

Heavens Above - A Chronicle - 08 - March Nights

As mentioned in the Introduction Section, this is a collection of my columns that specifically relate to things best observed in the month of March. In most cases, they could also be observed in February and April at later or earlier times respectively.

CONTENTS LIST FOR MARCH NIGHTS

1. A Heavenly Phony
2. A Foggy Glob
3. Getting a Handle on Orion
4. Tarantula Tarantula
5. An Oarsome Pilot
6. Pleiades takes the Plunge
7. Heavenly Pilot
8. Fish in Space
9. Heroes and Argonauts
10. Twins Times Two
11. Saturn's Thinning Rings
12. Nine Headssssss Sssssnake
13. Who's a Bright Boy then?
14. The Ringer Looks Around
15. The Little Dog Star

1. A Heavenly Phony

For 24th March 1999

There is a distinctive group of stars which is better known for what it is not, than for what it is. It is an imposter, a phony, but you'd be surprised how many people are fooled.

I'm talking about the 'False Cross', a group of stars that looks so much like the Southern Cross that many casual star gazers believe it is the Southern Cross.

This is because at times when the Southern Cross is lurking near the horizon, hidden by neighbouring trees, the False Cross is visible high in the sky.

That's where it is now. If you face south, look up high and you'll see a large group of four stars in an unmistakable cross shape, lying on its side. You should be able to spot it easily amongst the other stars.

The irony of the False Cross being so distinctive is that it is not an official constellation. It's just a nick-name given to a familiar 'sky mark' joining two other constellations.

The stars of the False Cross are not particularly exciting in themselves, but just below the foot of the cross is a faint fuzzy 'star' which binoculars reveal to be a delightful cluster of about 80 stars, with a ruby red giant in their centre. This cluster has the official name NGC2156, though members of the Macarthur Astronomical Society have dubbed it affectionately as the 'B*****d If I Know' cluster. As you can probably guess, there is an amusing story behind this, which you'd have to join the Society to discover.

The False Cross is twice the size of Southern Cross and if you can find a treeless site to view them together, you'll easily spot the difference and never be fooled again. Until next time.

2. A Foggy Glob

for 7th March 2000

I've written before about Open Clusters, like the Pleiades and the Jewel Box. Now it's time to talk about Globular Clusters, the Old Men of the Universe.

What is a globular cluster? It's a collection of very, very old stars packed together like moths around a street light. Astronomers

believe that globular clusters (or Globes) contain the oldest stars in the Universe - about 12 billion years old. Our Milky Way has about 150 of these globs, orbiting in a halo above the galactic plane.

From your backyard in Campbelltown, you can see the two biggest and best. On a clear dark night, you can see them with your naked eye as faint 4th magnitude stars. But add an ordinary pair of binoculars and...wow!

So, where to look? To find the biggest, Omega Centauri, first find the Southern Cross and the 2nd (closer) Pointer. Follow a line east of the Pointer parallel to the Cross for about two Cross lengths. You will see a faint star. Even if you don't, point your binoculars to that spot and you will see a bright compact fuzzy patch of light, like a streetlight through fog, or a chalky thumb print on a black board.

That fuzzy patch has up to 5 million stars, and is 17,000 light years away. The stars at its centre are only a few light weeks apart, compared to our nearest star which is 4 light years away.

If you can find the Small Magellanic Cloud (due south, about 45° high) you will see the next brightest glob 47 Tucanae, which is a mere 15,000 light years away.

The buzz about looking at globular clusters is – you are gazing at the oldest stars in the Universe. So show some respect for age.

3. Getting a Handle on Orion

for 20th March 2001

Orion the Hunter, or the Big Saucepan, is heading over the western horizon. This month is your last chance until December to view this magnificent constellation.

A special treat in Orion, for those with a pair of binoculars, is 'the Sword of Orion.' You can't miss it, it's the bit that resembles the handle of a saucepan.

To the naked eye it looks like a ragged string of three or four fuzzy stars, poised above the three bright stars forming the 'belt.' But with binoculars, a whole new world opens up. Contained within the same field of view of your binoculars, you will see a chain of wonders.

Near the middle is the Great Nebula of Orion, M42, a huge glowing nebula 1,400 light years away surrounding the 'star' Theta Orionis, which is really a multiple star system. This nebula is 15 light years diameter and is giving birth to myriads of stars even as you watch it.

But that's not all. Below M42 another glowing nebula surrounds a tight knot of stars, and below that again is a sprinkling of about twenty stars in open cluster formation. And above M42, completing the chain, is the bright star Iota Orionis, with some friends.

Each of these is beautiful on its own, but to see them together as in a bank queue, in one glimpse, is marvellous. So do whatever you can to keep your binoculars steady and you will gaze at this chain of stars and gasses for ages.

