



The use of commercial surfactants in the cleaning of dirt deposits from the surface of tempera panel paintings. Case study: two 18thC. icons of “Virgin Mary and Child” and an icon of feasts, from Nicula Monastery in Transylvania region, Romania.

MICHESCU Andreea^{1*}

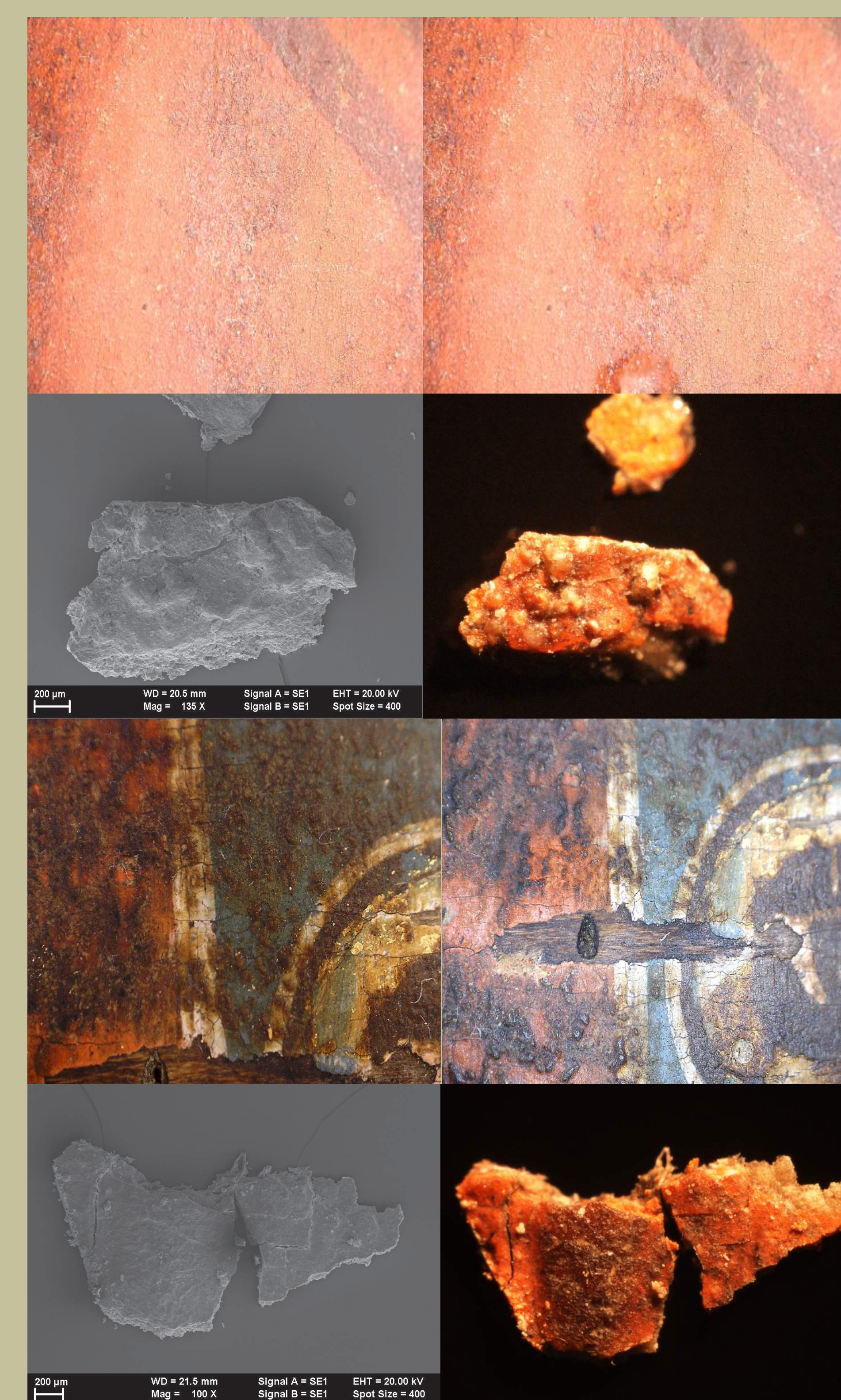
¹-paintings restorer at S.C. Danart Import-Export S.R.L.

*- michescu.andreea@gmail.com

Abstract: The use of surfactants in the conservation of tempera panel paintings has been a controverted subject for the past decade. Many of the commercial products used as surface active agents for the cleaning of panel paintings, proved to be unsuitable for their use in the process of dirt deposits removal. There are many studies published in the literature on this matter and all the results seem to be pointing in the same direction. Because of the high alkalinity of the tested commercial products, the layered structure of the painting is exposed to long term damage. However, highly alkaline products are still being used by many restorers. This poster presents preliminary results from an ongoing project that focuses on comparative studies regarding the use of commercial soaps and synthetic saliva. In the first phase of the project, cleaning tests have been carried on, on two icons dating from the 18th C. from Transylvania region, one representing “Virgin Mary and the Child” and the other being an icon of feasts. Both icons are typical panel paintings for the 18thC icon paintings tradition in Transylvania. The icons have been painted in tempera technique, and the varnish used by the artist has been made of natural gum. For the cleaning tests, a commercial soap and synthetic saliva have been tested in concentrations ranging from 0.5% to 1.5% in aqueous solutions and gel systems. The results of the tests were verified through the use of analytical techniques - optical microscopy, scanning electron microscopy and Fourier transform infrared spectroscopy. The aim of the study is to highlight both qualities and flaws of the commercial products used as surface active agents providing a alternative methodological approach of the surface cleaning of tempera panel paintings.



Icons of “Virgin Mary and Child” and an icon of feasts, from Nicula Monastery in Transylvania region, Romania-before and after restoration



Cleaning tests with Synthetic Saliva on both of the painted surfaces of the two icons. Cleaning tests have been carried on with aqueous cleaning gel-methylcellulose gel containing a solution of 1% concentration of synthetic saliva. The results of the cleaning tests showed a slight elimination of superficial dirt deposits. The evaluation of the cleaning tests has been done by means of optical and electron scanning microscopy.

Cleaning process of superficial dirt deposits from the surface of the icon of *Virgin Mary and Child*. Agar gel has been used, embedded with synthetic saliva of 1% concentration. In order to ensure full contact with the irregular surface of the painting, the rigid gel has been mashed and applied with a spatula. After 1 min. the gel has been removed, leaving the superficial dirt layer, emoliated, which was then removed by rolling a cotton swab. At this stage, the original varnish layer was exposed for the next stage of the cleaning process-partial varnish removal.

The advantages of this type of approach consist in the shortening of the exposure time of the painting to solvents, as well as a controlled method of use of water-based cleaning systems on tempera paintings.

Acknowledgements:

-This project was coordinated by Lect. Dr. Dana Postolache during a master degree course at the University of Fine Arts in Bucharest.

-The author would also like to express special thanks to Prof. Mihai Lupu, Prof. Ioana Gomoiu, Dr. Lora Angelova, drd. Alexandru Evangelidis for all their support.

