

ARKAROOOLA WILDERNESS SANCTUARY



From the ARK

NEWSLETTER NUMBER 3

SUMMER 2005/06



We have been celebrating! Last October Arkaroola Wilderness Sanctuary won the Ecotourism and Major Tourist Attraction categories of the 2005 South Australian Tourism Awards. Celebrations continued on the 2006 Australia Day weekend with our inaugural Star Party Downunder. In this issue of *From The ARK*, our regular feature *From the Arkhives* has been omitted so that we can dedicate a full page to the Star Party. We hope you enjoy the first issue of *From The ARK* for 2006.



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A MESSAGE FROM LORRAINE



Hello Everyone

I'm the one who puts *From The ARK* together. I would like to thank those readers who have been forwarding the newsletter on to others. With each issue we are recruiting more readers. It's great!

After a long break from Arkaroola I returned part-time in late 2004 to work on Arkaroola's conservation programs, and to help develop new interpretive facilities and eco-tourism products. One of my first jobs was to design and implement a generic directional signage system for the sanctuary. Our new signs are currently being installed.

Sundial Park will be redeveloped during 2006. Several sundials will be retained, new seating provided and a bushwalking information shelter added. The area will be landscaped and planted with species from three distinct plant communities – ranges, creeks and plains.

It's an exciting time and it's great to be back home!

Lorraine

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NEWS FROM THE ARK

MINI CYCLONE HITS THE VILLAGE

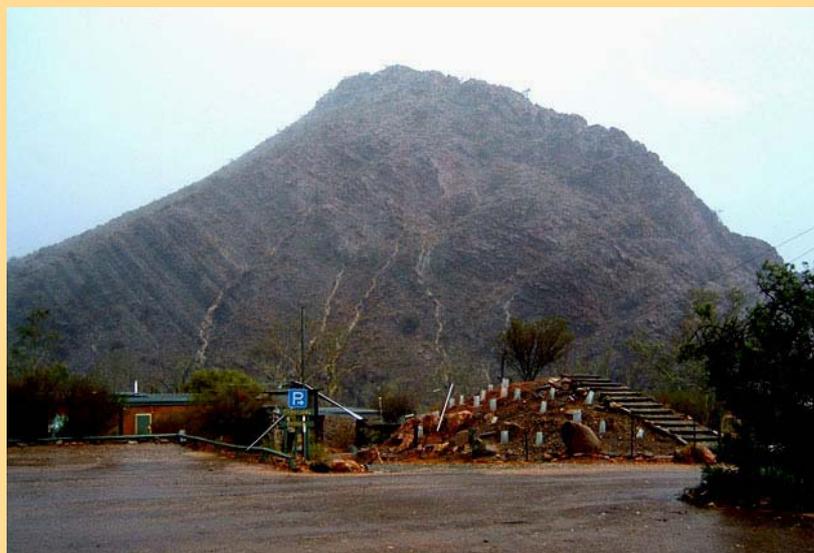


"Reception looked like a spaghetti strainer" was manager David Hill's description as water poured in through the roof of Arkaroola's main building during a violent storm on January 20th.

A 'micro-burst' dumped 50 ml of rain directly over the village in a wild mid-afternoon storm lasting forty-five minutes. For two hours Wywhyana creek coursed past the village into Arkaroola creek, recharging waterholes to the east. Closer to the village, Mt Elva dam filled to a metre below capacity. In the bush camping areas several red gums were snapped off by the wind. Three kilometres to the east, Arkaroola homestead only recorded 15 ml with the village bearing the full fury of the storm.

Damage to the village was quite extensive: the HF tower collapsed onto the bus shed, the service station carport became airborne, bounced off the roof of the main building and came to rest in bushes on the edge of Sundial Park. The Ridge Top Tour vehicle shed lost part of its roof, the kitchen exhaust fan blew off, as fences, roofing metal, and branches were hurled around the village. In the main building, staff used kitchen pots and pans, mixing bowls, casserole dishes, jugs, and buckets, to catch water streaming in through the ceiling.

With the storm hitting only a week before Arkaroola's inaugural **Star Party Downunder**, staff were faced with a major clean-up. Arkaroola management would like to gratefully acknowledge the excellent help provided by Leighton, Dan and Lewis from Major Drilling who helped staff remove iron and other debris when the storm subsided.



DC3's COME OUT TO PLAY



Historical aircraft enthusiasts don't get old they just get crazier about old flying machines like DC3's.

A group of aircraft enthusiasts, former engineers, crews and retired pilots meet regularly at Illawarra Regional Airport in NSW to keep Australian aviation heritage alive. They are the happy HARS mob. Formed in 1979, the Historical Aircraft Restoration Society (HARS), purchase, restore, maintain and operate several historical aircraft.

In November 2005, twenty-eight HARS enthusiasts brought two fully restored Douglas C47 Dakotas, (aka DC3's), to Arkaroola. The deep unlaboured throb of radial engines, music to the ears of aircraft engineers, (and Doug), signalled the arrival of the DC3's as they overflew the sanctuary.

Used for military operations from the 1940's until they were decommissioned in 2000, VH-EAE and VH-EAF now carry well deserving HARS volunteers around Australia.

