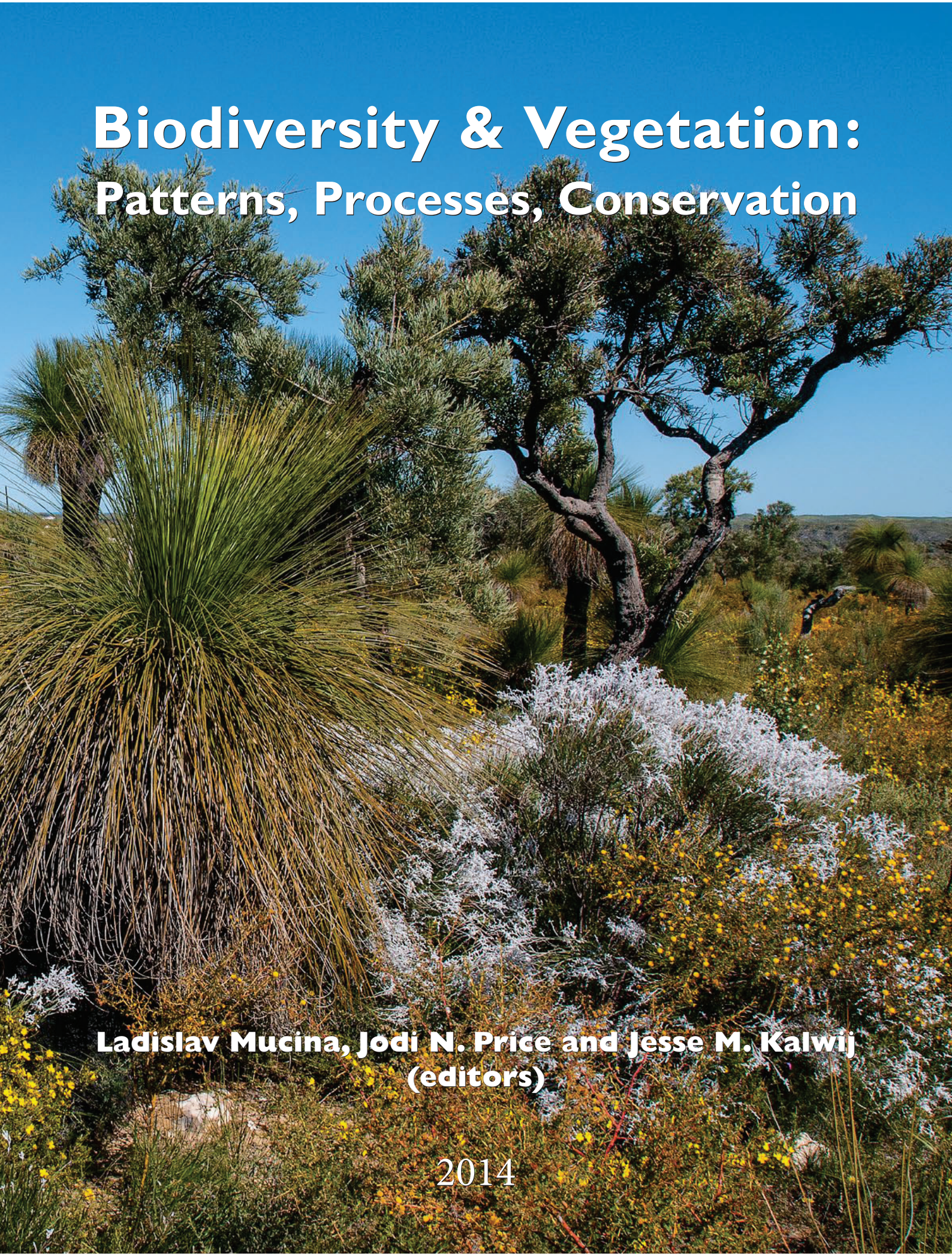
Biodiversity & Vegetation:
Patterns, Processes, Conservation



Ladislav Mucina, Jodi N. Price and Jesse M. Kalwij (editors)

2014

Biodiversity and Vegetation: Patterns, Processes, Conservation

edited by

Ladislav Mucina,

Jodi N.Price & Jesse M. Kalwij

Kwongan Foundation, Perth, Australia

2014

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This proceedings features extended of presentations offered at the 57st Annual Symposium of the International Association for Vegetation Science, Perth, Western Australia.

September 1–5, 2014

The editors have peer reviewed all contributions for scientific merit, technical format, and language.

Citation suggestions:

This book: Mucina, L., Price, J.N. & Kalwij, J.M. (eds.), *Biodiversity and vegetation: patterns, processes, conservation*, p. 84. Kwongan Foundation, Perth, AU.

An abstract from this book: Kalwij, J.M., Robertson, M.P. & van Rensburg, B.J. 2014. Propagule pressure, not climate change, instigates rapidly ascending upper altitudinal limits of exotic plants. In: Mucina, L., Price, J.N. & Kalwij, J.M. (eds.), *Biodiversity and vegetation: patterns, processes, conservatio*n, p. 10. Kwongan Foundation, Perth, AU.

