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Climate of the Past Discussions

Interactive comment on "Vegetation response to the African Humid Period termination in central Cameroon (7 N) – new pollen insight from Lake Mbalang" *by* A. Vincens et al.

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Reply to comments of referee Lydie Dupont

A- The Table 1 concerning 14C datations and calibrations in calendar ages and Figure 2 will be corrected as also all minor comments and corrections.

B- Concerning the absence of comparison between our data and those from Angola, in the paper of Dupont et al. (2008): 1- the pollen diagram shows an expansion of "Miombo" and not of "closed forest" between 7800 and 3700 cal. yr BP (Fig. 5). 2- The following taxa, probably the most abundant in the pollen sequence and considered as markers of "wet lowland forest" (Fig. 7): Alchornea, Tetrorchidium, Mallotus, such as

many species of Macaranga (of same pollen type that Mallotus) are generally forest pioneers or of secondary forest, and some can be found in Miombo or in riverine situations under dry climatic conditions. 3- In the Appendix A, among the taxa listed as “wet lowland forest (rain forest)”, only few can be considered as exclusively markers of the wet lowland guineo-congolian forest” (ex. Sorendeia, Klaineanthus, Martretia, Pycnanhtus, Leea), others are more typically markers of the “dry lowland guineo-congolian forest (“semi-deciduous forest” or “seasonal forest” according to the authors, White, Letouzey. . .)” such as the Ulmaceae and the Sterculiaceae. Many others are pioneers or can be found in various vegetation types from forest to savanna. 4- “wet lowland forest” taxa are better represented before 7800 cal. yr BP and after 3700 cal. yr BP in the pollen sequence. So, there is no evidence of a real expansion of humid forest on the Angolese plateaus between these two dates. Only the shift in Poaceae during this period could indicate a more “forested” environment but not with a “humid closed forest” facies. 5- Actually, the “wet guineo-congolian lowland forest” is located north of 5°S. Only the “dry guineo-congolian lowland forest” occurs farther south but it is generally located along the main permanent rivers, that could have been locally the case during the Holocene on the Angolese plateaus. Concerning the period post 3700 cal. yr BP, I agree with the referee. Indeed, drier conditions are well shown during this most recent period off Angola with the expansion of open vegetation of savanna type at the expense of Miombo, that could be explained in terms of change in the amplitude of yearly migration of the ITCZ. At the light of these data, our manuscript will be completed and corrected.

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