

WILDLIFE DIARY

September 2013



Great Finds

Pheasant Coucal, *Centropus phasianinus* are calling the weather must be warming up.

Water Dragons, *Itellagama lesueurii* out and about.

POPULATION MATTERS

Conference: Population, Resources & Climate Change - Implications for Australia's Near Future

<http://population.org.au/sites/default/files/articles/FENNER%20CONFERENCE%20program%20%28as%20at%20July%2026%29.pdf>

How Cool

Cool Refugia - two major climate change adaption strategies for habitat management include the protection of existing cool habitat and restoration of foliage cover in deforested areas that formerly supported cool habitat. While this strategy applies to rainforest it may well be applicable to riparian corridors and other similar cooler habitats along coastal plains.

Cool refugia like the rainforest in Erapah Creek Corridor, are areas of high biodiversity conservation value even though they may be small in size and otherwise not flagged by current ecosystem mapping techniques? Of note eighteen species of land snails belonging to 9 families of land snails were recorded during a survey. Four snail species were of the environmentally sensitive family Charopidae. When it came to spiders the total spider diversity recorded across three studied reserves consisted of 119 species belonging to 100 genera and 36 families. Of the 119 species taken, only 51 are known and named whereas 41 are clearly new species. Likewise a diverse fauna of beetles comprising 17 species of Carabidae, 10 species of Tenebrionidae and 13 species of Scarabaeinae (dung beetles) were recorded during a survey. Interesting to note by far the greatest diversity seemed to be confined to the wetter Erapah Creek corridor. The challenge is protecting these often tiny hotspots of biodiversity in an otherwise dry, fire-prone landscape.

Flowering

Native Frangipani, *Hymenosporum flavum*, a medium size tree is readily identified by its cream-yellow flowers that form loose panicles, found in riverine and rainforest habitat

National Threatened Species Day

The last thylacine to walk upon the earth was a female kept in Beaumaris Zoo near Hobart. Problems with the zoo during 1935 - 1936 meant the thylacine and other animals were neglected. It was during September 1936, housed in an open topped wire cage with no access to a den she had to bare the extremes and un-seasonal weather, at night temperatures were below zero and during the day they reached 38°C. On the 7th September it became too much for her, alone and stressed she closed her eyes on the world for the last time.

Did You Know?

Did you know bradyspory is the long-term retention of seeds in fruits in a plant canopy in the absence of fire? This trait has also been called 'serotiny', but bradyspory appears to be a more appropriate term. Bradyspory occurs in various taxa in several regions: conifers in North America, Mexico and the Mediterranean; the Cupressaceae, Casuarinaceae, Myrtaceae and Proteaceae in Australia; and the Proteaceae in southern Africa. The geographical distribution of bradysporous plants in Australia, South Africa and North America is strongly associated with fire-prone environments. Fire is viewed as the most significant trigger for the release of seeds and is generally assumed to be the primary selective factor favouring bradyspory (Whelan *et al.*, 1998)

Did you know many species of ants in Savannah habitat are common under one fire regime, but were rarely or never recorded under the other? These differences were attributed to structural changes in the habitat caused by fire, and in particular to the levels of litter accumulation and insolation on the ground.

Great Walks

Best visit the Southern Redlands before Redland Council and their developer mates carpet it with houses. The last coastal open space in the Redlands and they want to put 10,000 people on it!



WWW

Wildlife Seminar to Celebrate Biodiversity Month 2013
<http://tinyurl.com/q9er9le>

A view of Earth from space
<http://landsat.usgs.gov/gallery.php>

Urban Sprawl and Habitat Loss
<http://prezi.com/wrlyca3x0zby/urban-sprawl-and-habitat-loss/>

Seagrass Watch
<http://seagrasswatch.org/home.html>

The facts on human population
<http://population.org.au/>

Using your iPhone to report a Bush Curlew

Seen a Bush Curlew, let us know by taking a photograph with your iPhone or similar GPS capable phone. Click on this link to participate. <http://tinyurl.com/azv4yqh>

Fire

Fire plays an important role throughout most of Australia. It can help maximise biodiversity, protect fire sensitive habitats and culturally significant sites and manage weeds.

Although fire is an important management tool, there are many gaps in our knowledge of how it can and should be used. We know that if used poorly, fire can degrade ecosystems and reduce productivity. It can contribute to increased soil erosion, expansion of weed and feral animal populations, reduced water quality, increased soil salinity, decline in native plant communities, and—through impacts on threatened species, heritage areas and significant wetlands—decreased biodiversity. Understanding how fire affects biodiversity is therefore a topic of national importance.

Effective fire management means understanding both the human resource as well as the natural resource. It depends on having collaborative networks, fostering active participation, learning through practical experience, and establishing effective means of communication. Using the “Three Cs”—building capacity, engaging the community, and fostering cooperation—ensures that fire is an effective tool in achieving sustainable rangelands regions.

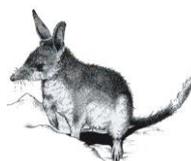
The following general principles provide a basis for managing fire and biodiversity in landscapes:

- The ecological effects of fire are determined by fire regimes.
- Species of plants and animals have limits of tolerance to fire regimes, which can be exceeded under particular circumstances.
- The ecological effects of particular management strategies can be predicted if the plant communities’ thresholds or limits of tolerance to fire regimes are known. Monitoring is needed to verify the ecological outcomes.
- The array of plant species and physical structure of plant communities determine the quality of habitat for many animal species.
- Management guidelines developed for plant communities may also apply to animals because of the importance of vegetation as habitat.
- Fire regimes are shaped by past events and managers need a spatial fire history record to fully describe the fire regimes that prevail in a landscape.
- Land managers need to understand the effects of fire regimes, especially adverse fire regimes, at broad spatial scales. In particular, they need to consider potential losses of species that may result at a landscape scale.
- The loss of a species from a landscape may occur when fire regimes detrimental to that species prevail across most of its habitat in that landscape. In this sense, adverse fire regimes may fragment landscapes

Vegetation communities and habitats exist naturally as mosaics in the landscape. For example, within an area there may be patches of small acacia scrubs, rain forest, riparian corridors, and swampy vegetation. Maintaining the diversity and health of the area is important for animals and plants that depend on it as a habitat, and thus for biodiversity generally. Fire has a special role in maintaining biodiversity throughout the landscape through its effects on habitat diversity and the associated availability of resources. Fire has spatial effects by creating larger and smaller patches, and temporal effects by having shorter and longer fire intervals. In general, large areas of monotonous habitat, whether created by extensive frequent wildfire or total fire exclusion, cater for fewer species and lower abundance of species than a variety of habitats generated by fire.

Research confirms the importance of retaining considerable spatiotemporal variation among sites of the same ecosystem type in the frequency of fire and other natural events, such as grazing, and other management interventions, such as mowing and cutting. Reducing this variation leads to greater uniformity (simplification) of niches – and therefore species – among sites of the same habitat type.

Never doubt that a small, group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has. Margaret Mead.



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WHELAN, R., JONG, N. & BURG, S., 1998, 'Variation in bradyspory and seedling recruitment without fire among populations of *Banksia serrata* (Proteaceae)'. *Australian Journal of Ecology*, vol. 23, pp. 121-128.