

Sabbatical Reports 22 September 2010 CML, Rm 226, Lane Community College
“Biology Down Under: Exploring the Australian Landscape”
Gail Baker, Science

Two months immersed in the Australian landscape provided me with heaps of memories and materials to deepen and broaden my understanding of ecology in general and plant ecology specifically. Plant and animal species that are only found in specific areas of Australia, the huge diversity of these types of organisms and the very very ancient and infertile soil is a combination not experienced by biologists in the northern hemisphere. A glimpse of what I have experienced and learned during my sabbatical can be found in the references on the following pages which begin with a summary of the first part of my sabbatical trip. I have included internet links to two publications, a trip blog, interesting and relevant resources and, on the last page, abstracts of four presentations I have given.

I am indebted to each of the following and most of all to my husband and biology nomad partner Clay Gautier. This trip would not have been as rich without his expert planning and technological expertise!

LCC Sabbatical Leave Committee:

Adrienne Mitchell, Coordinator for Faculty Professional Development

Native Plant Society of OR Members

Jan & Dave Doback

Rhoda Love

Numerous Australian & American colleagues & friends

Dick MacMillen UC Irvine retired

Phil Rundel UCLA

Kristina Lemson, Edith Cowan U., Joondalup

Kingsley Dixon & Mark Webb, Kings Park & Botanic Garden, Perth

The Sheehan Family, Melbourne

Lynn Day, Alice Springs

Bob Black U of Western Australia, Perth

and many, many more!!

Touring One of the World's Biodiversity Hotspots: the Southwest Australian Floristic Region

Gail Baker

Science Division Lane Community College, Eugene, OR.

The Southwest Australia Floristic Region (SWAFR) is internationally recognized for its exceptional plant diversity. It's also renowned for its stunning spring wildflower displays. We take a close look at the plants of the kwongan heath; mallee shrublands; and wandoo, jarrah and karri woodlands while visiting the SWAFR's most important botanical reserves including Badgingarra National Park, Kalbarri National Park, Stirling Range National Park, Fitzgerald River National Park, and Dryandra Woodland Reserve. We'll also consider the question of how a landscape with so little topographic relief and such old, highly weathered soils can have so many species.

Related Publications

Baker, G. 2010. From Wubin to Ongerup: Western Australia's Wildflower Festivals. Tree Time, Mt Pissgah Arboretum Newsletter XL (2):2, 4.

http://mountpissgaharboretum.org/files/web_Spring2010TreeTime.pdf

Baker, G and C Gautier. 2010. Australian Wildflowers: Unique, Beautiful and Diverse Bulletin of the Native Plant Society of Oregon 43(3):1, 8-9.

http://www.npsoregon.org/bulletin/2010/NPSO_1004.PDF

Gail & Clay's Australia Trip Blog (photos & journal): <http://australia-09.spaces.live.com>

FLICKR Photo sharing site <http://www.flickr.com/photos/28436706@N06/>

LCC Faculty Development Sabbatical Awards: Model Sabbatical Applications (Gail Baker, Science)

http://www.lanec.edu/fpd/grants/sabbatical/paid/model_sabb_appl.html

References and Resources

SWAFR Biodiversity

Biological diversity in Southwest Australia (2008). Encyclopedia of the Earth

http://www.eoearth.org/article/Biological_diversity_in_Southwest_Australia#Further_Reading

Hopper, S.D. 2009. OCBIL theory: towards an integrated understanding of the evolution, ecology and conservation of biodiversity on old, climatically buffered, infertile landscapes. Plant and Soil 322:49-86.

Hopper, S.D. 2009. Taxonomic turmoil down-under: recent developments in Australian orchid systematics

<http://aob.oxfordjournals.org/cgi/content/abstract/mcp090v1>

Hopper, S.D. and Gioia, P. 2004. The Southwest Australian Floristic Region: evolution and conservation of a global hotspot of biodiversity. Annual Review of Ecology, Evolution and Systematics 35, 623-650.

<http://arjournals.annualreviews.org/doi/abs/10.1146/annurev.ecolsys.35.112202.130201?cookieSet=1&journalCode=ecolsys>

Watson, A., Judd, S. Watson, J., Mackenzie, D. & Lam, A. 2008. The Extraordinary Nature of the Great Western Woodlands. *The Wilderness Society*, Perth.

<http://www.wilderness.org.au/campaigns/great-western-woodland/gww-portal-page/files/the-great-western-woodlands-report.pdf>

Botanical References

FloraBase : The Western Australian Flora <http://florabase.calm.wa.gov.au/>

Clarke, I. and H. Lee (2006) Name that flower. Identification of flowering plants. Melbourne University Press. 299p.

Corrick, M and B. Fuhrer (2009). Wildflowers of Southern Western Australia. Rosenberg Pub. 224p.

Kron, K.A. and M.W. Chase. 1993. Systematics and evolution of Ericaceae subfamily Epacridoideae. Ann. Missouri Bot. Gard. 80: 735-741.

<http://www.jstor.org/pss/2399857>

Liddelow, W.R. 2006. Guide to Native Orchids of South Western Australia. R&R Publications Australia Pty Ltd. 209p.

Nevill, S. and N. McQuoid. 2008. Guide to the Wildflowers of Western Australia. Simon Nevill Publications. 156p.

