



Identification and Characterization of Fibers and Weave Structures of Three Archaeological Textiles Fragments, from Sohag Excavations, Egypt

Mohamed Marouf*

Conservation Dept. Archaeological Textiles Conservation, Faculty of Arts, Sohag University

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Abstract: Three archaeological textiles fragments from different excavations in Sohag were investigated by means of Stereo Microscopy (SM), Scanning Electron Microscopy (SEM). Three textile fragments were found out in three different sites; White Monastery '*Deir el-abiad*' in west of Nile river (12km) (fourth century A.D), temple of *Ramses II* (1290- 1224 BC) in *Akhmeem* city (10km east of Nile river) and *Osireion's* temple in *Abydos* (5000 B.C.) western-south of Nile river (11km) .Much information has been obtained relating identification kind of the natural fibers and their characteristic features and the determination of the kind of weave structure techniques used. In addition to, study of torsion of the spun yarns, wool fibers were recognized in three fragments. Plain weave technique together with derived weaves such as reps, whether regular or irregular warp reps was identified. Three textile Fragments have also been found in various states of degradation because the fibers were extremely brittle, indicating some degradation of the material. This article presents important results and conclusions which may help understand origin and technology of archaeological textiles (type of spinning and weave).

Keywords: *Scanning electron microscope (SEM), natural fibers, plain weave, regular and irregular warps reps, torsion direction, Stereo microscopy (SM) and archaeological textiles*

* Correspondence: E mail marouf30@yahoo.com , Tel: +2 010 68 69 465, Fax: 002 93 460 1179

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