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Micromorphological approach for reconstructing the palaeoenvironment of Tell Mishrifeh (Central Syria): palaeoclimatic significance of a sinkhole pedogenetic fill.

L. Trombino (1,2)

(1) National Council of Research, Environmental Processes Dynamic Institute, Via Mangiagalli 34, I 20133, Milano, Italy, (2) University of Milano, Earth Sciences Department, Via Mangiagalli 34, I 20133, Milano, Italy (Luca.Trombino@unimi.it)

Micromorphology is an indispensable tool to study weathering, pedoplasmation and other processes from which result the heterogeneity of alteration mantles, but, due to his potential, it can be applied also in geoarchaeological contexts, in which micromorphology is used more and more as a complementary technique in environmental reconstruction of the Holocene. The archaeological site of Tell Mishrifeh is located 18 kilometres North-East of the modern city of Homs, at the border between the dry steppe of the Palmyra region and the fertile Oronte valley. The earliest occupation levels belong to the late third millennium B.C., but during the Middle Bronze Age (2000 - 1500 years B.C.) the site was, together with Aleppo and Mari, the major Syrian kingdom and commercial centre: his name was Qatna. During the Late Bronze Age, Qatna was only a local kingdom, more and more declining, until the definitive abandon after the Iron Age. Apart the historical problems concerning the structure of the society which promoted the site development and decline, it is also possible to identify environmental changes influencing the history of Qatna, by means of geomorphological survey, sedimentological analyses of several test pits, geoarchaeological consultancy to the archaeological excavation and geopedological characterisation of identified paleosols. The present work is strictly focused on the palaeoenvironmental evidences which can be figured out from the micromorphological study the pedogenetic fill of a sinkhole, identified on the walls of the limestone quarry neighbouring South the Tell Mishrifeh site. The sinkhole fill show a maximum thickness of about 480 cm, and ap-

pears to be composed of different colluvial layers (i.e. four pedostratigraphic units), showing different degree of weathering, which is related to fluctuating environmental conditions inducing different cycles of ferrallitization, colluvionation and calcification during the Holocene.