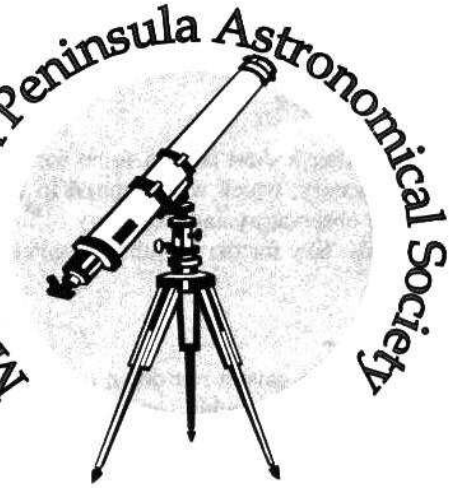

SCORPIUS

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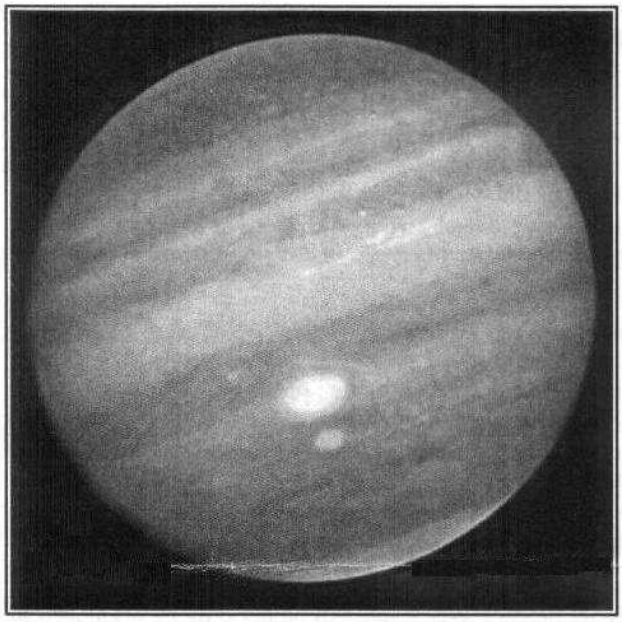
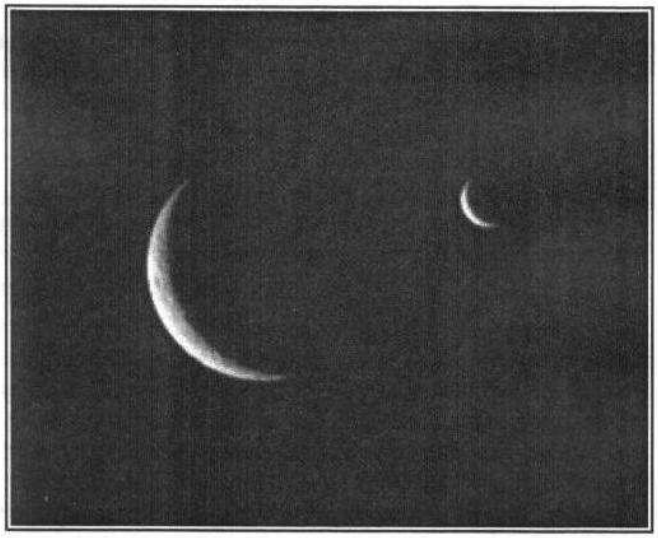
The Mornington Peninsula Astronomical Society (formerly the Astronomical Society of Frankston) was founded in 1969 with the aim of fostering the study of Astronomy by amateurs and promoting the hobby of amateur Astronomy to the general public.The Society holds a General Meeting each month for the exchange of ideas and information. Regular observing nights, both private and public, are arranged to observe currently available celestial objects. For decades the Society has provided *Astronomy on the Move* educational presentations and observing nights for schools and community groups exclusively in the Peninsula and surrounding regions to Moorabbin, Dandenong & Tooradin.

