting activity. Iron artifacts, which make up the bulk of the recovered assemblages, include a range of objects worn by humans or horses as decorative pieces or equipment: belt clasps, buckles, strappings, loops, buttons, bits, rings, pins, as well other pieces whose corroded appearance does not permit a precise identification of function. Other iron artifacts include knives, nails, arrowheads, blades, a cauldron and a bell (Table 1 and Fig. 8). Ceramic vessels are most often represented by a small number of dark grey sandy-tempered sherds, and occasionally by an almost complete vessel. The sherds belong to a range of small wide-mouth jars and larger wide-shouldered, tapered bottom vessels, both of which are commonly found at other Xiongnu sites.

Of particular interest are the following unusual artifacts recovered from many of the burials, a fact of some significance as it points to the likelihood of larger numbers of such finds prior the looting of the burials (Fig. 9). Fragments of bronze vessels and other items were found in burials #16 and 25. A typical steppe-style iron cauldron with two handles was found in the southern portion of the coffin in burial #20 (Fig. 4), while seed remains – whose identification awaits analysis – were found at the northern end of the coffin. The three amber beads recovered from burials #17 (Fig. 9.5), 21 and 22 are typical of bead necklaces found in Xiongnu graves elsewhere. A fragment of a polished green stone ring, perhaps belonging to an item similar in style to Chinese jade *bi* disks, was found near the surface of burial #26. Iron artifacts covered by a thin layer of pecked gold foil were found in burials #20, 21, 25 and 26. Burial #24 yielded a small gold loop earring, as well as a small iron bell (Fig. 8.14). Similar in form to the larger Chinese bronze bells, these smaller versions have also been found at other Xiongnu sites. The third item of interest in burial #24 was a ceramic pot bottom whose underside had a square impression with a raised trident-shaped mark (Fig. 9.4). This particular mark also appears on a vessel found at the site of Burkhan Tolgoi in northern Mongolia (Turbat et al. 2003). A total of 267 burnished sheep ankle bones (astragali) were concentrated in the northern end of the burial #3 coffin (Fig. 4). Of particular interest is the fact that 36 of the astragali were incised with symbols, some never seen before. Marked astragali are known from other sites, most especially the settlement site of Ivolga (Davydova 1995), though burial #3's incised astragali make up almost half of the known marked ankle bones of the Xiongnu period. These are still in the process of being analyzed (Erdenebaatar et al. 2002; Davaatseren 2006).



**Fig.8** Selected Iron artifacts:

1. clasp 2. clasp with textile remains 3. strapping 4. clasp with pin 5. square buckle 6-7. squares 8. strapping loops 9. strapping loops with buckle 10. twisted loop 11. garment ornaments 12. button 13. circle 14. bell 15. snaffle bit 16. shank 17. knife 18. blade 19,21. 3-wing arrowhead 20. three-wing tapered-point arrowhead

The last three artifacts of note include two bronze disks found in burials #21 and 22, and a Chinese ‘TLV’ bronze mirror recovered from burial #20. Each bronze disk was found wrapped in the remnants of multiple layers of textile and was accompanied by additional ornaments attached by a cord. The disk from burial #22 (Fig. 9.1) was found with stone beads, while the disk in burial #21 was found next to a small hollow bronze hemisphere with holes. Although they differ somewhat in style from one another, the overall simple form and decoration of the two disks contrasts significantly with that of the intricate Chinese bronze mirror. The Chinese ‘TLV’ mirror (Fig.9.2) corresponds to bronze mirrors from the Wang Mang period in China (9-23 CE) or soon thereafter<sup>1</sup>, thus allowing for a confirmation of the relative date of the site as early to mid 1<sup>st</sup> century CE.

