UNIVERSITÀ DEGLI STUDI DI ROMA "TOR VERGATA"
DOTTORATO DI RICERCA IN BIOLOGIA EVOLUZIONISTICA ED ECOLOGIA
PhD PROGRAM IN EVOLUTIONARY BIOLOGY AND ECOLOGY

UNDERSTANDING NEOLITHIC AND ENEOLITHIC DIETARY ECOLOGY THROUGH ARCHAEOBOTANICAL RECORDS FROM CENTRAL ITALY

PhD Student: Alessia D'Agostino

Supervisor: Prof. Antonella Canini/ *Co-supervisor*: Prof. Angelo Gismondi

XXXVth Cycle - A.Y. 2019/2020

Since time immemorial, plants have played a key role in human health and nutrition. Unfortunately, little is known about how our ancestors chose plants in nature to exploit them, due to the complex ways of deposition and preservation of organic materials into archaeological sediments. Despite this, the main goal of the present archaeobotanical research is to investigate the human-environment interactions of several Prehistorical Italian communities, specifically to gain information about the inextricably reciprocal relationship between cultural evolution and land use.

Neolithic is one of the most important stages in the history of mankind; a period in which the socio-cultural groundwork laid in earlier times intensified and developed in economic and symbolic changes. Among all, the transition from hunting-gathering to farming (including sedentism, domestication of plants, ground-stone tools, and art) represented the most significant cultural shift. This phenomenon, not attributable to a specific chronology, was associated to particular climatic conditions which induced several plant-adaptation processes, influencing economy, uses and habits of the ancient communities.

Paleoethnobotanical data from early Neolithic to Copper Age are limited in Central Italy, probably due to the fact that only a few plant macrofossils (e.g. charred or waterlogged seeds) were found in the relative settlements. Thus, the purpose of this PhD project is to study the archaeobotanical assemblages of unique prehistorical contexts from Latium (ranging ca. 5500-2500 cal. yr BCE), in which archaeological excavations are still ongoing. In detail, "hidden" plant microremains will be explored in order to define paleoenvironmental conditions, ancient cultural landscape and phytotherapeutic traditions.

Morphological, biochemical and genetic techniques will be applied to identify the ancient botanical remains from different archaeological matrices. In detail, microfossils (e.g. starches, pollens, phytoliths, trichomes, fragments of plant tissues, secondary metabolites) connected to plant elements or organic residues extrapolated by archaeological soils, deposed on pottery surfaces and embedded in human dental calculus, will be investigated. Recently, the ancient mineralized oral plaque has been considered one of the most powerful tools for obtaining information about an individual's past life. The identification of the main sources of carbohydrates, micro-debris and plant molecules entrapped in the ancient dental calculus will allow reconstructing past diet, environment, and socio-cultural activities. This will help to underline the knowledge possessed by our ancestors concerning the plant kingdom.

via della Ricerca Scientifica - 00133 Roma
Phone +390672594104 - Telefax +39062023500