

# **The First Record of the Earliest Silver, Enstatite Bead, and Metal Relics From the 5th-4th Millenia BCE Site of Tol-e Chega Sofla, Southwest Iran**

NIMA NEZAFATI<sup>1</sup> AND ABBAS MOGHADDAM<sup>2</sup>

<sup>1</sup>German Mininig Museum

<sup>2</sup>Iranian Center for Archaeological Research

Presenting Author: nima.nezafati@bergbaumuseum.de

The prehistoric site of Tol-e Chega Sofla is located in the most eastern fringes of Khuzestan Province, southwestern Iran, close to the northwestern coast of the Persian Gulf. The major archaeological finds of the site are related to the Late Fifth to Early Fourth millennia BCE and were discovered from both the cemetery and settlement areas of the site.

Recent archaeological excavations by the second author (2016) on the cemetery area of Chega Sofla unearthed diverse finds including different types of stone artifacts, beads, obsidian blades, gold and copper-based objects together with semi-precious stones. The age, diversity and sophistication of the archaeological finds together with particular location of the site (connecting the southern Zagros Mountains from Fars to Susiana, Mesopotamia and possibly Magan via the sea route of the Persian Gulf) make Chega Sofla an extraordinary interesting site for archaeometric studies.

Twenty samples of metal objects, whitish beads and rock fragments were investigated using ICP-MS, XRD, and EPMA. The results showed the presence of so far the earliest man-made enstatite beads in Iran as well as one of the most ancient silver objects. It was also revealed that the majority of copper-based artifacts were to some extent rich in arsenic, antimony, nickel and/or lead.

Since the outcrops of this part of the Zagros Mountains are relatively poor in mineral deposits, it seems that most of the raw materials for the site were imported from farther distances. In this regard, probably a partly oxidized sulfide polymetallic ore from central or northwest of Iran could have provided the ore for production of the metal artifacts. The raw material for production of enstatite beads were provided either from Luristan region or the ophiolitic outcrops along the Zagros Mountains.

The ongoing archaeometric investigations on the site can shed light on the provenance of the raw materials used and the technological and trade developments of the ancient craftsmanship during the initial emergence of complex societies in Western Asia.