## CONCLUSION

Despite past incidents of looting, the recovered artifact assemblages permit the identification of a number of noteworthy features. First, as is evident from Table 1 and the above list of exceptional artifacts, there is a general trend toward larger and more varied burial assemblages in the northern portion of the arc, with burials # 20-27 yielding the majority of such special artifacts. Secondly, it is likely that some of the artifacts were obtained – either through trade or conflict – from regions outside the Xiongnu territory. Thus, the Chinese ‘TLV’ mirror was very likely produced in the Han realm to the south, while objects such as the polished green stone piece and the small iron bell were, if not obtained from, at least inspired by materials from other regions (such as China). Third, a few of the burial assemblages point to the special status of the tomb occupant. For example, the sheep astragali were found in a child’s grave (burial #3), a fact of some interest since ankle bones are also found in burial contexts of later periods and continue to this day to be used as game pieces. The bronze discs, hemisphere, and beads recovered from the adjacent burials #21 and 22 suggest a special – and very possibly similar - role played by the tomb occupants while alive, while the two graves also illustrate the interruption of many of the previously discussed overall trends in funerary features witnessed along the arc. Thus, burial #21 possesses one of the two largest surface demarcations of stones, the largest set of burial furniture, one of only two coffins with lattice decoration (the other being burial #27), the second deepest coffin (the deepest being burial #22), and by far the most faunal remains. Such a convergence of attributes in this sector of the arc (i.e. at burials # 21 and 22) suggests the interment of two important individuals whose special role is suggested by the distinctive bronze artifacts and

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<sup>1</sup> We wish to thank Lai Guolong (University of Florida) for his reference on the relative date of this mirror.

beads mentioned above. Burial #27, located at northern end of the arc, is another large and well equipped burial whose occupant most likely held an important position in Xiongnu society, as may also be the case for the even larger – but as yet unexcavated – burial #28, whose prominent surface stone perimeter is located close to the central platform's southeast corner.

The surveys and excavations at Gol Mod 2 over the past three field seasons have revealed a well-planned mortuary complex that consists of a prominent ramp-platform tomb flanked by a set of satellite burials. The careful incorporation of the satellite burials into this funerary complex is illustrated by a number of features: the precise positioning and close proximity of the burials along the arc, the fact that the burials are more or less equidistant from the central platform, the fact that coffin orientation generally follows the line of the arc, the regular spacing from one coffin to the next, the placement of the most significant burials to the immediate east of the platform, as well as the alignment of burial #29 along the north-south axis which runs through the ramp and the middle of the platform. These patterns point to the possibility that the burial pits were open at the same time and that care was taken to place the coffins so as to ensure such consistency in orientation and spacing. Although some of the patterns are more distinct in the northern portion of the arc, it is possible that the arc's entire set of internments were conducted in this fashion.

In conjunction with the on-going analysis and publication of the excavated material discussed in this paper, upcoming field seasons at Gol Mod 2 will focus on the excavation of the burial under the central platform and of the large burial #28 beside it. Exploratory excavations in the vicinity of the Tomb 1 complex will also be carried out in the hope that other (possibly non-funerary) structures may be located. The excavation of all features present at Tomb 1 complex is certain to provide a more complete and inclusive view of funerary behavior as it pertains to the Xiongnu nomadic elite, while investigations of smaller elite burials will prove useful in helping to clarify Xiongnu socio-political structure.

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**Fig.9** Selected Unusual Finds: 1. Bronze disk wrapped in textile (burial #22) 2. Chinese ‘TLV’ bronze mirror (burial #20) 3. astragalus with mark (burial #3) 4. mark on ceramic bottom (burial #24) 5. amber spool-shaped bead (burial #17) 6. polished green stone (burial #26) 7. iron latticework and quadrefoil decoration on wood coffin (burial #27)



## ХУРААНГУЙ

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**ÃĪĒ ĨÄ-2 ÄÄŮŮ ŐŸĪŸ ÄŐĒŐĪŮ ŐĪÄŐĪĒÄĪŬŐ ŐĒĒŸĪ ĪÄĒŐÄÄÄ ŨŐÄÄĒÄÄ  
(2002-2005)**

