museo nazionale romano

ROMA

Sovrintendenza Capitolina ai Beni Culturali
Musei Capitolini

11th International Round Table on Polychromy in Ancient Sculpture and Architecture
**THE MATERIALITY OF POLYCHROMY**
9-12 November 2022, Rome, Capitoline Museums and National Roman Museum

# «*Many traces of the ancient gilding are preserved*». Sarcophagus with clipeata image of the deceased to the Centrale Montemartini. An example of 3rd century gilding

B. Nobiloni[1], G. Bartolozzi[2], R. Iannaccone[3], S. Lenzi[4], D. Magrini[5]

[1] Sovrintendenza Capitolina barbara.nobiloni@comune.roma.it; [2] CNR-IFAC bartolozzi@ifac.cnr.it; [3] Università di Sassari riannaccone@uniss.it;[4] Università di Pisa sara.lenzi2014@gmail.com;[5] CNR-ISPC donata.magrini@cnr.it.

*Musei Capitolini, Centrale Montemartini MC/S 839*

On 17 November 1889 in Rome, in the area of Prati di Castello, near Ponte Umberto I and close to the area where the Palazzo di Giustizia was being built, two sarcophagi came to light. While the first was left on the site, the second was immediately taken to the Capitoline Museums, both for its rich decoration and for gilding, a peculiarity highlighted in the excavation reports. These reports do not mention any further traces of polychromy, unlike Pietrogrande, who in 1934 noted the presence, even if limited and not always certain, of red color on the wings of the Erotes. Currently, traces of gilding are visible to the naked eye, especially in the hair, feathers and plant elements, as well as in the jewelry worn by the Erotes on their ankles and arms.

The entire sarcophagus is richly decorated. The elevation of the lid shows Erotes intent on harvesting and crushing grapes, placed symmetrically on either side of an anepigraphic tabula. The sarcophagus case shows two winged Erotes supporting a clypeus with a bust of the deceased. Below are the reclining personifications of *Tellus* and *Oceanus* on either side of two theatrical masks. At the ends of the sarcophagus are two Erotes symbolizing the seasons, probably Autumn and Winter. The hairstyle of the deceased, inspired by that of the Empress od the second half of the 3rd century AD, and the technical stylistic characteristics of the marble sarcophagus suggest a date between the 70s and 90s of the 3rd century AD.

The sarcophagus has been subjected to an in-depth investigation by a well-established analytical protocol [Iannaccone 2015, Magrini 2019] that involves the use of totally non-invasive and portable instrumentation, addressed to the documentation of the rich polychromy, as shown by microscopical observations [Fig.1]

Gilding is widely spread on several areas of the decoration and is still well preserved. Elemental analyses registered signals of gold, indicating the application of pure golden leaves [Fig.2]. Beside abundant traces of gilding, the archaeometric investigations made it possible to evidence plenty residues of Egyptian blue. Among the multiband imaging techniques used, the luminescence induced by visible radiation (VIL) allowed us to identify and spatially map this pigment [Fig.3]. The punctual investigations have therefore validated the indications provided by the VIL technique [Fig. 4]. Traces were found in correspondence with the elements of the vegetation, but also on the wings of the erotes and on the decorations on the background, made with a drill, where the pigment is preserved into the holes. This pigment was used to create depth and to fill out empty spaces and also for the outlines of vine leaves and trees, such as another sarcophagus from Rome (now in Copenhagen - IN2468), dating back to 300 CE.

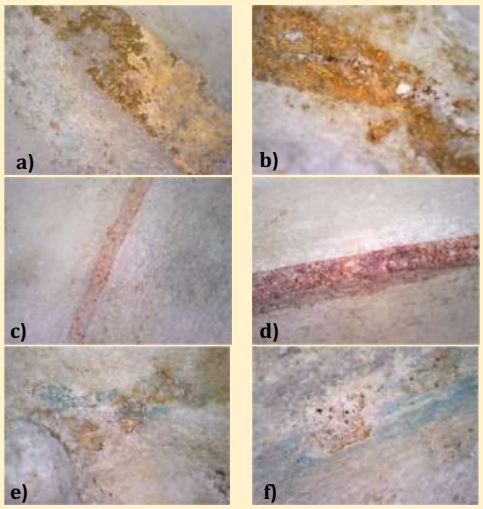


*Fig.1 - Portable microscope images at high magnification of details from the sarcophagus. a, b) Details of the gilding; c, d) Traces of red e, f) Residues of Egyptian blue on chisel's holes*