4. Tarantula Tarantula

for 3rd April 2002

From Macarthur region, the Large Magellanic Cloud (or LMC to its friends) is always in the sky but is best observed when highest, which is around December to April. This is the larger of two such clouds named in honour of the explorer Ferdinand Magellan. To find LMC, face south after twilight and look up about 50° above the horizon. Clouds permitting, you will see what looks like a faint cloud patch about twelve times the Moon's diameter.

But it's not really a cloud. It's the nearest galaxy outside our own, only 170,000 light years away. (Did I say only?) It's about one third the diameter of the Milky Way, with around 10 billion stars.

Through binoculars, LMC's irregular shape can be seen to have patches of light and dark lanes of gas, and at one end, clinging like a huge spider, is a large glowing cloud of gas 1,000 light years in diameter, called the Tarantula Nebula. Believe it or not, in good photographs this actually does look like a nasty spider with hairy legs and fangs.

Inside the Tarantula there are huge stars glowing, causing the nebula to be so bright, and there are many more stars being borne. This makes it the brightest nebula in our whole galaxy.

It is also famous in recent times for being the location of the most recent naked eye supernova since 1604. In 1987 a star in LMC went kaboom! and threw the astronomical community into a frenzy of delight. Just imagine how they'd react when one occurs within our galaxy – due anytime now.

5. An Oarsome Pilot

for 29th March 2005

It's a fact that the constellations around the South Celestial Pole are less obvious and well known than those to the North, but there are some beauties, and in fact we have the larger share of the brightest stars. One such star is Canopus.

Canopus this month lies just West of South and about 60° above the horizon. You can't miss it, being the second brightest star in the sky after Sirius (which lies another 30° above it, to the North). Canopus is a white supergiant star 313 light years away.

Canopus has the distinction of being the only star to be named after a real person, as opposed to a mythological character. The star, in the constellation Carina, represents Glaucus, the helmsman of the Argo Navis, the great 50 oared ship sailed by Jason and the Argonauts on their quest for the Golden Fleece. But the star was actually named for Canopus, the real life pilot of the fleet of 1,000 ships launched by the Spartan King Menelaus to rescue his wife Helen from Troy.

After the brilliant feat of piloting this vast fleet to Troy, and after the Trojan war, piloting it back to Egypt, poor Canopus stepped ashore and was promptly killed by a poisonous snake. To honour him, the Argo's helmsman's star was named after him. Even after death he continues to pilot, as he is used by astronauts as their prime guide star for space voyages.

6. Pleiades takes the Plunge

for 20th March 2007

Time is running out for this year to see the beautiful Pleiades star cluster in the constellation Taurus. That's because it is setting about 9:30pm or earlier if you have a cluttered western horizon. Best look about 8:30pm. Soon it will be gone until November. Pleiades is one of those naked eye clusters that stand out in the sky and then benefit from a pair of binoculars of any size, but not a telescope whose magnification is too great.

You can find it easily low in the WNW, directly below the big V with the orange star Aldebaran. The Pleiades represent the seven daughters of Atlas and Pleione. The young girls are being actively wooed by the hunter Orion. It is interesting that many cultures, other than the Greek, including Australian Aboriginals, saw this cluster and Orion as seven sisters being pursued by a great hunter.

The Egyptian doctors used Pleiades as an eye chart. If you could see seven stars, you had 20/20 vision. How many can you see?

7. Heavenly Pilot

for 4th March 2008

If clouds allow, a very important star is visible directly south and high in the sky this month. Always the 'bridesmaid' as the second brightest star in the sky, Canopus is the brightest star in the constellation Carina, the keel of the Argonauts' ship Argo. Canopus is a white supergiant star 313 light years away and is so large it is almost as bright as Sirius, the brightest star, only 8.7 light years away and visible to the north.

While representing Glaucus, the mythological pilot of the Argo in Carina, Canopus is named after the legendary pilot of the fleet of 1,000 ships launched by the Greek king Menelaus to rescue his queen Helen from Troy. Canopus performed an amazing act of navigation to take the fleet to Troy, and 10 years later return it safely. Sadly, on stepping ashore in Egypt after this epic voyage, Canopus was bitten by a snake and died. In tribute, Menelaus named the star after him.

Canopus' piloting skills live on with astronauts and unmanned probes who use him as a guide star for navigation in exploring space.

8. Fish in Space

for 25th March 2008.

There were plenty of fish in the southern sky this month for Easter. While faint and difficult to identify, they're still up there waiting for the right bait.

Due south, cruising beneath constellation Carina (the Argo's keel) is the flying fish constellation Volans. Just to the west of the Diamond Cross, it has a faint trapezium of stars for a body and two stars for a tail hanging beneath the False Cross.

