

Jürgen Runge (editor)

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Reviewed by: Karl W. Butzer, *University of Texas at Austin, USA*

Palaeoecology of Africa was founded by Eduard van Zinderen Bakker in 1966 as a timely news and research medium for current Quaternary research. Although bound in hard cover, most articles were relatively brief and represented interim reports. The present volume attempts to reprise that successful series, but now in an edited book format. The average chapter length has doubled, the print face is larger, and indices have been added.

The substantive articles begin with Jan Moeyersons and others, synthesizing research on human landscape impacts in the Geba Basin of northern Ethiopia. The review is wide-ranging and valuable, although occasionally flawed by inaccuracies, e.g. the difference between degradation and climatic determinism. The focus on the present in the light of the past is refreshing.

A paper by Klaus Heine on Namibia addresses the role of slackwater and floodout deposits as an explanatory device in two river valleys. The cumulative detail is interesting, but this model-driven effort does not do justice to the importance of different sediment sources, lower-gradient catchments, and sporadic-rainfall regimes in other desert basins. Slackwater deposits evidently elucidate only one facet of environmental history.

Geochronology and soil sediments from a rock shelter in northern Botswana were studied by Andrew Investier and others. Aeolian accretion dominated here during the last 100 ka, not surprising in a Kalahari context. Periods of greater moisture introduced colluvial deposits and coincide with greater occupational activity, the presence of fish bone, and modest pedogenesis, during several brief Pleistocene and mid-Holocene intervals. Environmental change during MIS 4 and early MIS 3 (~70–50 ka), in Sibudu Cave (Kwazulu-Natal) and other South African MSA sites, are considered by Grant Hall and Stephen Woodborne. But internal site problems are glossed over in favour of global correlations.

A substantial biotic contribution by Carlos Cordova and Louis Scott lays out a framework for potential phytolith study of the grass subfamilies in South Africa. In addition to the distinction of C₃ and C₄ grasses, they are sensitive to rainfall regimes, as illustrated by sophisticated triangular models of C₃ and C₄ grasses, sedges, and Cape reeds (*Restionaceae*), that also give attention to bioclimatic distributions. Morphotypes are graphed by subfamily and abundance and tested by surface soil samples taken on detailed west–east and north–south transects. This methodology provides guidelines to help diagnose changing distributions, e.g. of the winter rainfall zone. The approach would also be of interest to examine palaeoecological shifts in Australia.

Digital terrain models were used by Samanta Pelacani and Michael Märker to monitor the evolution of three gully systems in Swaziland from 1961 to 1990. Changes were mainly controlled by medium-scale watershed parameters, yielding insights on gully profiles and their development. Slope–area relationships could not adequately explain the characteristics.

Gypsum horizons in Saharan soils and subsurface crusts have long merited empirical study. According to Ashraf Mohammed and others, the key variables include aeolian transport, temporary surface accumulation, downward transfer of gypsum by percolating water, and eventual precipitation. The cycle of gypcrete formation clearly requires intervals of moister climate in this now hyper-arid environment.

Mark Sangen and others studied alluvial geomorphology in a truly ‘wet’ equatorial environment in southern Cameroon. This reviewer was fascinated by the description of depositional complexes and palaeoclimatic issues uncommon elsewhere in Africa, more so than by the distracting attempts at external correlation. It appears that the superlative, older Belgian work in Congo cannot do credit to such an extreme perhumid setting.

More briefly, Julian Ogondo and others analyze diatom assemblages and geochemistry from a short (450 year) core in Ondiri Swamp, near Nairobi. Moisture trends are similar to those of Lake Naivasha. Brigitta Schütt and others apply a cluster-based climate classification (based on monthly temperature and precipitation datasets) to NE Africa. Despite scarce climate records from the Sahara, the method does help identify regions with shared dynamic properties, although the data series are too short to isolate triggering events. The massive synthesis of Jean Maley on Cenozoic palaeoclimatic evolution of the Sahelian and Sudanese belts is simply too ambitious to argue from the Chad Basin without adequate attention to other sectors of the southern Sahara.

Ine Vandecasteele and others have attempted an assessment of the spatial and temporal distribution of natural hazards in Central Africa. This represents an important topic for inquiry, but guidelines for presentation and validation will require careful consideration. Also fitting uncomfortably in the volume is the uncritical eulogy for Tim Partridge (by Phillip Tobias), which borders on the maudlin.

All in all, the editor made a creditable effort in assembling a volume of essentially volunteered articles. Most are rewarding and forward-leaning, while others could have been improved by more rigorous refereeing. Environmental historians and archaeologists will be grateful to Runge for reviving an important regional medium that has long served Africanists and many others well.

In closing we should emphasize the central role of van Zinderen Bakker (1907–2002), not only in founding and sustaining *Palaeoecology of Africa*, but also for laying the foundations for palaeoecological studies in sub-Saharan Africa. Eduard came to Bloemfontein in 1947 at a time when there were no comparative pollen collections for tropical Africa. Over the next 40 years he put the Free State University on the map as a world-class centre of African palynology. By dint of hard work he assembled six great volumes of an African pollen ‘atlas’, later assisted by J.A. Coetzee. He collaborated with the archaeologists who revolutionized our understanding of human origins, helping to anchor ongoing geo work in a broader context of bioscience. He was central to the early, ground-breaking *Congresses on African Prehistory*. The initial retrospective given here by Heine does not do justice to the indomitable vision of a man who left large footprints in his search to bring more science to bear on the archaeological record of Africa. But like many great pioneers, he was not always in the right, made enemies along the way, and was succeeded by new generations of palynologists. Nonetheless the debt we owe him remains evident in this volume.