

DACIAN CERAMICS FROM *SARMIZEGETUSA REGIA* ARCHAEOLOGICAL SITE (ROMANIA): AN OPTICAL AND XRPD STUDY

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From a large amount of fine to semifine ceramic fragments found at *Sarmizegetusa Regia*, the former capital of Dacia (Southern Carpathians, Romania), eleven potsherds were studied by means of polarized light optical microscopy (OM) and X-ray powder diffraction (XRPD). These ceramic fragments were recovered from the 7th terrace, located near the sacred zone, and dated towards the end of the 1st century AD.

The shards have a light red color. Microscopically, (Fig. 1) they consist of a red clayey matrix with variable amounts of metamorphic (quartzite, quartz schists, gneiss) lithoclasts, ceramoclasts, as well as crystalloclasts (quartz, feldspar and muscovite). The matrix is mainly microcrystalline *i.e.* anisotropic, but also shows slightly sintered *i.e.* isotropic areas (Fig. 1).

The XRPD pattern shows the presence of quartz and feldspars, the latter of primary but possibly also of secondary (firing) origin. Beside these minerals, there are modified lines of micas and illite and a secondary phase

represented by hematite. About 900°C firing temperature was inferred from the thermal changes of primary minerals and the modified XRD patterns.

The fine ceramics does not contain larger clasts which might be assigned to any tempering material. The composition of the lithoclasts and crystalloclasts of the semifine ceramics points to alluvial sands of a metamorphic area used as temper. Indeed, the site's neighbouring area consists of Anteproterozoic crystalline schists (CODARCEA *et al.*, 1968).

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Reference

CODARCEA, D.M., SAVU, H., PAVELESCU, M., STANCU, I. & LUPU, D. (1968): Geological map of Romania, 1:200,000, Orăştie Sheet, Bucharest.

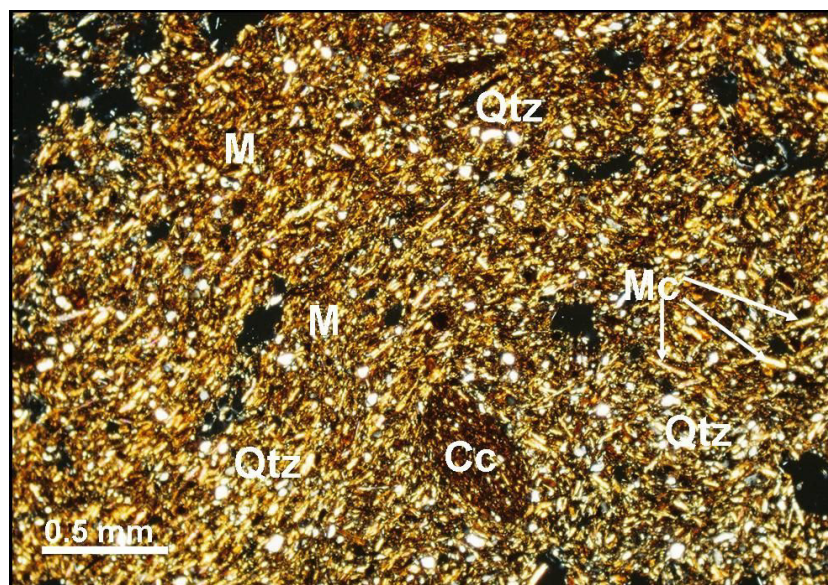


Fig.1. Polarized light microphotograph of the *Sarmizegetusa* fine ceramics, composed of an anisotropic matrix (M), quartz (Qtz), micas (Mc) and ceramoclasts (Cc). P+.