



PERTH OBSERVATORY
Department of Conservation and Land Management

PERTH OBSERVATORY VOLUNTEER NEWSLETTER

MAY 1999

Editor: Bevan Harris

Editorial

A somewhat tardy newsletter this month, I shan't bore you with the reasons why but I do ask that you accept my sincere apologies (again!). Furthermore the "Highlight in the Sky" section is somewhat stunted this month, I guess largely because the month itself is now stunted.

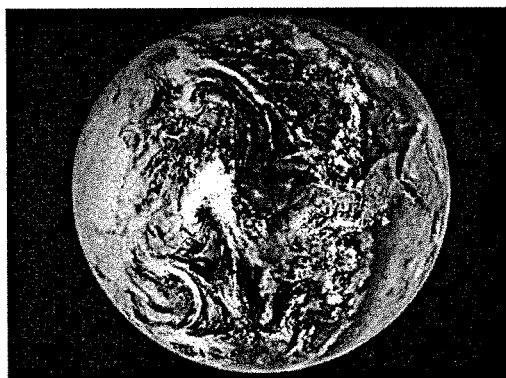
We have a guest writer in the form of Jacquie Milner, who has contributed a report on her trip in March to the South Pacific Star Party. Talking of Jacquie, my response to the closing paragraph in her recent article in *Sky & Space* magazine was "Too true!" If you haven't seen it I urge you to do so. She cites a Leunig cartoon where a father and son are watching the sunrise on television, seemingly oblivious to the real event occurring out the window. Food indeed for thought.

I also give you fair warning – I recently came across a collection of astronomy related poetry on the Internet, so look out for some arcane examples from this treasure trove in future instances of *Field Stop* – which is also missing this month.

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Highlights in the Sky



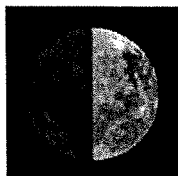
The Home Planet

I know that Mars and Venus are up there somewhere, in fact I've enjoyed watching them while travelling home from work in the evenings. Venus, in case you haven't guessed it, is that bright star-like object visible in the west at dusk. Mars is now very prominent in the eastern sky after sunset, which is testament to the fact that it is now past opposition. Jupiter should be an obvious object in the pre-dawn sky, but I'm never up that early to know, while Saturn should just now start to become visible after passing through conjunction at the end of last month. Mercury is heading towards superior conjunction, so will be soon lost to view in the morning sky. The other planets (Uranus, Neptune and Pluto) all rise before midnight now and will be well placed for viewing during the coming winter months.

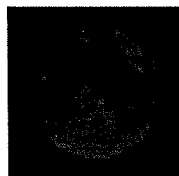
For those of you who want to catch an impression of the Earth-Moon system that is often overlooked, I urge you to check out this month's full moon. Do you recall the fat lazy full moon floating low across the northern sky late last spring? If so, then keep your eyes peeled for the counterpart occurring later this month on the 29th and 30th. On this occasion the full moon will appear relatively small and higher up in the sky. You'll need to wait until next month for an explanation of this phenomenon, but if you really can't wait that long I suggest you look back to the October 1998 issue of this newsletter for an article entitled *The Inconstant Moon*.

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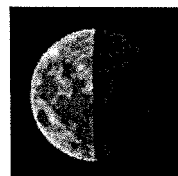
MOON



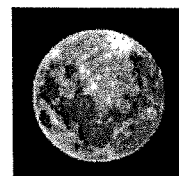
Sun 9th



Sat 15th



Sat 22nd



Sun 30th

Volunteer Training Nights

Astronavigation Practice nights (7.00 pm) Monday 99/05/17 and 99/06/14

Superstar star viewing volunteer **Bert Hollebon** has kindly offered to share his knowledge of **astronavigation** with us. All staff are strongly encouraged to participate in this unique opportunity to learn about this fascinating topic from a person who has actually used this technique many times in "field" conditions. Due to popular demand we will get a rerun of the theory on **May 17th** and next month (**June 14th**) we will conduct the practical component with Bert's sextant. Sincere thanks are given to Bert for action that is above and beyond the call of duty. The usual courtesies apply, if you are planning to attend either of these sessions, would you please notify **Greg Lowe** on 9293-8255 of your intention.

Note that the dates for the next few training nights are:

May 17th
Astronavigation
(theory)

June 14th
Astronavigation
(practical)

July 5th
TBA

August 9th
TBA

Harvest Festival / National Science Week

The annual "Observatory Open Day" was conducted earlier this month on Sunday May 2nd. Visitors enjoyed tours of the facilities, solar viewing, slide presentations and the museum displays, while face painting was available for the young and young-at-heart.

The weather remained somewhat overcast for most of the day, so we didn't get the 700 daytime visitors like last year. Even so, the approximately 430 visitors for the day enjoyed themselves and provided very favourable feedback to the Harvest Festival organisers concerning our efforts. Thank you to all the volunteers who assisted on this pleasant day.

