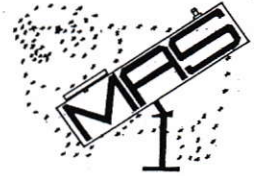


MACARTHUR ASTRONOMICAL SOCIETY Inc.

Journal



# PRIME FOCUS

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## President's Report

Welcome tonight to all fellow Astronomers. What an exciting month this has been. The "God of War" Mars has been holding court over us all and has been a wonderful sight in many telescopes.

I hope that everyone enjoyed last months meeting. Unfortunately Ragbir Bhathal was unable to attend but has promised to be with us tonight. However, I will be keeping an eye on Murphy's Law!

The Observatory Open nights are continuing to be most successful and it's just great to have people come up and show their appreciation. I'm not even safe at work or down at the shopping mall. I believe that many of our members have gained valuable experiences and confidence with this program and this just makes it all the more worthwhile. Great work to everyone involved.

As you're aware Astronomy is a big subject and as our Society is

growing in leaps and bound. The challenge ahead will be to keep everyone moving forward no matter what their particular interests may be. In that regard it may be timely to detail the activities that are available.

## Monthly General Meetings

These are held on the third Monday of each month here at the university and covers upcoming society events, the latest news and discoveries, current Astronomical happenings, delivery of our journal "PRIME FOCUS", basic astronomy and telescope usage for beginners.

Members share their expertise and sometimes will act as our Guest Speaker. On other occasions a Professional Astronomer will address the meeting. The night is upbeat and we try to create a friendly and casual atmosphere. We are now just starting to establish our Library and books and magazines will be available to borrow. Also the opportunity

exists to talk with other members over tea and coffee at the end of the proceedings.

## Field Nights

These nights are dedicated to observational work and telescope usage. Members are actively encouraged to attend, although the going gets tough at times and the cold nights are not for the faint hearted. The opportunities are there to increase your knowledge of astronomy or simply enjoy the fine sights the darker sky delivers. You'll be surprised what a pair of humble binoculars will do when shown the right objects to locate. The nights are not available to the general public. However, you are welcome to bring family and friends along if you wish.

## Observatory Public Night

Once a month you are invited to attend, a whole range of telescopes are on offer and of course you are welcome to bring your own. You can observe



through the 16" Observatory scope or perhaps take in the MAS slide show. The general public are very enthusiastic and the attendance can be up to 400. That's a lot of people. Sometimes we may even play some appropriate music just to set the scene. These nights are very popular and I've noticed many members attending these nights as opposed to the field nights, mainly due to the extra distance to the Oaks.

Well that's it for this month. In closing I wish to say how great it is to see some newer members getting involved in Field Nights and helping out in general, and with a few of you on the hunt for new telescopes please watch out for that Aperture Fever.

NOEL SHARPE  
PRESIDENT

### Vice President's Report

#### FLASH NEWS! M.A.S. PRESIDENT FOILS U.F.O. ATTACK

On Saturday 30<sup>th</sup> June M.A.S. and U.W.S. (Ragbir Bhathal) held an open night for the general public at The Campbelltown Rotary Observatory. The weather was once again not cooperating with us, for the fifth consecutive month.

We had approx sixty people turn up, mostly made up of Cubs and Scouts in the 7 to 11 age group, with the rest consisting of adult companions. The limited view of the sky didn't dampen the enthusiasm of our guests, long queues to observe through the 16" and society scopes was a pleasing sight. Mars and the Moon were the only objects that

could be seen clearly, but they still both amazed and entertained our budding astronomers. Once again Noel and Samantha entertained the crowd with an informative slide show and talk. Well done!

By now you must be asking, Where is the U.F.O. conspiracy? Well, as a famous T.V. tune once said, *Sit right back and I'll tell you a tale, a tale of a fateful trip, that started from this high hill to the tall grass down below...* During the observing session a number of our members noticed several large orange lights coming from the South-East and heading toward us at the observatory. This caused quite a bit of excitement, because these objects were not behaving like conventional aircraft and were not displaying the usual array of blinking lights that an aircraft is obliged to show.

Well you couldn't have a better place to have a U.F.O. sighting than one with a dozen telescopes trained to the sky. We all observed with varying magnification the objects overhead, but the only thing that could be positively identified was a belching orange flame. Theories flew thick and fast, from Flying Saucers to hot air balloons, but unfortunately the concrete proof could not be found to positively I.D. them.

