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OBSIDIAN AS TEMPER IN YIALI, GREECE, NEOLITHIC POTTERY

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Yiali belongs to the Dodecanese and lies between the islands of Cos and Nisyros. It consists of two high massives of volcanic rocks, such as pumice, perlite and obsidian, joined at a low narrow waist. Systematic surveys have revealed that the island was densely occupied in the Late Aegean Neolithic 3-4, or late 5th-4th mil. B.C. An intact neolithic building, a cemetery and several occupation sites of probably perishable materials (huts) have been located on top of the pumice layers. Yiali's most famed feature has been its considerable sources of obsidian, which is though spotty and unsuitable for chipping tools. Local obsidian and Yiali neolithic pottery are however related one to the other, through the use of volcanic glass as temper in the clay fabrics of local domestic wares.

The macroscopic examination of Yiali sherds has clearly revealed that obsidian was in almost all cases present in the clays along with other rocks. However the frequency of obsidian inclusions, as well as their size and sphericity are strongly varied. Sixteen samples of Yiali neolithic wares have undergone a petrographic analysis in the Fitch Laboratory under the aim to form compositional groups based on the mineralogical characteristics of the clays. There are three parameters to investigate:

1. The properties of obsidian as an added inclusion in the clay fabrics; was obsidian an intentional inclusion or was it already included in the clay mass?
2. The provenance of clays: were they local or were they imported by clay-rich areas in the surrounding islands, such as the area of the village of Kardamaina at Cos.
3. The relation between obsidian tempered clays and pottery shapes indicating of certain domestic functions.

Results are expected to confirm the permanent character of Yiali occupation, and also testify to the circulation of raw materials between at least the islands of Cos and Yiali. Moreover, obsidian tempering is a good example of expertise and flexibility by the local workshops using the available local raw materials to resolve problems of ceramic quality.