Ex Qantas pilot Don Hingle, a HARS volunteer, initiated the Arkaroola trip which was co-ordinated by HARS Chief Pilot John Delahunty.

VH-EAE & VH-EAF on the Balcanoona airstrip



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PLANT PROFILE

MULGA

The mulga has flowered, a sure sign that it has rained this summer.



Acacia aneura

A signature species of the arid zone, mulga has claimed a place in the Australian vernacular. 'The mulga' is more place than plant, a word picture of arid places and empty spaces.

Once common throughout the Flinders Ranges, mulga woodlands are now largely confined to the northern Flinders. Over much of its range in the mountains, mulga persists as mature stands with little recruitment. But across Arkaroola Wilderness Sanctuary mixed-age populations are common.

By aligning their leaves vertically, mulgas capture every stray water droplet, from mist, and dew to the lightest shower. Upright leaves called phyllodes intercept the droplets and channel them along branches and stems to concentrate moisture around the trunk. Maximum use is made of all available water and evaporation minimised.



Mulga is a highly variable species. A local population may have trees of varying colours, habit and shape. Narrow leaved and broader leaved forms are found on Arkaroola.

Regeneration events are rare. To flower, set seed and germinate, mulga needs two wet summers interleaved with a good winter rain. Decades may separate significant regeneration events. Widespread mulga regeneration occurred on Arkaroola following the record rains of the early 1970's. Healthy mixed-age stands can be seen from the Paralana Hot Springs road, along the entrance valley to the village and west to Nooldoonooldoona.

A long-lived but slow-growing species, mulga is vulnerable to grazing by stock, rabbits and goats during the first fifteen years of its life. For over a decade, Arkaroola has participated in a regional program to control feral goat populations in the Flinders Ranges. Initially designed to protect national parks, an integrated program now delivers control across a number of different land tenures. Active involvement in this program ensures that goat numbers remain low and Arkaroola's young mulgas survive.

Before wire was available, timber stockyards were woven from mulga trunks and branches. Several old mulga stockyards survive on Arkaroola Wilderness Sanctuary. Just north of the village are the well preserved Greenwood yards, built soon after the Greenwood family took up the Arkaroola pastoral lease in 1937.

Mixed-age mulga woodland near Greenwood Hill



CONSERVATION

DEALING WITH THE DEVIL



The village cacti, aloes and agaves survive only as memories. Funded through the Commonwealth *Envirofund* program, Arkaroola engaged contractors to remove all exotic cacti and succulents from the village. But a population of the prickly *Cylindropuntia spinosior* persists in the hills surrounding the village.

Looking deceptively like, and closely related to Devil's rope cactus (*Cylindropuntia imbricata*), this prickly devil is making the most of recent rains. Like all opuntias, new plants can grow from dislodged fragments that develop root systems from viable plant material. Mid-channel plants broke up when Wywhyana creek flowed during the January micro-burst. Dozens of new plants have already become established in the moist sands and gravels of Wywhyana creek.

During the cooler months of 2006 Arkaroola staff will work with volunteers to locate and destroy opuntia populations near the village. Plants are known to occur in the Mt Elva dam, Griselda Hill, Mawson Valley and Miniremarkable Hill areas.

The opuntia group are one of three pest plants currently being targeted for management and control by the South Australian Arid Lands NRM group.



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CREATURE FEATURE

NEPHILA MASTER-WEAVER OF THE FLINDERS

Nephila ornata

It might be the Year of the Dog, according to the Chinese Lunar Calendar, but in the Flinders Ranges, it is definitely the Summer of the Spider.

Good winter rains, followed by mid summer falls have provided ideal conditions for a bumper crop of invertebrates. And that means a packed pantry for spiders.

Undoubtedly the most frequently encountered spider in the Flinders Ranges is the elegant Golden Orb-weaver. Despite its impressive size, the snare-building *Nephila* is harmless to humans.

The master-weavers of the golden webs are the large full-bodied females. Tiny males, about one quarter the size of the females, also move onto the web during the summer, living around its perimeter. The males announce their arrival by tugging at the web from nearby vegetation, not wanting to be mistaken for potential prey. Smaller Quicksilver spiders also live on the webs, eating tiny prey items that are ignored by their handsome landladies.

Orb-weaver webs are usually strung between trees about two metres above ground to intercept the flight paths of small birds, microbats and large insects. As she weaves her snare, the Orb-weaver leaves an open section above the centre of the web. This becomes her waste management area. The strong webs are permanent structures and are continually repaired. When a prey item is snared, *Nephila* moves in with a fresh supply of silken thread and binds her victim firmly into the main web. She sucks the juices from her prey, abandoning all hard parts which are later moved to the 'dump'.

As she waits motionlessly on her elaborate web *Nephila* is quite vulnerable. When large shadows move over her web, the female spider vigorously vibrates the web creating a shimmering golden mirage intended to confuse potential predators.



GEONOTE



DECEPTIVE DENDRITES

In the Spring 2005 issue of *From The ARK* we looked at pattern in nature, expressed as liesegang, rocks with distinctive banding formed by the rhythmic deposition of iron, manganese and other compounds. We continue the theme in this issue.