Young Australian of the Year Lecture

Last Wednesday evening (12th) the Observatory, in conjunction with the Australia Day Council, hosted a lecture by Young Australian of the Year, Dr Bryan Gaensler. In a lecture curiously titled "Champagne Supernova", Dr Gaensler gave an overview of the work involved in his doctoral thesis, in which he examined SN1987A in an effort to determine the processes by which a supernova becomes a supernova remnant. The lecture was well received by an appreciative audience numbering around 30 that was comprised mostly of university students, but also included Observatory volunteers and staff as well as some local amateur astronomers.

Dr Gaensler is now employed at the Massachusetts Institute of Technology where he is developing programs for the soon-to-be-launched Chandra satellite, the x-ray equivalent of the Hubble Space Telescope, as well as continuing his work on SN1987A using data from the Australia Telescope.



Dr Bryan Gaensler

The Drought Breaks

The Observatory recently added another supernova to its growing tally, finally bringing to an end a long dearth of new discoveries. Discovered on April 27 and reported in IAUC 7158, this latest supernova is designated 1999ca and is in the galaxy NGC3120 which is located in Antlia. Congratulations to Simon Woodings, Ralph Martin and Andrew Williams on this latest success. In an observation that also served to confirm the discovery, Arie Verveer and Jamie Biggs obtained an accurate measured of the supernova's position using the Mike Candy Telescope.

Y2K Upgrade

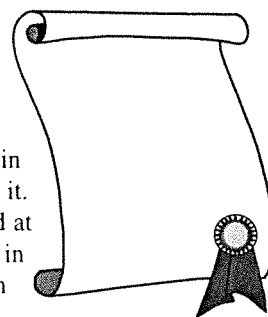


The Observatory computer network server will be upgraded to Y2K compliance in mid May – with Observatory staff hoping all goes well. Those with any experience of such things know too well what fun and games can ensue from a "simple computer software upgrade". Not to be deterred – the Observatory PCs will be individually Y2K tested and certified soon after. We have been warned that this process can sometime lead to unpredictable consequences! But it is a government directive that we upgrade in readiness for Y2K. After a major software upgrade you really get to understand just how dependent we are on computers these days.

Honorary Historian submits PhD Thesis

Perth Observatory Honorary Historian, Mrs Muriel Utting has just submitted her PhD thesis for examination at Murdoch University. The thesis concerns the Perth Observatory work of Hyman (Hymie) Solomon Spigl, who was Government Astronomer from 1940 to 1962. We all trust the examiners' reports are favourable.

Superstar Archiving Volunteers Brian Goynich and Tricia Turner have played a major role in thoroughly proof reading Mrs Utting's latest work and assisting in the creation of an index for it. Proof reading is most essential for the academic rigour of any thesis. They have also been hard at work compiling an index of Mrs Utting's four previous works. This will make the information in these books far more accessible, and when finalised it will be distributed to those already in possession of the previous works.



Star Viewing Record

A new record was set for the number of star viewing visitors in the month of April. The number of visitors totalled 662, which is nearly 100 more than the previous April record set in 1997.

Thanks to all Night Tour Volunteers who assisted us achieve this level of service.

In the Eyepiece - NGC 5128

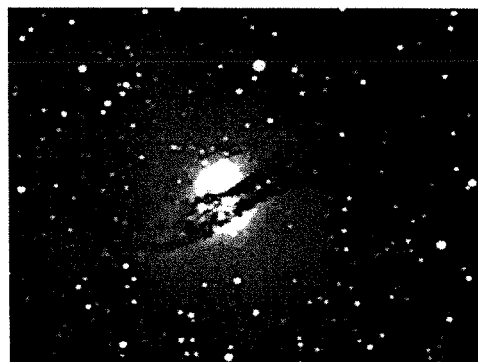
NGC 5128 is a peculiar 7th magnitude galaxy located some 4½° north of the massive globular cluster NGC 5139 in the southern constellation Centaurus. It lies some 15 million light years distant in the M83 group of galaxies. In visual appearance it is comprised of two semi-circular light patches sandwiching a dark central lane, and is unmistakably reminiscent to many of a hamburger. This has prompted it to be colloquially known as the Hamburger Galaxy – perhaps we should call it *McGalaxy*?

The galaxy is easily visible under dark skies with binoculars, but at least a 100mm telescope is required to reveal its outline and the dark bifurcating lane of dust. Long exposure photographs reveal it as a giant elliptical galaxy encircled by a prominent band of dust.

The galaxy is a particularly strong source of radio emissions and is seen flanked by lobes of apparently ejected matter in radio maps of the region. These lobes extend many hundreds of light years to each side of the object. NGC5128 is the strongest source of radio emissions in the constellation and as such is designated Centaurus A by radio astronomers. It is in fact the nearest radio galaxy and is the strongest radio source in the entire sky.

Recent studies by the Hubble Space Telescope appear to have confirmed a widely held belief that this object is in fact a collision between two galaxies. A massive black hole at the core of the parent galaxy is driving a feeding frenzy on a (perhaps) smaller spiral galaxy – representing galactic cannibalism at its most spectacular.

