

# AN EVENING OF PALAEOBOTANY

Event organised by The Royal Society of Western Australia  
Wednesday, 2 September 2015 from 6:00 PM to 9:00 PM (AWST)  
Exhibition Space, Building 500, Curtin University, Bentley, WA

**Assoc. Prof Greg Jordan and Dr Ray Carpenter are two of Australia's most prominent palaeobotanist's. Don't miss this rare opportunity to meet them and hear them speak.**

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## **Time-travelling with the Banksia-men**

**Dr Ray Carpenter**

Banksia (including Dryandra) is a highly diverse and familiar part of the present Australian sclerophyll flora. But what does the fossil record say about the journey of Banksia and its closest relatives (now confined to the Wet Tropics of Queensland) over millions of years? There is evidence of Banksia-type pollen and many good fossil records of Banksia cones and leaves dating to over 55 million years, and also fossil flowers of the tropical relatives of Banksia from the warm and wet Eocene. Some 18 species of *Banksiaephyllum* have been described, a genus erected by the famous Australian botanist Isabel Cookson and Suzanne Duigan in 1950 for fossil leaves of Banksia and Dryandra. But do all these fossil species really represent Banksia, and what should we do with those species that do not stand up to scrutiny? This presentation seeks to answer these and other questions relating to the evolution of Banksia and relatives.

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**Ray Carpenter** (B.Sc. Adelaide, Ph.D. Tasmania) is an ARC funded Research Fellow in the School of Biological Sciences, University of Tasmania. He has a long-standing interest in the changing nature of Australasian vegetation over deep-time, and a particular interest in the fossil record of the important Southern Hemisphere family Proteaceae. He has studied fossil floras from across Australia and also in New Zealand and Patagonia, and has expertise in the recovery of plant cuticles from fossil leaves. The cuticle, an outer waxy layer on the leaf surface, serves as a fingerprint that can be used to identify fossils, and also preserves features that offer windows into past climate and vegetation structure. Ray is presently working on a project relating to the evolution of open vegetation types in Australia.

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## **Unmaking the Gondwanan rainforest creation Myth: our ancient sclerophyll flora**

**Prof Greg Jordan**

Until recently many scientists thought that Australia's plants mostly evolved from plants that lived in rainforests that covered Australia 50 million years ago. We now have fossils showing that the Australia's amazing sclerophyll flora extends much deeper in time, back at least 70 million years. DNA analysis hints at a similar story. Most of Australia's sclerophyll flora now lives in quite dry areas, but remarkable relicts of these floras live in the cool, very wet mountains of western Tasmania. The south-west of Western Australia and New Caledonia also have many relict species.

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**Greg Jordan** is an Associate Professor at the University of Tasmania. He has been working on the evolution of the Australian flora for 25 years, combining evidence from fossils, physiology, evolutionary trees and the distribution of species to write some 140 papers and book chapters. He is particularly interested in the families Proteaceae and Ericaceae, as well as the conifers.

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