Then immediately west of Volans and below the bright star Canopus, is another fish, Dorado. While meaning 'Goldfish', this represents both a golden dolphinfish or a swordfish which is long and narrow (with a pointed snout) and a triangular tail. The tail starts at the Large Magellanic Cloud and its body points westward.

Not so edible is another sea creature, the Lesser Water Snake, Hydrus. Its faint snakelike shape (a coiled body with raised neck and head) is contained within a large triangle of brighter stars bounded by the two Magellanic Clouds and the 1st magnitude star Eridanus.

These are hard to find without charts but fun to know they're up there. Good fishing.

9. Heroes and Argonauts

for 19th February 2008

Did you know that the word 'hero' derives from the name Heracles who became the famous Hercules of the 12 Labours? His exciting story is told in the north with a constellation for him, along with two of the beasts he slew, Leo (the Lion of Nemea) and Hydra (the water monster of Lerna) plus the heel nipping crab, Cancer. The Hercules constellation can't be seen until July but his antagonists, Leo, Hydra and Cancer are up there to the north this month and March.

The story of Hercules is a classic Greek tragedy. He was the illegitimate off-spring of Zeus who ran foul of Hera, Zeus's sister/wife who made it her life's work to destroy Hercules. When Herc had happily married and had three adorable sons, Hera stricken Hercules into thinking they were enemies and he killed them. Full of grief and remorse, he tried to end it all, but being immortal couldn't. The ballad below tells of how he came to get the 12 labours for which he is famous.

The Ballad of Hercules

(to the tune 'Beverly Hillbillies')

Come listen to the story
Of a man named Herc
The first Greek hero,
But could he go beserk.
He slaughtered his own family,
He really was a goose

But what else can you expect
When your father is Zeus?
(Jupiter, Top Olympic god, el supremo...)

Old Herc tried to end it
But really had no luck,
Every time he tried to die
It always came unstuck.
Zeus sent him to his cousin,
Eurystheus was his name,
Who set him 12 hard labours
That's how Hercules got his fame.
(the twelve labours of Herrrrr...cules...) (Copyright R Bee)

Another set of heroes are in the south in the famous ship Argo represented by three constellation Carina (the Keel), Vela (the Sails) and Puppis (the Poop), plus two more of the Argonauts, Pollux and Castor in Gemini to the north. The Argo was manned by fifty oarsmen, including Hercules, Pollux and Castor. I'll tell their stories another time.

10. Twins Times Two

for 3rd March 2009

Directly north this month is the constellation Gemini, recognised by the two bright stars just two extended thumb widths apart about 30 degrees above the horizon. The remainder of the constellation stretches up and to the west towards Orion.

Everyone knows that Gemini means 'The Twins' and this refers to those two bright stars Pollux and Castor. But the story is a lot more interesting than that. Pollux and Castor were actually only the male half of two sets of twins born to Leda, the wife of Tyndareus the King of Sparta. For bizarre reasons, Leda gave birth to quads. Two, Pollux and Helen, were the offspring of Zeus, while Castor and Clytemnestra were the offspring of Tyndareus. (I said it was bizarre.) Despite having different fathers, Pollux and Castor were reputed to be identical and inseparable friends.

Helen (yes, she of the face that launched a thousand ships to Troy) married King Menelaus of Sparta. Her lesser known and more than nasty sister, Clytemnestra, married Agamemnon, Menelaus's brother. Sisters married brothers.

The twin boys joined the heroic crew of Argonauts. Pollux was famous as a boxer and made his name when he accepted the challenge of the evil king Amycus to a boxing match. Pollux laid him out dead with one punch, freeing the Argonauts from captivity. Castor was a swashbuckling swordsman and horse rider. They were 'the life' of the Argonauts crew. For this reason they were venerated by ancient mariners. "When wintry tempests o'er the savage sea are raging,

And the sailors trembling call on the Twins of Jove with prayer and vow..." (Shelley).

The twins were well known in the biblical days. In Acts, Chapter 28, vs 11, Paul the Apostle says that in 62 AD, on the final leg of his journey to Rome..." we departed in a ship of Alexandria which had wintered on the isle, whose sign (the ship's) was Castor and Pollux.

So the twin boys had quite a history. So did their sisters, but you need to look elsewhere than the stars to see them.

So when you look at Gemini, remember their overlooked sisters, nowhere in the sky.

11. Saturn's Thinning Rings

for 17th March 2009

The next few months will be ideal for viewing what is arguably our favourite planet – Saturn. After May it will be in the western half of the sky after sunset and after September it will be setting before sunset.

Due to Earth and Saturn's orbits, in September 2009 Earth will pass through the plane of Saturn's rings and they will appear like a straight pencil thin line across Saturn's face. Barely visible, but what a view. At the moment, the rings are very close to edge-on and look different to what we're used to but still spectacular. Someone described it as a ball of wool with a knitting needle through it. If you have any size telescope, have a look before Saturn disappears into daylight in September. You'll be amazed.

