Novelties on Miocene woods from Egypt with a summary on African fossil woods of Fabaceae, Malvaceae and Dipterocarpaceae

by

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With 3 plates, 2 text-figs and 3 tables

Abstract

Petrified woods of Bombacoxylon owenii (Malvaceae / Bombacoideae), Cynometroxylon sp. cf. C. holdenii (Fabaceae / Caesalpinioideae) and Dipterocarpoxylon africanum (Dipterocarpaceae) are described from the early Miocene of Egypt. Fossil wood related to Dipterocarpaceae is a new record to Egypt while that of Cynometroxylon sp. cf. C. holdenii is new to the African flora. A warm tropical palaeoclimate with minor seasonality in precipitation is suggested for the original growth site. A list of 147 African species of Fabaceae, 16 of Malvaceae and 7 of Dipterocarpaceae is given with remarks.

Key words: Siwa Oasis, dicot wood, palaeoclimate, Africa, early Miocene.

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1 Introduction

This is the first paper on the dicot fossil woods of the early Miocene of the Siwa Oasis in Egypt. The fossil monocot woods of this area were, however, published earlier by Kamal El-Din et al. (2013). They described seven Palmoxylon species (four new to Egypt and all new to Siwa Oasis) which they assigned to P. deccanense Sahni, P. edwardsi Sahni, P. geometricum Sahni, P. pondicherrense Sahni, P. prismaticum Sahni, P. pyriforme Sahni and P. sagari Sahni (Kamal El-Din et al. 2013).

In general, the Miocene wood flora of Egypt currently consists of seven families (six dicot families and one monocot family) including 14 genera (13 dicots and one monocot) and 35 species (21 dicots and 14 monocots). From these 35 species 14 are related to Arecaceae, nine to Fabaceae, five to Combretaceae, three to Malvaceae, two to Moraceae and one to each of Anacardiaceae and Clusiaceae (Guttiferae) (El-Saadawi et al. 2014).

The aim of this paper is (1) to describe and determine the dicot wood, (2) to conclude on palaeoclimatic conditions, and (3) to report on the fossil history of the respective families, i.e. Fabaceae, Malvaceae and Dipterocarpaceae, in Africa.