Goldschmidt 2022 Abstract
https://doi.org/10.46427/gold2022.8931

The provenance of copper of Egyptian blue pigments: A Sarcophagus from Sidon

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Even though marble sculptures of the Classical period were painted extensively and using a wide range of bright colors, most people associate Classical sculpture with white marble. This is in particular due to the fragile nature of mineral pigments – today often only traces of the original polychromy remain. Analytical approaches are, therefore, usually focused on the identification and qualitative characterization of what is still left of these remnants of a colorful past. Recently, the geochemical provenance analysis of ancient colorants has opened new avenues in cultural heritage research and adds an important layer to the analysis of ancient polychromy. Here, we test a new sampling method for the provenance analysis of the copper compound of Egyptian blue pigments of a marble sculpture. This anthropoid marble sarcophagus (inv. no. IN 432) is part of the collection of the Ny Carlsberg Glyptotek, Denmark, and dates to ca. 450 BCE. Egyptian blue samples from the locks of hair and the side of the skullcap were sampled and analyzed for their trace element- and Pb-isotope composition. The rare earth element patterns suggest the use of similar raw materials for the analyzed Egyptian blue samples of this artifact. Based on Pb-isotope analysis, we propose that copper from Arabah deposits (Timna, Feynan) might have been used for producing these pigments. This case study contributes to our growing understanding of trade in pigments and the organization of pigment production in Antiquity.