Where is Saturn? In March, look north-east and find the 'Sickle' in Leo, with the bright star Regulus at the top. Leo's 'tail' is below and east of Regulus, just 20 degrees above the horizon. Saturn, a pale yellow 'star' is sitting about 10 degrees directly above the tail. It will stay close to that spot for the rest of March.

12. Nine Headsssss Ssssnake

for 31st March 2009

High to the north and east all of April is the sky's largest constellation, but good luck finding it, it's faint. That may be just as well, as it has a nasty bite, nine of them in fact. I'm talking about Hydra, the feared nine headed serpent that Hercules had to fight as one of his Twelve Labours.

Hydra, the water snake, starts above Cancer, the Crab, then meanders for about 100 degrees to the east, passing above Crater the Cup and Corvus the Crow until its tail stops above Centaurus. A very long snake. Unless you have a star chart, its stars are difficult to identify. But at least we can see its head, the bitie part.

If you locate the Gemini twins Pollux and Castor, near the northern horizon, look up and east from them by about 45 degrees and you will see an orangish 2nd magnitude star. That's Alphard 'The Solitary One', the snake's heart. Now move back halfway towards Pollux

and you should see a small ring of six faint stars, right above Cancer. That is the snake's immortal head. If you find that, you've done well.

13. Who's a Bright Boy Then?

for 2nd March 2010

There's a plethora of bright stars to the north this month (ten, in fact), but one is an impostor. Amongst the brightest stars in the sky, all are found within the 90 degree sweep from NW to NE. Why not go check them out?

To the north-west is orange Aldebaran (14th brightest at magnitude 0.85) in Taurus's Big V. Eastward in Orion, below and above his Belt, is red Betelgeuse (10th at 0.5) and white Rigel (7th at 0.15). Near the horizon below Orion is yellow Capella (6th at 0.08). Above and east of Rigel in Canis Major is brilliant white Sirius (1st brightest at -1.44). Below and east of Sirius in Canis Minor is white Procyon (8th at 0.38). 25 degrees below Procyon are the Gemini Twins, orange Pollux (17th at 1.15) and white Castor (23rd at 1.58). Finally, to the east of the Twins in Leo is white Regulus (21st at 1.35).

But wait, what is that magnitude -0.55 bright red star just 7 degrees right of the Gemini Twins in Cancer? Sprung! That's the impostor, the red planet Mars, only 108 million km away.

14. The Ringer Looks Around

for 16th March 2010

Mars has some company of the planetary type in the sky this month. We've grown used to the sight of the bright red Mars parked close to the Gemini Twins over the past month, but now the ringed giant Saturn is rising earlier and sharing the early evening sky with the War planet.

This week, Saturn is about 25 degrees above the north-eastern horizon at 9pm, appearing as a creamy star of magnitude 0.5. That's about the same brightness as the red Betelgeuse in Orion. It can be found about two thirds the way from Regulus (on the left at the top of the Sickles in Leo) to Spica (on the right in Virgo). Both these stars are slightly fainter than Saturn. It reaches due north around midnight.

On the 22nd March, Saturn will be at Opposition, meaning the closest to Earth for this year, at a mere 1,275 million km (or 8.5 times Earth's distance from the Sun). This is a great opportunity if you have a telescope of any size to check out Saturn's still narrow rings and moons like Titan, Tethys, Dione, Rhea and, perhaps, Iapetus

15. The Little Dog Star

for 30th March 2010

Canis Minor has few visible stars brighter than magnitude 4. Two in fact. It can easily be found, however, as those two bright stars about 4.5 degrees apart midway between Sirius (high over head) and the Gemini Twins Pollux and Castor (about 30 degrees above northern horizon).

Its main star is Procyon, the 8th brightest star at magnitude 0.38 and 13th closest at 11.4 light years. Its name means 'The Leading Dog' because, seen from the northern hemisphere, Procyon rises just before Sirius. While having other names, it is mostly called 'The Little Dog Star'.

The second and fainter of the pair is Gomeisa, mag. 2.9 and 170 light years away. These two comprise the constellation Canis Minor which means 'The Lesser Dog', the smaller of Orion's two hunting dogs. The other of course is Canis Major.

Procyon is interesting because, like its big brother Sirius, it also has a white dwarf companion star, visible only to huge telescopes. With a mass 65% of our Sun, it is only twice the size of Earth. It's extremely dense, even more than Sirius' companion the 'Pup'. So, the Lesser Dog has the bigger pup.

(WATCH THIS SPACE FOR FUTURE MARCH NIGHTS ARTICLES)
