

SONG Huailong. 2014. Late Miocene Environmental Crises and Their Impacts: Desiccation of the Mediterranean and Its bearing on World Desertification and Hominid Appearance. *Acta Geologica Sinica* (English Edition), 88(supp. 1): 194.

Late Miocene Environmental Crises and Their Impacts: Desiccation of the Mediterranean and Its bearing on World Desertification and Hominid Appearance

SONG Huailong

Institute of Oceanology, Chinese Academy of Sciences, Qingdao 266071, China;

The ancient Mediterranean was once dried up around 6~5.3million years ago. It is a landmark event, which had great impact on global environment and climate. However, few references are available in the literatures on this topic, especially on its relation with the formation and spatial distribution pattern of the deserts of the world and the appearance of the African hominid. Based on the facts observed that the Aral Sea was shrinking and drying up, which resulted in the formation of saline dust storm and in turn led to the serious soil salinization in the downwind area and become “the largest ecological disaster”, and the observations that there were great numbers of closed sea or lake basins without outlets been formed in arid and semi-arid regions since the end of the Paleocene, which had passed an evolution from the closed deep sea(basin) to a

dried salty desert basin and finally to a modern desert basin, in addition to the discoveries of DSDP and IODP, we tried in this paper to study the connection between the modern desertification and the Late Miocene environmental crises. It is confirmed that the desiccation of the ancient Mediterranean caused the formation of a 20 million km² salty desert including the Sahara desert and the deserts of the Arabian Peninsula by the end of Late Miocene. During Middle Miocene the Tethys Sea was dried up, that caused the formation of the saline desert basin across the west Asia, central Asia and part of northeast Asia. The Atmosphere and biosphere filled with saline dust are the major environmental triggers for hominid to come into being during the Late Miocene..

* Corresponding author. E-mail: songhuailong@126.com