

Iran: Arisman

Excavations in Arisman: Ancient Mining and Metallurgy in Western Central Iran

The Arisman Excavations are running since 2000 as a cooperation project between the Eurasia Section of the German Archaeological Institute, the Iranian Cultural Heritage Organization and the Geological Survey of Iran.

Location



General view of Arisman.
Karkas Mountains in the background.

The prehistoric settlement Arisman (Fig.: general view of the site with the Karkas Mountains in the background) is located about 60 km southeast of Kashan and 10 km east of Natanz, in Isfahan province. It consists of several separate elevations or shallow tells that cover several hectares along the northeastern foothills of the Karkas mountains, close to the desert fringe. They can be distinguished in three areas, Arisman I-III. Surface finds suggest settlement activities over the whole area from the late 5th to the 3rd millennium BC, while Arisman II must have also been in use during a later time, towards the end of the 2nd mill. BC.

Objectives

Arisman excavations form part of a larger project focussing on ancient mining and metallurgy in the western part of the Central Iranian Plateau that includes the prospection of ore resources, the documentation of ancient mining traces, and the investigation of prehistoric metal processing in a specialized settlement - Arisman. Investigating the cultural and historical development of western Central Iran at the crossroads between Susiana, Turkmenistan and Belutchistan is a second research objective.



Area A. Furnace of the Sialk IV period

History of Research

Excavations at the prehistoric metal working site Arisman, combined with archaeological and geological surveys in the vicinity of the site were conducted from 2000 to 2004 within the framework of the interdisciplinary research project "Early Mining and Metallurgy on the western Iranian Plateau", in cooperation with the Iranian Cultural Heritage and Tourism Organisation. Since 2005 the first phase of this work is completed and the results of the first five years are currently prepared for publication



Area B. Pottery kiln, Sialk III period

Previous Activities

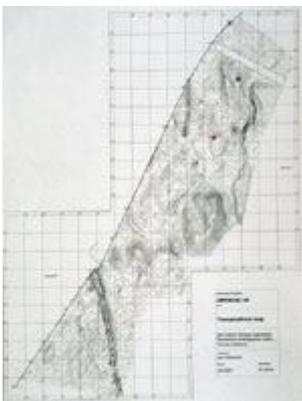
Following the topographical mapping and geophysical survey at Arisman I, five areas (areas A-E) were chosen for excavation. Altogether c. 1100 sqm. with a maximum of 1.6 m cultural layers were exposed. The vicinity of Arisman was also subject of archaeological and geological survey.



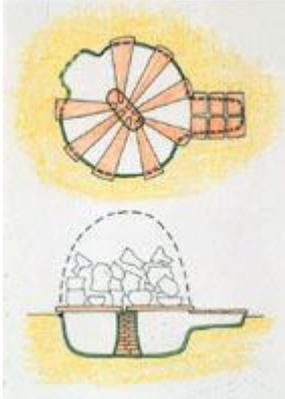
Area B. Fragments of litharge (Sialk III period)

Current Work

The results of the first five years of work are currently prepared for publication.



Arisman I-III, topographic plan



Area B. Reconstruction of the pottery kiln

Results



Arisman, area B. Mould (Sialk III period)



Area B. Painted pottery of the Sialk III period

Arisman was occupied from the first half of the 4th to the early 3rd mill. BC. The oldest occupation of the so-called "Sialk IV period" (first half - middle of 4th mill. BC) consists of domestic houses constructed from pisé, excavated in area B. Shortly after that, workshops existed in the ruins of these houses. Five pottery kilns demonstrate the technological skills of the time, when humans managed to conduct pottery firing at specific temperatures. The kilns are round with one combustion channel at one side. A column in the middle supported an intermediate floor, on which the pottery was stacked. The workshop dumps also contained waste from the copper- and silver production, such as crucibles, moulds and cupels. The installations where these materials were processed must have existed nearby, but were not located during the excavations.

The later occupation of the so-called "Sialk IV period" (c. 3000 BC) was exposed in area C. It consists of densely arranged, urban layout mudbrick houses. The brick format, the pottery and the seals demonstrate the cultural affiliation of Arisman with the Proto-Elamite culture. Metal workshops for the processing of copper and silver, such as large fire platforms, existed inside the houses. The copper used there to be cast in ingots, aes or other artifacts was first smelted in furnaces located the edge of the settlement.

These furnaces are an important technological innovation introduced during the Proto-Elamite period. They allow for the large-scale production of copper. The slag heaps in areas A, D and E are related to furnace smelting and consist of about 180 tons of slag. In area A, the respective furnace was exposed: it is a small mudbrick platform with a depression in the middle. The upper part of the furnace had to be constructed anew for every single smelting process and was covered with clay plaster. This furnace is one of the latest features exposed at Arisman. It dates to the first half of the 3rd mill. BC. It is contemporaneous with the latest usage of the houses in area C as a graveyard. There, the dead were deposited in large storage jars, and were accompanied with beads and copper ornaments.

Cooperation

Arisman excavations are a cooperation project including the Eurasia Department of the German Archaeological Institute, the Iranian Cultural Heritage Organisation (ICHO), the Geological Survey of Iran (GSI), the Department for Archaeometry at the University of Freiberg, and the German Mining Museum Bochum.



Area C. General view of trenches



Area C. Pithos grave of the Sialk IV-period



Area C. Pottery of the Sialk IV-period

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