

Spaceward Bound Out and About in the Pilbara

Spaceward Bound Australia is on. An intrepid crew of 23 expeditioners have left Perth and been travelling ever north to investigate aspects of life on early Earth. The scientists from the NASA Ames Research Center, various universities and research institutes are anticipating expanding our knowledge and understanding of dawn of life on Earth and our solar system. From what is learnt here, can be applied to potential sites on Mars and perhaps provide an answer for the question, “Are we alone in the solar system?”

Chris McKay, Spaceward Bound Principal Investigator commented to the team, “That seeing some of the 3.4 billion year old stromatolites was a day of a life time.”

David Willson, from Mars Society Australia said that seeing the fossilised stromatolites, is like “Meeting your great-great-great grandma.”

Alfonso Davila from SETI described that, ‘looking at these structures is like a window into the beginning of life on Earth’.

John Rask from North Dakota University, outlined that “today we visited our earliest ancestor, evidence for the earliest life on Earth, simply extraordinary.”

These are but some of the sentiments from members within the group. The momentous occasion was celebrated with all individuals receiving a special NASA pin in commemoration of visiting the earliest forms of life.

After all the travelling so far, this is only a small taste of what is to come.



An example of a stromatolite like structure identified in a quick reconnaissance of the local area near Nullagine.



Examining early life: More evidence for very early biological action, believed to be around 3.4 billion years ago.

SBA 2011-log (M. Gargano)

Day One

First look at Western Australia's space link for the Spaceward Bound Australia expedition was a brief stop on Sunday at 'The Dish'. This dish is part of ESTRACK, the European Space Tracking Network, which forms the European Space Operations Command (ESOC). The 40 metre high dish is well hidden away off Great Northern Highway 10 km south of New Norcia town site, but well worth a look. The area is closed for tours, but that doesn't detract from the enormity of the operation. The dish is 35 metre diameter and total mass 630 metric tonnes and is crucial in the worldwide ESA network. The New Norcia's twin sits in Cebreros in Spain, but has another 6 smaller dishes in the group. The function of the New Norcia dish is Telemetry & Tele Command (TTC), which means talking to and listening to deep space objects. Space missions such as

Mars Express (http://www.esa.int/SPECIALS/Mars_Express/index.html),
Venus Express (http://www.esa.int/esaMI/Venus_Express/) and
Rosetta (<http://www.esa.int/esaMI/Rosetta/>).

ESA's Rosetta mission will enter orbit around Comet 67P/Churyumov-Gerasimenko in 2014, then Rosetta will release its small lander onto the icy nucleus, to possibly identify chemicals from the early solar system. A nice connection for the trip-from chemicals that were around before the Earth formed, to the chemicals that came together become the earliest life on the Earth.

After the science of New Norcia off to the historic town itself, which is a Benedictine Monastery community, and established in 1846 originally by two Spanish Monks to educate the local indigenous community. The expedition team walked around the Museum and Art Gallery, before our lunch on the go and then off again on the long road to Mt Magnet.

Day Two

Day Two involved more driving, the vastness of getting to sites of scientific interest was becoming very apparent to all. After Mt Magnet, driving through Cue and then Lake Austin, with a large volume of water either side of the road, enough for some to consider a canoeing expedition, well only briefly. After a lunch stop in Meekatharra and buying out the local service station of all their beef curry and chips, crossing the Gascoyne River, then the Tropic of Capricorn (no time for any crossing the tropics ceremonies just yet), the onto Newman for our overnight stop. Not before an additional delay after the trailer blowing a tyre. After a 10-minute quick change, which followed the 20 minute planning discussion with a large entourage of supervisors, well it simply isn't Spaceward Bound if you finish and still have a complete set of tyres!

Day Three

After confirming that the roads were operating we 'quickly' packed up the campsite and headed for our next site, further north, which didn't look that far, but our first time off the sealed road so another day on the road. Getting into Nullagine in mid-afternoon, provided a new team work activity-setting up tents during the daytime. After lunch we investigated the area that we will be operating in for our geological survey and space suit testing-it's going to be a good day.