

Australian Quaternary Studies

PART 1

A compilation of papers and documents
submitted for the degree of Doctor of Science

in the Faculty of Science
Adelaide University

by

Patrick De Deckker

April 2002

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Abstract

This document contains the majority of my scientific publications which are herewith submitted for examination for the degree of Doctor of Science at Adelaide University where I undertook my PhD study which was successfully completed in 1981.

The document is introduced in the preface by a brief description of Quaternary geology and a discussion on the nature of its multidisciplinary aspect. Then follows an introduction to my publications which testify to my progressive involvement in Quaternary studies, commencing first with the knowledge I acquired on a group of microscopic crustaceans, the Ostracoda, which are ubiquitous in Australian lakes. I also present publications on other aquatic organisms, all of which have been studied for the purpose of determining their ecological requirements in lakes. A compilation of publications on terrestrial environments, mostly aquatic in nature, is added to this list of publications, the majority of which deal with the reconstruction of Late Quaternary palaeoenvironments. The document follows on with a brief introduction to the list of my publications dealing with ostracod shell chemistry which also aim at deciphering physico-chemical changes in aquatic environments. The final part of the introduction deals with the marine realm for which I discuss publications I contributed to on modern and Quaternary oceanic environments.

Hence, the majority of the work presented here aims at reconstructing Quaternary palaeoenvironments, mostly from the Australian region, but investigations first had to rely on a better understanding of modern-day environments, by deciphering their characteristics, either physico-chemical or biological ones, before investigating the ancient record.

The preface also contains a list of my publications submitted here with information on my respective contribution to those papers in case of shared authorship. I also indicate those publications which resulted from my MSc (Hons) awarded by Macquarie University in 1976 and my PhD thesis awarded by The University of Adelaide in 1981.

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PART 2

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Section 5: Geochemistry of ostracod shells

Section 6: Palaeoceanography

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