ISBN 978-0-9584766-5-2

Published by Kwongan Foundation, Perth, August 20, 2014

Cover design and layout: Keith Phillips Images, PO Box 5683, Helderberg, 7135, South Africa; images@iafrica.com, www.keithmphillips.co.za

Urodon dasyphyllus (*Fabaceae*) from Kalbarri National Park, Western Australia. L. Mucina

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Welcome to Perth!

Ladislav Mucina

In 1990 IAVS came for the first time to Australia. Legendary Dr John S. Beard AO had organised an IPE (International Phytogeographical Excursion) in his home of Western Australia. There are many of us (I was not there, unfortunately, since I was just pushing my life reset button in the free West after having escaped communistic Czechoslovakia) that still recall this feat of weird flowers, strange vegetation types, and mesmerising dry landscapes full of eucalypts.

In 2014, IAVS is coming to Australia again – this time to hold its yearly symposium in Perth. For couple of weeks in August and September Australia will become the focus of vegetation-scientific interest as the University Club of The University of Western Australia will host the 57th Annual Symposium of IAVS.

Australia is far from almost everywhere, and the 'tyranny of distance' drives our lives more than national politics. Despite the distance we have been able to attract many colleagues from overseas. We are also committed to make the long trip worthwhile for many young people. We want to be it a 'young' symposium: dominated by young people with fresh ideas and therefore most of the invited key notes will be given by young upcoming star of our science.

We, the Local Organising Committee of the *iavs2014,* welcome you in Australia! We are happy share the floral and vegetation marvels of our country with you not only during the learned talks and poster discussions, but especially during three major excursions flanking the symposium (two in Western Australia, and one into the tropical northern Queensland).

Come and join us – to push the envelopes of scientific theory, to boost the image of our *scientia amabilis*, to make new friends and perhaps find a new job or research partner, and at the same time, just to have a hell of a good time. Vegetation scientists like to meet, value a good drink and something (and lot of it!) nice to eat, and talk shop the whole day long. All that, and more, is guaranteed!

Welcome to Australia, welcome to Western Australia – the home of the black swan and the home of vegetation science for 2014.

Laco Mucina, for the LOC

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Evolutionary history of the flora from Western Mediterranean continental islands: phylogeography of the palaeoendemic species *Arenaria balearica* (*Caryophyllaceae*)

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Background & Aim: Within the Mediterranean global biodiversity hotspot, the Tyrrhenian Islands support a high percentage of endemic taxa (c. 10–20%; Cañadas et al. 2014). Some endemic plant species shared among Corsica, Sardinia, and the Balearic Islands have been designated 'Hercynian endemics' (Mansion et al. 2008), and have been frequently considered palaeoendemics. Although it has been traditionally accepted that *Arenaria balearica* L. (*Caryophyllaceae*) could be a Tertiary relict plant species, this has never been tested by phylogeographic data. Our aim is investigate the palaeohistorical reasons underlying the highly disjunct distribution of the species in the Western Mediterranean region.

Materials & Methods: We have analysed AFLP data and cpDNA sequences from a total of 231 plants from 29 populations sampled along the entire distribution range of the species in Majorca, Corsica, Sardinia, and Tuscan Archipelago. We obtained some populations genetic traits (i.e., genetic structure and diversity) and a halotype network using the statistical parsimony algorithm was constructed. Thus, we examined the comparative historical effects of the main biogeographical events.

Main Results & Interpretations: The AFLP data analyses indicate very low geographic structure and population differentiation. The star-like topology of the parsimony network based on cpDNA data suggests that all haplotypes were derived probably in situ from a single ancient ancestor. The data compiled for *A. balearica* seem to support the conventional view that the species has a relict character, as it probably had an Early Oligocene origin from an ancestor distributed along the ancient Hercynian massif. The present-day distribution of this palaeoendemic species is consistent with the fragmentation of the anciet Hercynian massif in the Tyrrhenian area. The plant's genetic structure and diversity patterns, and with life-history traits support further post-Oligocene – either Miocene or Plio-Pleistocene – inter-island contacts in *A. balearica,* but seem to have been restricted to populations from Corsica and Sardinia. The overall low levels of genetic diversity and cpDNA variation found seem to be in correspondence with the morphological constancy of the species among populations distributed in different continental fragments in locally long-term stable habitats. Although the Mediterranean region displays a long history of geological and climatic changes, the local availability of ecologically stable habitats (e.g. rocky habitats) may have favoured the survival and long-term preservation of ancestral molecular lineages and the long persistence of populations in different territories along the Mediterranean region.

Acknowledgements: This work has been financed by the Spanish Ministerio de Ciencia e Innovación through the projects CGL2010-16357, CGL2009-07555, and CGL2012-32574.

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