

The latest news from your friendly *Nearer to Nature* team.

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Hi Lisa Wright

Issue No. 12

**Wanju (welcome)**

Monday, 10 August 2020

Welcome to the latest issue of *Nearer to Nature News*, where you can find the latest nature-based education news and events in the Perth area and surrounds from the Parks and Wildlife Service.

Following the easing of COVID-19 restrictions in WA, *Nearer to Nature* is re-engaging in excursions and incursions. Our leaders, including a few new faces, are eager to work with your school providing quality experiences.

All *Nearer to Nature* venues have COVID-19 Safety Plans and activities will be delivered consistent with health advice.

Term 3 is filling up at Perth Hills Discovery Centre and Canning River Eco Education Centre. If you are interested in an excursion or incursion please get online to enquire as soon as possible.

Waterwise Schools are reminded that they may be eligible for a FREE 1.5 hour *Nearer to Nature* excursion; please email [n2n@dbca.wa.gov.au](mailto:n2n@dbca.wa.gov.au) for details.

My team and I are looking forward to working with you in Terms 3 and 4 to get your students engaged in the natural learning environment and nearer to nature.

## Rainfall and Perth's water supply

Do you remember singing “Rain, rain go away...” on a wet winter’s day? Today that rings true as rainfall has dramatically decreased in many areas of Western Australia. In 2015 Perth’s dams received the lowest amount of rainwater flow since record began in 1911. Before 1975 Perth’s dams would receive about 450 billion litres of rainwater each year, but in 2019 only 15.9 billion litres of rainwater made its way to our dams. That is only enough water to supply Perth for approximately 15 hot summer days! The table below shows how our rainfall is decreasing.

**Table 1: Rainfall in millimetres**

YEAR	TOTAL
2020	336.0mm (to 10/07/2020)
2019	582.9mm
Avg 1994-2010*	727.2mm
Avg 1876-2016**	884.5mm

\*Average yearly rainfall data supplied by the Bureau of Meteorology for the period 1994 to 2019

\*\*Average yearly rainfall (for the period 1876-2016)

Rainfall that runs off the land eventually ends up in our dams, however as we receive less rain the ground dries so when it does rain the ground soaks up and holds more of the rainfall and there is less runoff into dams. Today our dams act as water storage for climate-independent sources such as desalinated and deep groundwater. Perth’s 2 million residents use 285 billion litres of water; 10% comes from rainwater, 40% from groundwater, 48% from desalination and 2 % from groundwater replenishment (treated wastewater).

Nearer to Nature’s Catchment Carers Trail program provides an insight to our valuable water resource. Contact us to enquire about Waterwise school subsidies for this activity.



*Mundaring Weir from North Ledge.*

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## Resurrection plants: drying without dying

The Perth Hills is a picturesque bush environment dotted with granite outcrops formed more than 2500 million years ago. These outcrops are harsh environments suffering more extreme seasonal stresses as they are fully exposed to intense solar radiation during the day, cold during the night, rapid run-off of rainfall, and shallow soils on a rocky substrate. Despite these conditions approximately 2000 plant species occur on WA's granite outcrops. In the south-west individual outcrops can host up to 200 species, many of which are found nowhere else in the world. How do these plants survive?