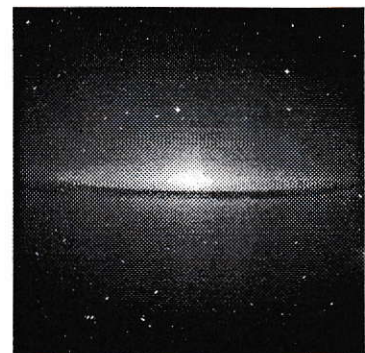
By about 11.00pm there were only a handful of members left, all seated together discussing the success of the night, when suddenly Noel yelled out "what's that?" pointing skyward. In a split second glimpse we all saw a black silhouetted figure fall to the ground. With great enthusiasm we all set off down the hill towards where the object landed, but after a short look we

were convinced it had landed a lot further away than we thought.

Not convinced of this Noel and his companion Mr X (name has been withheld to protect the guilty) searched further along the trail. Armed with his dolphin torch Noel trekked off into the long grass, Mr X not wishing to be bitten by rogue snakes or rats chose to wait at the borderline of the short grass. Swaying the light beam from side to side, Noel suddenly saw a black object intertwined in the bushes 4 meters ahead. With a slow cautious walk he approached it. Still unsure what he was about to touch, he comically exclaimed "We come in peace." Just then the devious Mr X who was armed with a mobile phone, and knowing that Noel had a mobile phone in his pocket, rang Noel's number. The sudden sound of a ringing phone, out of the darkness and silence made Noel jump 10 meters into the air. He in that split second thought that he had made contact with an extra-terrestrial entity.

Unfortunately all he could now hear was Mr X's belly laugh from the hill behind him. He was last seen chasing and verbally abusing Mr X around the domes. What about the object? you ask. You will have to hunt down one of the five there that night and ask them.

John Rombi



The Sombrero Galaxy (M104 or NGC 4551)  
100x40mm F/10.2 Dobsonian  
© 2000 John Rombi



## What's To See This Month?

July 16 - August 19, 2001

### Highlights

18/7 See Venus in daylight  
25/7 Mars close to Antares  
6/8 Venus meets Jupiter  
Photographic opportunities with Mars and 4 GC during early August

### Trivia Answer

**Human eyes have only seen 50% of the Moon before 1959?**

It is true that the Moon always presents the same face to the Earth, but the Moon also rocks from side to side and tilts down and up in motions which are called libration.

Therefore formations which are close to the limb (or edge) of the Moon swing more into, or out of, view depending on the time of your observation. Longitudinal libration (East-West) is due to the Moon's elliptical orbit causing a slow down or speed up in its travel around the Earth.

We can see up to 8° beyond the average edge on each side. The latitudinal libration (or tilt) is caused by the vertical axis of the Moon being tilted from the Earth by 6.5°. From Earth we can see 60% of the Moon surface over time. You can judge which librations are in effect by observing 3 craters, Crisium in the east, Plato in the north and Grimaldi in the west.

### Evening Sky Planets

**Mars** is at opposition and still bright and large. It rises in daylight and is available all evening in Scorpius. It is within 6° of Antares on 29/7 and beginning its eastward journey again after being stationary in one of the densest parts of the

Milky Way. It will pass within 1° or less of M19 (3-9/7) and three other GCs in that vicinity over the first 21 days of August. Photographs should be possible with good weather.

A waning Moon will form a triangle with Antares and Mars on 30/7.

**Neptune & Uranus** rise before sunset and have some close meetings with the Moon through the month. On 30/7 if there are any Neptunians looking our way they will see the Earth pass in front of the Sun. More transits will take place till 2006 when Neptune is at opposition.

Other objects to note in the evening are the **Southern Cross** high up above at this time of the year. Also the **Moon and Spica** will be only 9° apart on the 26/7.

### Morning Sky Planets

All four of the other planets can be seen in the morning sky around 5.30 - 6.00am on the 17-19/7 **Venus and Saturn** high up with **Mercury and Jupiter** just above the horizon.

If you missed seeing Venus during daylight last month you get another chance on the 18/7. The thin crescent Moon will be about 15° in front of the Sun from 7am to 2pm. Venus is 5° in front of the Moon.

On the 19/7 Jupiter will be just behind an even thinner crescent Moon, but also visible during daylight morning hours. Again **Be very careful not to look at the Sun itself**

### Trivia Question

What is the Quadrant of the Birds and why is it called that?

**Favourite Star** this month is from Dick Everett who likes **Altair**. A white star located in Aquila and 0.7 mag. Altair is also called the Eagle Star. Along with two other bright stars it forms what northern observers call the Summer Triangle. However interesting as that may be, Dick just gets a nice comfy feeling when its visible; as if everything is OK and in its right place.