Scott, J. 2009. Find That Flower – A Guide to the Wildflowers of the Cape to Cape Track and Leeuwin-Naturaliste National Park. Cape to Cape Publishing. 104p.

Scott, J. and P. Negus. 2006. Field Guide to the Wildflowers of Australia's South West: Augusta-Margaret River Regions. 2nd edition. Cape to Cape Publishing. 224p.

White, M. 1994. The Greening of Gondwana. Reed Books, NSW.

Australian Geology

Johnson, D.P. 2004. The Geology of Australia. Cambridge University Press

SWAFR Parks & Travel

Nevill, S. 2006. Travellers guide to the Parks & Reserves of Western Australia. Simon Nevill Publications. 192p.

Devaraj, S, et. al. 2008. Roads and Tracks – Western Australia. Quality Publishing Australia. 254 p.

<http://www.qualitypublishing.com.au>

Conservation

Australian Network for Plant Conservation <http://www.anbg.gov.au/anpc>

Dixon, K. 2009. Pollination and Restoration. *Science* 31 July 2009:Vol. 325. no. 5940, pp. 571 - 573

Fiedler, P.L. and P.M. Kareiva. 1998. Conservation Biology for the Coming Decade.

<http://books.google.com/books?hl=en&lr=&id=rHi0l2ACxVUC&oi=fnd&pg=PA255&dq=Australian+perspective+on+plant+conservation+biology&ots=XL5bycbon8&sig=nqoWgaBd40K6YED7oFzdmTPbZfc#PPR13,M1>

Morton, S. R., D. M. Stafford Smith, M. H. Friedel, G. E Griffin and G. Pickup. 1993. The Stewardship of Arid Australia: Ecology and Landscape Management. *Journal of Environmental Management* (1995) 43, 195-217

<http://www.southwestnrm.org.au/information/downloads/Morton-SR-et-al-1995-The-stewardship-of-arid-Australia-ecology-and-landscape-management.pdf>

Society of Restoration Ecologists World Conference August 23-28, 2009 Perth, Western Australia

<http://www.seri2009.com.au/index.html>

The Wilderness Society: Great Western Woodlands

<http://www.wilderness.org.au/campaigns/great-western-woodland>

WA Wildflower Events - <http://www.wildflowerswa.com/en/Wildflower+Events/default.htm>

Background & General Interest

Australian Geographic <http://www.australiangeographic.com.au/> excellent journal for natural & cultural history

Bryson, B. 2001. In a Sunburned Country

Durack, M. 1959. Kings in Grass Castles

MacMillen, R. 2007. Meanderings in the Bush

Upfield, A. 1928-1966. Mystery stories that include the Australian landscape. Thanks to Rhoda Love for this resource.

Winton, Tim 1991 Cloudstreet

Presentations

January 21, 2010 5:15 p.m. — 6:30 p.m. Lane Community College Academic Colloquia Series “Biology Down Under: Exploring the Australian Landscape”

Presented by faculty member, Gail Baker, Science Building 16, room 115

The landscape that once was part of Gondwana is one of the most ancient in the world. Western Australia offers new comers to that region delights and surprises every kilometer and truly broadens our understanding of the meaning of biodiversity. My presentation will take you on a journey through the landscape, share with you the beauty of the regions plants, animals, coastlines and interior and reveal why it is currently a global biodiversity hot spot.

Faculty Professional Development
www.lanecc.edu/fpd

January 25, 2010. From Millewa to Ongerup: Western Australia’s Wildflower Way.
Presented to the Boards of Mt Pisgah Arboretum (MPA) and the Emerald Chapter of the native Plant Society of Oregon and other volunteers involved in the annual Mt Pisgah Arboretum Wildflower Festival.

Western Australia is world renowned for the spring wildflower display which is celebrated at the Kings Park Botanic Garden in Perth, a city of 1,602,559 people, and in numerous small towns and shires in rural regions of the state. Plant enthusiasts as well as professional botanists are part of this celebration. This presentation will provide examples of the different festival visited throughout the state of Western Australia, information about the festival histories and logistics from interviews with people involved in the festivals. The goal of this presentation is to highlight differences and similarities with our Festival and to generate ideas about how to promote MPA Festivals if new or different ways.

April 19, 2010, Monday, 7:30 pm Native Plant Society of Oregon, Emerald Chapter
Touring One of the World’s Biodiversity Hotspots—the Southwest Australian Floristic Region. Presenters: Gail Baker and Clay Gautier. EWEB Training Room, 500 E. Fourth Ave., Eugene.

Touring one of the World’s Biodiversity Hotspots – the Southwest Australian Floristic Region
The Southwest Australia Floristic Region (SWAFR) is internationally recognized for its exceptional plant diversity. It’s also renowned for its stunning spring wildflower displays. Let us take you on a tour through the amazing vegetation of the SWAFR. We’ll take a close look at the plants of the kwongan heath, mallee shrublands, and wandoo, jarrah and Karri woodlands. We’ll visit some important botanical reserves along the way including Badgingarra National Park, Kalbarri National Park, Stirling Range National Park, Fitzgerald River National Park and Dryandra Woodland Reserve. We’ll also consider the question of why a landscape with so little topographic relief and such old, highly weathered soils has so many species.

May 1, 2010. Touring One of the World’s Biodiversity Hotspots: the Southwest Australian Floristic Region. Presentation to NWBIO 2010, Grays Harbor College, April 30 - May 2 2010

(same as above)