ŐäĪäāēn ĩđđŏŏĪŮ đ°ā āĸñēēĪ ĩŏđāā, ÄđđŏäĪāē āēĪāēēĪ °Īä°đ-ŐēāāĪ ñŏĪŮĪ ŐäĪŏē āāāēēĪ ĩŏđāā ÄāēāññĪŮ đāēđ ĩđŏēđ ÄĪē Ĩä-2 āŸāŸā ĪŸđđŸē āāçāđ 2000 Ĩā ĨĪāĪē-ÄĪāđēēēēĪ đäĪđāđñāĪ äđđŏäĪēĪāēēĪ øēĪāēēāŸŸŸēē āĪāē ŐĸĪĪāēēĪ ŸçāŏŏđđĪŮ 250 āāđŏē āŏēø āĸđēē đĪññŏĪĪ ŐĪāŏĪēāĪđ ēēđĸĸēŸĪ Īēæ, āŸāñāŸđ çŏđāā đēēñĪŸŸñ ŐĪēø æēē āāđāāēāĪ ŏā ŐĪāŏĪēāĪđŮĪ 1-đ āŏēøĪŮ āāāŏŏē 30 āŏēøĪŮ 28-ēēā ĪŮ 2002-2005 Ĩŏŏāāā ĪāēđāĪ øēĪāēēæ ĸçñŸĪ ĩĪ. Īēēđ ĪāēđāĪ øēĪāēēñŸĪ āāāŏŏē āŏēøĪŏŏā ĪŮ 1-đ đñ āŏēøĪŮ ŸçŸŸā đāđŸŸāĪāāāæ āāēñāĪ æēđēēĪ ēđāŸāēēĪŐ āĪēĪŐ ĪŮ đĪāĪđŏĪē āāēĪā. Őā ŐĪāŏĪēāĪđŮĪ 1-đ āŏēø đŸĪāŸŸŸēē đŏāŸŸā ŸĪā āāēāāā Īēēđ āŏēøĪŏŏāāñ đäĪāēēĪ đñ ĪŮ ā°ā°ā ŸĪŸ āŏēøĪŮ çĸĸĪ đāēāāđ đāāāñ āŏāŏē đŸēāŸđŸŸđ, ŐŏāŏŏēāĪ āāēđēŏŏēñāĪ æēđēēĪ ēđāŸāēēĪ āŏēøĪŮ đäĪāēēĪ āĪā đāēŮĪ 1-đ, 3-đ, 4-đ, 5-đ, 6-đ æēæēā āŏēøĪāñ ŐĸĸŐāēēĪ āŏēø, āŏñāā āŏēøĪŏŏāāñ Īāñāñđ đĸđñŸĪ đĸĪēē ĩđŏŏŏēāā ēēđŸĪ ĪēāñĪĪ ā°ā°ā ŸāāŸŸđ āŏēøĪŏŏāāñ āāāđ, đäĪāāāē øāāāē, đĸđŸē đĪēŮ, ĨāĪĪ āāñĪŮ ĸēāŸāāŸē, āāñĪŮ āāāĪā đāēŮĪ đāĪāĪ đŸŸĪ đ°Īđ ÷ēĪŸāēŸē, °đ đ°Īđ ŸāēŸēēēĪ Īāø Īŏŏ đāāāāēāāāñāĪ ĸēāŸāāŸē đŸñāĸĸä, đĸĪ āĪēĪĪ ĪāēŮĪ ŸñĪŏŏā ēēŸđ÷ ĪēāñĪĪ ĩĪ. Īēēđ Īāñ āāđñāĪ đĸĸĸñēēā đĪēđ çĸāđ đāĪāŏŏēāĪ đāāŸŸñāĪ āĪēĪŐ ĪŮ đĪāĪđŏĪē āāēĪā. ÄāāāēāŏŏēāĪ đāāŸŸñāĪ Īēēđ 30 āŏēøĪŮ 28-đ āŏēøĪāñ āŏñāŸŸā ĪāēđāĪ øēĪāēēæ ĸçñŸĪ ā°ā°ā 1-đ đñ āŏēøĪŮ ÷āĪŐ āđā āāāāēāŏŏēāĪ đāāŸŸñāĪ 29-đ āŏēøēĪā đĪēāĪēāĸē āāŏŏĪŮ Ĩđŏŏŏēāā ĪēāñĪĪ āāēĪā.

