

Interactive comment on “Detecting human impacts on the flora, fauna, and summer monsoon of Pleistocene Australia” by G. H. Miller et al.

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Received and published: 4 December 2006

The manuscript extensively reviewed the late Quaternary changes in climate, vegetation and fauna in Australia, and pinpointed the possible impact of early human activities on ecosystem changes. The story of flightless birds' extinction based on dietary $\delta^{13}C$ reconstruction and its climatic interpretation is one of the best examples of integrated approach to past global changes using paleontology, geochemistry and climatology. Therefore, the paper is a significant contribution to our understanding of environmental changes. There is, however, a mismatch between the abstract and the text. The abstract is almost entirely devoted to the eggshell story, while the reader will find this topic only in the third part of the text, after an extended discussion on Lake Eyre which looks like another paper. The manuscript could be improved to ease the

reader to follow, if its various parts (including Abstract) are better linked. It is difficult to agree with the authors who try to ascribe “the failure of the Holocene monsoon observed at Lake Eyre” to “burning by early humans”. There are many alternatives to explain the observation. If the Australian summer monsoon rain is related to the East Asian winter monsoon that brings moisture to Australia while crossing the seas, the winter monsoon in East Asia has weakened in the Holocene. If aridity in northern Australia is related to El Nino, there are records showing intensified El Nino in the Holocene (e.g., Tudhope et al., 2001, Science). Generally, the observed changes of the Indonesian-Australian monsoon can be explained by natural orbital forcing, although in a complicated way (see the paleo-monsoon Working Group report, Wang et al., 2005, QSR). Nevertheless, this paper raises a vital question which is worthy of further discussions and investigations. It is recommended only to show possible explanations different than the authors’ hypothesis. Other minor suggestions: 1. Introduction: the first lines can be deleted. 2. References: Miller et al., 2005a: the volume number should be 309 instead of 239.

Interactive comment on Clim. Past Discuss., 2, 535, 2006.

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