Chert circulation in Neolithic sites from central-northern Apulia: Gargano mines and secondary sources

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Résumé

The north-eastern part of the Gargano promontory, in the Apulia region, was the main source of raw materials for chert in the central Mediterranean Sea. In this area, at least 20 mining sites were active from the early Neolithic to the early Bronze Age, the remarkable mining network attests the great quantity and quality of chert-bearing rock types, more specifically, three Gargano formations were mined: Peschici limestone, Scaglia and Maiolica formations. Moreover, some secondary sources of knappable materials were directly available near the coasts into beaches, colluvium and eluvium deposits, close to primary sources, and in the marine and fluvial terraces of the Tavoliere Plain, probably employed from Apulian prehistoric communities. In the last decades, primary source characterization of seven Gargano chert mines was conducted by ICP-AES and possible attribution of archaeological artifacts from Apulian settlements was carried out through multivariate discriminant analysis procedures, instead secondary sources have never been examined. The macroscopic and chemical (pED-XRF) analysis of a selection of 105 samples of chert from ten Neolithic mining districts and geological outcrops throughout Gargano Promontory (primary sources) and 50 samples of siliceous pebbles collected in the coastal deposits nearby Mattinata and Siponto (secondary sources) provided a reference dataset to compare with the data obtained on chert tools and débitage from Neolithic excavated contexts at Scaloria Cave, Masseria Candelaro and Monte Aquilone ditched villages (Tavoliere area), and Balsignano and Madonna delle Grazie settlements (Murge area), aimed to locate their provenance. A cluster analysis procedure was chosen in order to classify studied objects after a mixed data matrix and implement

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provenance study. A total of twelve variables (structure, texture and fracture features, three colour coordinates and six chemical element concentrations) was handled for 219 samples. Partitional clustering algorithm PAM gives back groups of more similar object. Primary sources are distributed in three groups, one include Maiolica and Scaglia mines and two groups contain Peschici limestone mines. Secondary sources of Mattinata and Siponto form two separated groups. Scaloria, Masseria Candelaro and Monte Aquilone samples essentially overlap with mines samples and few samples can be associated to secondary sources. Balsignano and Madonna delle Grazie show a much dispersed data, with few samples attributable to the Gargano mines, and Tavoliere secondary sources, while some small groups were not identified. These first results let draw attention to the existing relation between the size and quality of the artifacts and their raw materials. While bladelets and scrapers needed bigger chert nodules from primary sources, smaller tools could have been obtained from a larger variety of raw materials.

Mots-Clés: Chert, Neolithic, Tavoliere, Murge, Portable XRF, CIE L*a*b*, Cluster Analysis