**SATELLITE BURIALS OF TOMB COMPLEX 1, GOL MOD 2 CEMETERY**

<b>BURIAL №</b>	<b>DEPTH (cm)</b>	<b>ORIENTATION (degrees)</b>	<b>COFFIN TYPE</b>	<b>COFFIN SIZE: L x W (cm)</b>	<b>AGE (years)</b>	<b>SEX</b>	<b>FAUNAL REMAINS</b>	<b>IRON ARTIFACTS</b>	<b>OTHER ARTIFACTS</b>
1	118	26	Wood coffin with antechamber	102 x 24					Ceramic bottom sherd
2	103	15	Wood coffin	156 x 44	15-20		<u>Horse</u> : scapula fragment	Snaffle bit (?), 2 loops, 3 clasps, 3 rings, 4 buttons, 2 garment ornaments, 2 strappings	
3	125	7	Wood coffin	136 x 39	6-7		<u>Horse</u> : skull; atlas; 4 lower limbs <u>Sheep/Goat</u> : 4 skulls; 10 metapodials; 19 phalanges	6 rings, square buckle, clasp, button, circle	267 astragali (36 with markings)
4	125	32	Wood coffin	121 x 41	> 7			Square buckle, clasp, circle	
5			(no remains)					circle	
6	136	27	Wood coffin	188 x 40	> 5			2 rings, 2 clasps, square buckle, 2 strappings, loop, circle	Ceramic bottom sherd
7	177	35	Wood coffin	193 x 52	20-25	M	<u>Sheep/Goat</u> : humerus; 2 lumbar vertebrae	Hinge, 3 nails, 3 pins, clasp with pin, 3 buttons, 2 rings, 2 strapping loops, circle	Textile fragment
8	124	16	Wood coffin	203 x 55	30-35	M	<u>Sheep/Goat</u> : humerus; teeth fragments	Loop, button, nail, knife	
9	154	19	Wood coffin	205 x 46			<u>Sheep/Goat</u> : humerus; 4 long bone shaft fragments	Hinge, 2 rings, button, clasp, loop, strapping loops, 2 square buckles, strapping, blade, bladelette	
10	120	5-15	(coffin wood found)		17-25	M	<u>Sheep/Goat</u> : metapodial		
11	129	32	Wood coffin	182 x 52	35-40	M	<u>Horse</u> : skull; atlas; radius; ulna; 3 phalanges	4 rings, 6 buttons, square buckle, garment ornament, twisted loop, 4	

## EXCAVATIONS AT GOL MOD 2 CEMETERY, MONGOLIA (2002-05)

							<u>Cow</u> : horn <u>Sheep/Goat</u> : skull fragments; 3 incisors; humerus; 3 phalanges	squares, comb (?), 2 arrowheads, 5 arrowshafts	
12	101	13	Wood coffin	220 x 52	17-25			Ring, 2 chain links, blade	
13	185	22	Wood coffin	185 x 42	40-45		<u>Horse</u> : skull, incisors	2 rings, oval ring, square, 2 garment ornaments, square buckle, ring & square buckle, snaffle bit, 2 arrowheads, blade	Black ceramic wide-mouth jar
14	152	7	Wood coffin	185 x 60	25-30	M	<u>Cow</u> : rib shaft fragment	6 rings, 3 garment ornaments, 3 square buckles, 4 squares, ring buckle, button, clasp, loop, 3 strappings, snaffle bit fragments, 2 shanks, circle, 3 arrowheads	
15	130	16	Wood coffin	153 x 62	25-30		Indeterminate large mammal: metapodial shaft fragment	7 rings, strapping, clasp, hook, circle fragment	
16	120	15	Wood coffin	187 x 58	Adult	M			Bronze dish rim fragment
17	153	23	Stone cyst and wood coffin	185 x 51	Adult		<u>Horse</u> : skull; atlas; 4 podials; 6 phalanges <u>Cow</u> : skull; atlas; 4 phalanges	Square buckle, 7 rings, 2 strappings, snaffle bit, shank, 7 arrowheads	Black ceramic sherd, amber spool-shaped bead
18	114	3	Wood coffin	210 x 60	25-30	M	<u>Horse</u> : thoracic vertebra	2 square buckles, ring buckle, 3 garment ornaments, 3 buttons, strapping, clasp, 9 rings, scabbard piece (?), snaffle bit, 9 nails, 10 arrowheads	Black ceramic sherds, 3 black ceramic wide-mouth jars
19	195	15	Wood coffin with supported lid	189 x 45			<u>Horse</u> : mandible fragments; incisor; deciduous premolar; molar; 2 phalanges <u>Cow</u> : 3 phalanges <u>Sheep/Goat</u> : teeth fragments; phalange	Square loop, 2 oval loops, 7 rings, nail, circle	Black ceramic sherds, 2 black ceramic wide-mouth jars
20	201	17	Wood coffin	193 x 46	30-40	M	<u>Horse</u> : teeth fragments; 14 phalanges <u>Cow</u> : skull; 6 phalanges <u>Sheep/Goat</u> : mandible with dentition; maxilla with dentition; humerus; 11 phalanges	Cauldron, square buckle, loop, circle, 4 rings, 4 nails, 12 arrowheads, arrowhead shaft with whistler	Bronze Chinese TLV mirror (half), black ceramic sherds (from 3 vessels), gold foil (on iron fragments), seed