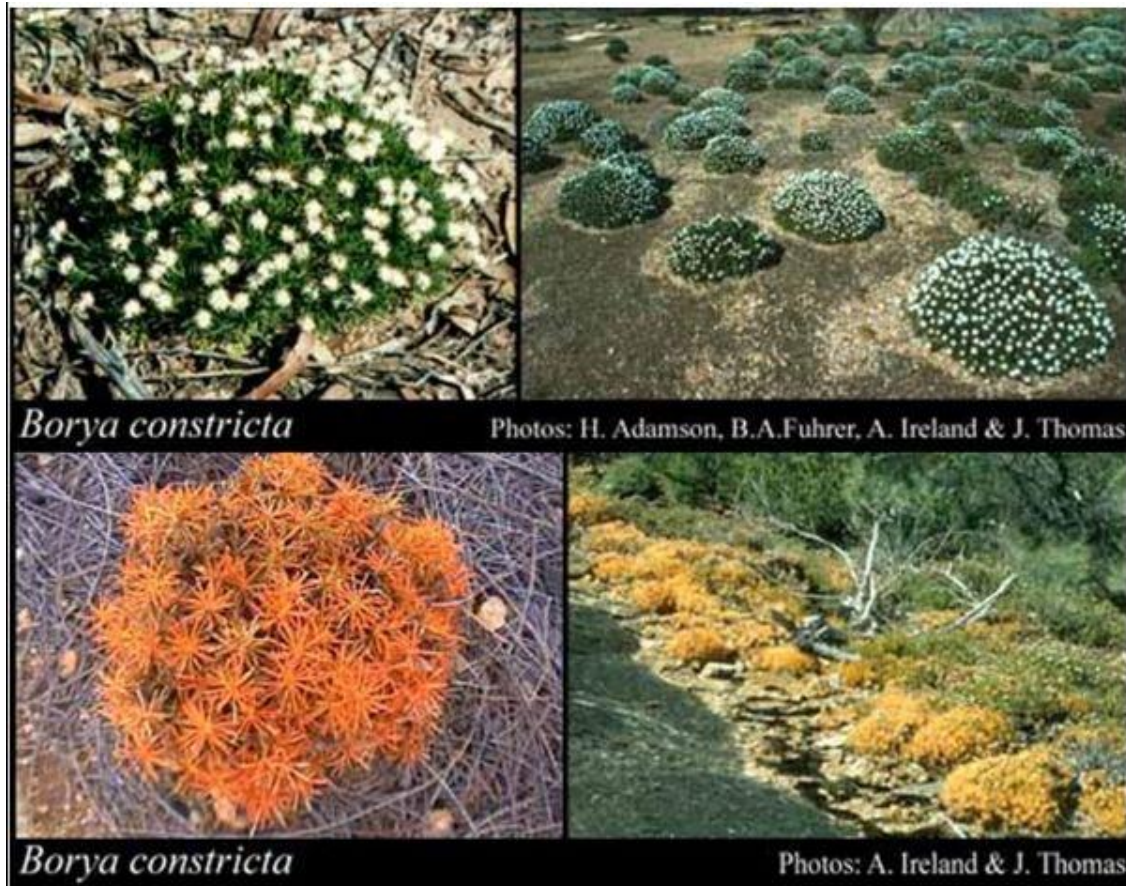
An unusual life form known as resurrection plants has evolved to thrive in these conditions. These plants can withstand extreme desiccation that would kill other plants then rehydrate again when rain falls. *Borya* species, called [pin cushions or resurrection plants](#), can resurrect from conditions leaving them with less than five percent of normal leaf moisture content. As they dry their leaves turn orange as they shut down transpiration and photosynthesis. Within a day of





west. Other resurrection plants include granite rock ferns (*Cheilanthes* spp) (above).

Threats to these remarkable plants include human disturbance, fire and weed invasion. Weeds dominate and replace these native species in full sun on outcrops, especially where soil is disturbed and enriched by rabbit dung.



*Borya constricta*. Top rehydrated, bottom desiccated. Photos - Florabase/DBCA

## Heard but rarely seen: shining bronze-cuckoo

As you wander through the jarrah or karri forest from August to December you may hear a repetitive, rapid whistle of descending notes finishing with an extended note. You are listening to the distinctive 'dog whistle' call of the migratory shining bronze-cuckoo.

Migrating from north Australia, New Guinea or the Lesser Sundas Islands to breed, this small bird has dull coppery-bronze colouring on its head with lovely iridescent bronze-green wings and back. Its underparts are white with smart copper-bronze bars across its chest and belly. It rarely comes to the ground, preferring to stay among the dense foliage where it camouflages beautifully. The shining bronze-cuckoo feeds on a range of insects and larvae, and is especially fond of hairy caterpillars, plucking them from leaves or branches.

hours of hatching, the cuckoo chick, although featherless and blind, pushes the remaining eggs and hatched chicks out of the nest. To avoid rejection by their hosts the chicks set up an incessant demand for food cleverly mimicking the begging call of their hosts young. This is amazing as they are alone in the nest and have never heard host young calling. As the only occupant in the nest the chick grows to double the size of its foster parents within three weeks, forcing the tiny host birds to work harder to satisfy the appetite of the enormous cuckoo chick.

[Hear the distinctive call of the shining bronze-cuckoo online.](#) You may be lucky enough to hear one on an [Eco Walk](#) at Perth Hills Discovery Centre!

## SHINING BRONZE-CUCKOO

*Chrysococcyx lucidus*

They are usually most common from August to December and migrate to Indonesia in winter. They mostly rely on Thornbills as hosts. (B, M, C)



Image - Birds of Kings Park and Botanic Gardens



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