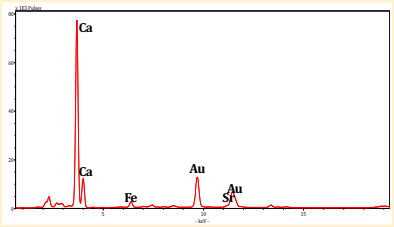


*Fig. 2 - XRF spectrum of the golden leaf*

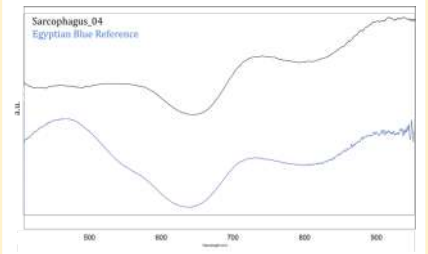


*Fig. 4 - FORS spectrum of an area with a blue trace compared with the reflectance spectrum of a reference of Egyptian Blue.*

*Fig. 3 - VIL images mapping the spatial distribution of Egyptian Blue.*

## ANALYTICAL PROTOCOL

Ultraviolet luminescence (UVL) and Visible light (VIS)- Canon EOS 7D (18 Mpixel, CMOS sensor ) Canon lens EFS 18-55 mm f/3,5-5,6 IS & B+W 486 UV/IR blocking Flash Quantum T5D &B+W UV black 403 / & B+W 486 UV/IR blocking

Visible induced luminescence (VIL)Canon EOS 400D (10.1 Mpixel, CMOS sensor, No built–in filter for IR) Canon lens EFS 18-135 mm f/3,5-5,6 IS & B+W 486 UV/IR blocking Flash Quantum T5D & B+W 093 infrared

Fibre Optics Reflectance Spectroscopy (FORS) - Ocean Optics (mod. HR2000) spectrometer (390 –900 nm), Tungsten lamp Head configuration 0/0, analysed area 2 mm$^2$. White reference with Spectralon®

X-ray fluorescence spectroscopy (XRF) - TracerIII-SD, Bruker Rh anode, working energies : 40KV - 12 µA, 60sec Analysed area 3x4 mm SDD detector (FWHM <145 eV)

Raman – Handheld Bravo DuoLaser Bruker, @785 nm e 1064nm, detector CCD 2000 × 256 Pixel, spectral resolution 7-10 cm$^{-1}$ , spectral range 170 a 3200 cm$^{-1}$.

## BIBLIOGRAPHY

Visconti C.L., *Trovamenti di oggetti d'arte e di antichità figurata*, in *BCom*, XVII, 1889, pp.445-446

Gatti G., *Trovamenti risguardanti la topografia e a epigrafia urbana*, in *BCom*, XVII, 1889, pp.476-477

Pietrogrande A.L., *Sarcofago policromo con rappresentazione bacchica*, in *BCom*, LX, 1932, pp.177-215, in part.p.213, nota 69

Sargent M.L., *Recent Investigation of the Polychromy of a Metropolitan Roman Garland Sarcophagus*, in J.S.Østergaard (ed.). *Tracking Colour, The polychromy of Greek and Roman sculpture in the Ny Carlsberg Glyptotek*. Preliminary Report 3, 2011, Copenhagen, pp. 14-34

Magrini, D.; Bracci, S.; Bartolozzi, G.; Iannaccone, R.; Lenzi, S.; Liverani, P., *Revealing Mithras' Color with the ICVBC Mobile Lab in the Museum*. Heritage 2019, 2, 2160-2170. https://doi.org/10.3390/heritage2030130

Iannaccone, R.; Bracci, S.; Cantisani, E.; Mazzei, B., *An integrated multi-methodological approach for characterizing the materials and pigments on a sarcophagus in St. Mark, Marcellian and Damasus catacombs*. Appl. Phys. A 2015, 121, 1235–1242