									remains
21	218	3	Outer wood chamber and inner wood coffin with iron latticework & quadrefoils	298 x 76 and 184 x 62	Adult		<u>Horse</u> : skull; cervical vertebra; lumber vertebra; radius; ulna; sacrum; 2 podials; 13 phalanges <u>Cow</u> : 2 skulls; 6 cervical vertebrae; lumbar vertebra; 2 sacrum; 4 podials; 6 metapodials; 26 phalanges <u>Sheep/Goat</u> : mandible fragments; maxilla fragments; teeth fragments; rib shaft fragments; femur; 3 podials; phalange	Twisted loop, 3 square buckles, 2 ring buckles, circle buckle with gold foil, 5 rings, ring with gold foil, 3 circles, bladelette, snaffle bit, 2 shanks, 16 arrowheads, arrowhead with whistler stem, 2 nails,	Bronze disk with bronze braided ring and bronze hemisphere (all wrapped in layered textiles); amber bead, gold foil (on iron fragments)
22	235	2	Stone cyst and wood coffin	205 x 62	Adult	M	<u>Horse</u> : skull; 9 podials; 10 phalanges	8 garment ornaments, twisted loop, square buckle, 3 strappings, 4 squares, 12 rings, cheek piece fragment, bladelette, long blade, 4 nails	Bronze disk with 2 stone beads (all wrapped in layered textiles), amber bead
23	196	1	Stone cyst and wood coffin	189 x 56	25-30	M	Indeterminate large mammal: ulna fragment	Nail, 3 cheek piece fragments, 4 rings, 3 oval rings, 3 square buckles	
24	111	7	Wood coffin	180 x 58	Adult		<u>Horse</u> : 3 skulls; 3 cervical vertebrae; podial; 2 phalanges <u>Cow</u> : skull; 3 podials; 5 phalanges <u>Sheep/Goat</u> : skull	Bell, 2 square buckles, 12 rings, garment ornament, 2 squares, 6 nails, circle	Black ceramic sherds and pot bottom (with mark), gold earring
25	149	352	Wood coffin	215 x 55	Adult		<u>Horse</u> : humerus	Clasp, 20 rings, 2 loops, 3 square buckles, 2 hooks, 4 nails, 3 arrowheads	Bronze vessel rim fragments, bronze sphere fragment, bronze piece with gold foil
26	159	354	Wood coffin	190 x 58	Adult		Indeterminate large mammal: long bone shaft fragment	2 clasps, 2 clasps with gold foil, ring with gold foil, 4 square buckles, round buckle, 9 rings, square, 5 nails, button, 2 joined oval loops, 4 arrowheads, knife, loop ended knife, <u>horse bridle equipment</u> : snaffle bit, 2 cheek	Green stone polished flat-ring fragment ( <i>bi?</i> ), gold foil, bronze fragment

EXCAVATIONS AT GOL MOD 2 CEMETERY, MONGOLIA (2002-05)

								pieces, 4 rings, 6 buttons, 3 square buckles, square loop, 2 garment ornaments, 3 oval buckles, twisted loop	
27	212	344	Stone cyst and wood coffin with iron latticework and quadrefoils	208 x 57	30-35	M	Horse: 3 premolars; tibia; 2 podials Sheep/Goat: skull fragments; thoracic vertebra fragments; rib shaft fragments; long bone shaft fragments; scapula fragment; humerus; radius; 10 podials; metapodial; 10 phalanges	2 square buckles, clasp, hook, 4 rings, oval ring, 4 arrowheads, arrowhead shaft, nail, latch	Bronze circle with back loop