Pollen Analysis: An Effective Tool for investigating Holocene Sea-level Changes in Phytogeographical History and Human Settlement of the Lower Central Plain, Thailand

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Multidisplinary study of geomorphology, pollen analysis and archaeology has been used to understand phytogeographical evolution and human settlement in the Lower Central Plain, Thailand. Previous works on geomorphological study indicate that the plain has evolved from a palaeo-gulf since the Holocene Maximum Transgression. Organic soft clay sediments, or so-called the Bangkok Clay, are the dominant sedimentary unit of the plain, containing radiocarbon sample ages ranging between approximately 9800 and 1500 cal BP. Results of pollen analysis confirm that the Bangkok Clay has been formed by the sediment discharge of mangrove ecology. Mangrove pollen grains, especially of the genus Rhizophora, dominate the pollen sum of the Bangkok Clay, indicating that the Bangkok Clay is palaeo-mangrove sediments.

Chronologically phytogeographical evolution has been applied to archaeological and historical data of the Lower Central Plain in order to understand why prehistoric people settled only at the margins of the plain and why there was no ancient cities found in the plain until the 14th century onward. Finally, the study aims to re-evaluate the position of palaeo-shoreline in the Dvaravati period, formerly believed that the position was exact one of the Holocene Maximum Transgression.

Keyword: Pollen Analysis, Phytogeographical Evolution, Palaeo-mangrove, Holocene Maximum Transgression, Bangkok Clay, Lower Central Plain, Palaeo-shoreline, Dvaravati