On a curious note, this galaxy's only known supernova was discovered in 1986 by Australia's own Rev Robert Evans.



FACT file

Name :	NGC5128
Type of object :	Galaxy
Other names :	Dunlop 482
Constellation :	Centaurus
RA :	13h 25m 17s
Dec :	-43° 00' 47"
Magnitude :	6.8
Distance :	15 M L.y.
Size :	18.2'x14.5'
Dreyer Description :	!!vB,vL,vmE122, bifid

"...two semi-ovals of elliptically formed nebula appearing to be cut asunder and separated by a broad obscure band parallel to the larger axis of the nebula, in the midst of which a fainter streak of light parallel to the sides of the cut appears."
Sir John Herschel (1849)

It's Party Time!

The 7th South Pacific Star Party was held over the weekend of 19-22 March this year. It is hosted by the Astronomical Society of New South Wales at their site "Wiruna" just out of Ilford. Ilford is a very small town about 70km north of

Lithgow (or 260km north west of Sydney). It sits on top of the Blue Mountains at a height of 1000m above sea level. They have developed some good facilities with a big shed for meeting in, hot showers and flush toilets. Accommodation is B.Y.O.T (bring your own tent). At the height of the party there were about 300 people there. They came from around the world, too – the USA, England, France, Slovakia, Switzerland, Germany and Japan.

Star Parties are an idea from the USA and they are, in effect, an excuse for amateur astronomers to gather in large numbers, show off their telescopes, discuss the latest news and techniques, share their experiences and make new friends. I first made the trek across to the east to attend the 3rd SPSP in 1995. I came back to WA with a new outlook on astronomy and left a promise to return to the SPSP again soon. Unfortunately it took me four years to get back.

I drove up on the Friday in plenty of time to pitch my tent in daylight. There was the official welcoming and opening address on Friday afternoon, given by ASNSW president Tony Buckley. The theme of the star party was the Magellanic Clouds and several speakers gave talks on different aspects: Mati Morel on the history of cataloguing objects in the Clouds, Greg Bryant on comets visible during the party (Hale-Bopp is currently on the edge of the LMC) and Andrew Murrell on deep sky objects in the Clouds. Andrew is locally notorious for finding extremely faint objects that no one else can see.

As darkness fell they conducted the ritual sacrifice to appease the weather gods – the attempted burning of a replica schmidt-cassegrain telescope. Despite liberal applications of fuel it didn't burn very well. Perhaps this was an omen... as most of the weekend was clouded over with some rain. The evening was passed with much consuming of port and a screening of the movie *Armageddon* from digital disc (don't ask me how they got a large screen entertainment system up there but they did!)

On Saturday morning there were the vendor displays in the shed and I caught up with a friend from my last visit, Roger Davis from the Astronomical Society of Victoria, and said hello to Glenn Dawes for Bevan. Saturday was also the judging of the telescopes and the observing field was liberally scattered with many shapes and forms, from a 22" monster to special telescopes for astrophotography to a spectro-heliograph. A small crowd followed the three judges as the telescope owners pointed out their special features. Some of the telescopes were works of art! For me it was a chance to see some pioneering telescope building that I hadn't seen in publication yet.

Following the official group photo was the keynote speaker Professor Jeremy Mould, Director of the Mt Stromlo and Siding Spring Observatories. He gave a terrific talk on the work he is leading on measuring the Hubble Constant which at the accepted value of 73 +/- 7km/sec/Megaparsec means the Universe is about 14 billion years old. This was followed by a talk by Ron Ravneburg, a well-known amateur telescope maker from the USA, who gave us an insight into leading amateur telescope builders and the businesses they have developed.

As the sky obstinately remained overcast, the backup quiz night was held. I joined Roger's table (he won it last year) and found myself sitting opposite Peter Williams, who found comet C/1998 P1 Williams last year. Our combined team of people from Victoria, NSW, SA and WA won and first prize was a bottle of Pickled Possum Port! The shed was then hurriedly vacated as it was announced that the sky had cleared. It was a brief clearing, though and we had sporadic observing through low cloud. We did get a good look at Mars, even through the cloud.

Sunday morning was the swap meet and then the Star Party started to wind down, with some people leaving. The cloud stuck around and rained on us again as we watched more videos. With more rain threatening on Monday morning I packed the tent away and made my slow way back to Sydney airport via the Jenolan Caves. It had been an exhausting but enjoyable weekend and I came back with a head full of information and new ideas. The trip had been well worth the effort even though we did virtually no observing. So if you happen to be going Sydney way when there is a new moon in March, look out for the South Pacific Star Party, it's a truly an Australia-wide event.



The largest telescope on the field was this 22" truss design Newtonian – all home made. Joss (the owner) is just putting on the finder.

If you have something to contribute to the newsletter, you can submit it to me via fax on (08) 9250 8240 or e-mail to <bmh@bigpond.com>. Alternatively, submissions may be pinned to the volunteer notice board for collection. Thanks, Bevan