

ANCIENT GREEK MINING AND METALLOGURGICAL ACTIVITIES AND RELATIONSHIP TO THE GEOSCIENCES.

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In the Aegean islands as well as in numerous sites on the surrounding continental frames a plenitude of ancient mining and metallurgical relicts constitute ample witnesses of an intensive relevant activity during Antiquity. According the results of previous studies these findings correspond in their majority with those mentioned by the ancient Greek authors (i.g. Hommer, Herodotus, Thoukydides, Aristoteles, Xenophon, Strabo, etc.), who describe localities, mining/metallurgical activities in the above region.

The existence of the Metals as well as the exploitation of the Mineral Wealth were directly correlated with the Strength and the Civilization of, almost, every Greek Town-State during the Greek Antiquity. It is now proved that gold, silver, copper, iron and lead have been exploited in the Greek Peninsula and in the Aegean islands. An analogous condition had existed in Asia Minor, where many Greek Towns have flourished during Antiquity. The world's oldest silver-mine, operated ~ years BP (dated by C-14 and TL, as well as by archaeological study), exists in Aghios Sostis (Siphnos island), in the Cyclades.

Eight new archaeometallurgically interesting sites are mentioned for the first time in this paper. A set of analytical results along with the observations of the relevant metallographical study are given. In a new attempt to register the known areas where archaeomining/metallurgical witnesses exist, a comprehensive cart is presented. The above data are properly comprised as well.

The paper deals also with a series of new prospects for utilization by the Geoscientists. There is now a huge work already carried out by means of archaeomining/metallurgical investigations, concerning the whole region mentioned. Geo-data, resulting from detailed geological mappings, datings, diagnostic trace-element and lead-isotope analyses, seismo-tectonic and eustatic observations in well-dated mines, as well as quite new ore-genetical models can be reevaluated under the light of the modern geological investigation.

Certain sites in Siphnos, Kea and Mytilini islands are suggested for mineral exploration in deeper/submarine horizons which the ancients never reached. Besides, it is believed that the prospect of a better understanding of the metalliferous provinces in the Aegean area can make it possible for localizing of new exploitable resources in areas "marked" by ancient activities. Such resources might be rare earths or raw

material useful in the nuclear technology (radioactive etc.). The existing information concerning these materials in the above areas is yet insufficient.

The prospects of localizing exploitable quantities of conventional resources seems to be hectic, since the ancients were very able in exploring and exploiting - during some millenia - the available resources, known in the Antiquity.

MIDDLE JURASSIC - EARLY CRETACEOUS RADIOLARIAN BIOCHRONOLOGY OF TETHYS: IMPLICATIONS FOR THE AGE OF RADIOLARITES IN THE HELLENIDES (GREECE)

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The Working Group has held three meetings (Lausanne 1989, Munich 1990, Paris 1991). We have agreed on the systematics of about 600 taxa to be used for the creation of a Middle Jurassic to Lower Cretaceous radiolarian biozonation. Taxa difficult to identify in poorly preserved material have preferentially been placed at subspecies level, whereas our species represent a more broadly defined group of morphotypes determinable even in poorly preserved samples. The resulting zonation is based on, and can be applied to a wide range of preservational stages, typical for Mesozoic radiolarians.

The publication of a Radiolarian Atlas illustrating all taxa, including the holotype, with original and subsequent definitions and up-to-date synonymy, as well as chapters detailing the biostratigraphy from each region (authored by each contributor) is planned for late 1992.

Our data base consists of radiolarian occurrence data from over 1100 samples from 130 measured sections of the Middle Jurassic to Early Cretaceous time interval, recovered from the Tethyan - Circumpacific low paleolatitude realm. Sample localities include the Alpine Mediterranean area, Central and Eastern Europe, Oman, Japan,