### Meteors & Comets

**Pisces Austrinuds** all through the night max 8-10 ZHR on the 27/7, **delta Aquarids** from 1 am near Fomalhaut at same time and **alpha Capricornids** from late evening to dawn max on 29/7 about 4 ZHR but slow fireballs with trails

### Constellations of the Month

Flies, lizards, snakes and mountains. Where are we? If you said East Coast Australia or the **South Celestial Pole**, you would be right both times. No grand animals like lions, bears and dragons here. The northern hemisphere scientists who named these star figures in the 16-18th century, may have had their mind on the reality of the climate and fauna of South Africa, where they came to view this area, rather than on the legends and romance of the past. One writer described one of the suspects, Nicholas Lacaille, as having "an appalling lack of imagination".

Consequently we are stuck with Mensa - The Mountain, Hydrus - The Sea Snake, Musca - The Fly, and worst of all, Octans - The Octant! Now if that were Octans - The Octopus with big teeth and strong ripping tentacles, we'd all be pointing it out to the kids and telling horrible stories. But no



such **luck!** What is an octant anyhow?

Actually our first SCP figure is not too bad, **Apus - The Bird of Paradise**. Located south of Triangulum Australe and further south of Musca which is immediately south of The Cross, **Apus** was invented by Dutch, Portuguese or English navigators in the early 1500s. Although Johan Bayer first published diagrams of Apus (1604) he gives credit to others like Peter Theodore, Corsalis and Fred Houtman who observed from Sumatra in the 1590s for its invention. It is clear the bird in question is a native of the Papuan islands. The Chinese called the figure the Curious Sparrow or Little Wonder Bird. John Keats the poet referred to "legless birds of paradise" referring to the custom of removing the ugly legs before giving the bird as a gift, but maybe that it was the drunken English sailors he was talking about.

There are four orange giant stars that stand out brightly.

$\beta$ ,  $\gamma$  and  $\delta$  are in a V shape with  $\delta$  Apodi a very pretty double.  $\alpha$  Apodi, to the right of the V shape, is a good starting point to find polar alignment. There are two globular clusters and a few galaxies but very faint and small. NGC6101, located between Tri Aust and  $\alpha$  Apodi, is a mag 10 GC visible in 10cm better in 20cm but small.

Our final constellation for this month is the Octopus - ah! sorry I mean **The Octant**. Originally named Octant Hadleianus in honour of John Hadley, this is another of Lacaille's brilliant, imaginative (not) star shapes. He was a man so obsessed with

18th century engineering and science that he filled the southern sky with shapes named after equipment and instruments, like Reticulum (a grid for measuring star positions), Fornax (chemical Furnace) and Circinus (a pair of compasses). One suspects he might have named Crux as X for an unknown quantity if given the opportunity, such was the bent of his mind.

The Octant was invented by John Hadley of comet fame. It had a triangular frame with a system of mirrors and vernier scales with various filters to measure the angle of stars from the horizon. The word 'octant' means 1/8th of a circle, or 45°. It was the forerunner of the modern sextant. Octant's claim to fame is that within its boundary lies the South Celestial Pole much beloved by equatorial mount telescope owners.

Ancient Arabs thought there was some healing power for those who observed the Octans area intently. So remember, when you have a hard time finding your polar alignment, - it's doing you good!

If you measure one third of a straight line from Beta Hydrus to Alpha Crucis you will be very close to the pole. No stars brighter than mag 4 here with the majority being just visible to the naked eye on a good night. NGC 2573 is the closest galaxy to the Pole and was named Nebula Polarissima Australis by John Herschel in 1837 but you will need 30 cm telescope to find it. A good star map would help to find two doubles -  $\mu$  and also  $\lambda$ . Both of these are easy to see in binoculars. One challenge for observers is to be able to trace the triangular shape of the 3 main stars. I find it easier to

start from Alpha Apodi (The Bird of Paradise).

So get out your equipment and, circle the Pole! IC

### Pluto's Pup?

An object that may be even bigger than Pluto's moon Charon has been discovered 6.4 billion km out from the Sun in the Kuiper Belt beyond Neptune.

Named 2001 KX76, it is estimated to be somewhere between 975 and 1,268km across. This could make it larger than Charon which is thought to be 1,197 km diameter. This would make KX76 the largest known object beyond Neptune, after Pluto. It opens the whole question of if there are other Pluto (or larger) sized objects beyond Pluto.

### For Sale

1. One only Celestron Advanced Astro Master (hand held computer device.) Use with any past or present Celestron C8, C11, C14 or Super Polaris Mount. Adapts to Dobs. or other types of mounts with your own hardware. Runs off 12V battery or DC supply.
2. "Hoorst" of Princeton, IND. USA, Stepper - Motors only, 2 off, 12V DC, 4.5 Watts.
3. One only "Losmondy" Digital Drive System - Model 429.

Total suggested price would be 50% of today's imported price. For sale because of upgrading of telescope.

Contact Frank Kish,  
99 Campbellfield Ave, C'town.  
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