Mineral dendrites provide some of the most attractive surface patterns in nature. Looking remarkably like fossil ferns, 'pseudofossil' dendrites form when iron and manganese precipitate out of waters that flow along fractures and bedding planes in rocks. In lapidary, dendrites provide the signature patterning of semi-precious rhodonite and moss agate. However dendrites are much more than just gorgeous patterns on rocks.

Derived from the Greek word "dendron" meaning tree-like, dendrite or dendritic describes a distinctive arrangement of parts in which side branches continue to subdivide into smaller side branches until all available space is filled. The side branches then grow into each other.

Dendritic arrangements are found in the human brain, in alloys, minerals, snowflakes, computers and coke cans. Under certain conditions when materials crystallise and solidify, dendritic structures are formed. Snowflakes and frost reveal dendritic patterns under magnification. Alloys are composed of millions of dendritic crystals. The shape, size and rate of growth of dendrites determine the final properties of the solidified materials.

In biology, dendrites sit at the heart of human cognition. Neuronal dendrites conduct electrical signals to and from other cells. Dendritic signal processing is fundamental to human learning, memory and behaviour.

The branching structure defines all biological and chemical dendrites. This can be observed on Arkaroola's slates where manganese oxides often create beautiful picture rocks.

For a stunning selection of dendrites visit the Manganese Dendrites Gallery at www.mindat.org/gallery

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GALACTIC GOSSIP

"It's not often that we get to spend time in an area of the world that humbles us with its beauty and spirituality, both beneath our feet and above our heads. I can't wait to get back to Arkaroola."

Joe Grida

Author of *The Advertiser's* monthly Astronomy column

"The venue is so spectacular and unique that I am sure that future ASSA / Arkaroola star parties will be bigger and better with each year."

Gerry Aarts

Amateur astronomer



Gerry and some of his images from the Star Party



NGC3372 Eta Carinae Nebulae



NGC5139 Omega Centauri



NGC4945 Galaxy



What better way is there to celebrate Australia Day than to meet under the dazzling southern skies in a spectacular outback destination to explore past and present, and muse about the future?

Forty-five people from four states met at Arkaroola Wilderness Sanctuary in January for the inaugural Australia Day weekend **Star Party Downunder**. The event was jointly hosted by Arkaroola and the Astronomical Society of South Australia (ASSA). Despite losing the first night to cloud, participants enjoyed excellent astronomical seeing conditions for the second and third nights of the event. Astrophotographers captured some wonderful new images. Arkaroola's Star Chairs, equipped with 20 X 80mm astronomical binoculars, were very popular with participants especially for touring the breathtakingly beautiful summer Milky Way.

The four-day program included presentations by world-class speakers. Dr Jonathan Clarke, Director of the Mars Society of Australia, spoke about the importance of outback Australian environments as testing grounds for future Mars missions. Australia's revered comet hunter Bill Bradfield, shared comet hunting stories spanning thirty years. With credits for 18 comets, Bill's labour of love has been recognised in the naming of Asteroid Bradfield (A3430). World renown geologist and science communicator Professor Ian Plimer brought participants 'back to earth' with his presentation "*Deep Time at Arkaroola*". Later Ian claimed the old viewing platform at Coulthard's Lookout for his delivery of the unforgettable *Sunset Cocktails and Geology* talk. Life member of ASSA and one of the event organisers, Joe Grida, journeyed to the Magellenic Clouds, and ham radio operator Peter Whellum described how meteor trails can be used to further the passage of radio waves through the atmosphere.

An unforgettable memory for some was the spectacular passage of a large meteor that floodlit the surrounding landscape as it burned up in the atmosphere. Some guests wondered who among them had the power to orchestrate such a symbolic event. Arkaroola Management of course!

Always intended as a test run, the 2006 Star Party Downunder has definitely been given the thumbs up and initial planning is already underway for the 2007 event. Watch Arkaroola's website for details.

*Dava Sobel's wonderful new book **The Planets** is compulsory reading for anyone with an interest in the night sky. A former science reporter with the New York Times, Dava uses language beautifully to demystify, celebrate and share science with wider audiences. Her most accomplished works to date include the bestseller **Longitude** and **Galileo's Daughter**, which was short-listed for the Pulitzer Prize.*

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PRODUCT INFORMATION



The Saab Experience

Leave the office behind and connect with colleagues in ways you never imagined.

Ten executives from the Swedish military systems company Saab spent three days at Arkaroola discovering the best the sanctuary has to offer:

- Unrivalled wild landscapes*
- The dazzling reach of the dark southern skies*
- Stillness and solitude at secluded waterholes*
- Informed and dedicated guides*
- Attentive hospitable hosts who melt into the background*

Arkaroola offers special packages for corporate groups. Enjoy a bush banquet, cocktails at dusk in the mountains, your own dedicated tour guide, guest speakers and a souvenir CD that captures moments you will never forget. Call us on (08)8648 0014.



FROM THE ARK POSTCARD



Star Party Cocktails at Coulthard's Lookout January 2006

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