Jupiter's second Red Spot



Enceladus occults Rhea



Plus :

Night Skies of the Kaurna people
Methane rain on Titan
Viewing Scorpius

Star Trek's Scotty to revisit the final frontier
All about magnitude

July / August field nights and events

7th July – Public viewing night at Briars
19th July – General Meeting at Peninsula
22nd July – Members Viewing night at Briars

4th August – Public viewing night at Briars
12th August – Members movie afternoon at Peninsula
16th August – General Meeting at Peninsula
17th August – Heathmont Primary night at the Briars
19th August – Public Astrophotography night Briars
26th August – Member's viewing night at the Briars

Mornington Peninsula Astronomical Society

Society News

May General Meeting

Peter Lowe opened the meeting which had an attendance of about thirty members. After a short talk on some society business Donald gave a talk on LIGO, the Laser Interferometer Gravitational Wave Observatory, which was featured in the March 2005 edition of Scorpius. He gave a fascinating talk on the current work done with the observatory and the theory behind its operation. Donald's talk was followed by the standard tea break. Bob Heale then gave his 'Sky for the Month', then Peter Lowe presented a talk on various spacecraft and their current mission status.

June General Meeting

The June General meeting was once again opened by society President Peter Lowe who gave a run down on recent society events. This included the public viewing night which had quite a few members of the public attend but was unfortunately, as fate would have it, was clouded out.

Jakub presented a puzzle which had most members stumped until he revealed the solution at the end of the meeting.
VII = I : move one line so that the equation works. (The solution is at the back of this edition of Scorpius).

After the coffee break, during which an impressive meteorite display was put on show, including a 6.5 kg meteorite from the Campo Del Cielo fall in Argentina, Bob Heale gave his 'Sky for the Month' presentation. Jakub then gave a talk on craters on the Moon which had been named after Bohemian people of scientific significance. Peter Lowe concluded the evenings meeting with a quick talk on how the Earth had recently gained a second moon (read on for the full story). The meeting was concluded at 10:35 pm.

Important Notice About Membership Payments

For those of us who deal with the banks every day, security is now one of their main priorities. Having said that, I am now having trouble depositing membership renewal cheques that are not 'completed correctly'. I have been told that membership payment cheques that are filled out to the 'M.P.A.S' will no longer be accepted as that is not the name of the account that the cheques are deposited into.

I must ask then that if a member is paying their membership by personal cheque or postal cheque, then that all future membership cheque payments be made out in full to the **Mornington Peninsula Astronomical Society**. I pleaded a case to the bank that many members abbreviate the name, as it is understandably a long name to have to write on a cheque; and applied for an allowance for members to sign cheques in the abbreviated form of **M.P.A.S.** Apparently another company somewhere in Australia has an abbreviated name 'similar' to M.P.A.S, so my application for abbreviated cheque signing was denied.

Once again, I ask then that if a member is paying for a membership by cheque then that they please make the cheque payable to the **Mornington Peninsula Astronomical Society**. Sorry for any inconvenience that this imposes.

Marty Rudd (Treasurer M.P.A.S. – sorry – Mornington Peninsula Astronomical Society)

Movie Afternoon

For those of us who like a good Sci-Fi movie then this event should not be missed. The MPAS is holding a special member's event, which will include the viewing of two Sci-Fi related movies as well as a break in between the two movies, at which time hot food and beverages will be served. A choice of movies will be made available on the day so that a selection can be made by you the viewers. The event will start at **2:00 pm on Saturday the 12th of August** and is to be held at in the usual meeting room **at The Peninsula School**. For those interested in attending, please contact Don on 5985 4927.

National Science Week Viewing Night

A special viewing night is being held by the MPAS on Saturday night, the 19th of August, at the Briars. The viewing night will begin at 8:00pm. This viewing night is to coincide with National Science Week and will be not only be orientated to telescopic viewing of astronomical objects but also involves the theme of astrophotography. So bring along your telescope and your digital or SLR camera for a night of great viewing and astrophotography (weather permitting offcourse).

Volunteer assistance makes up an integral part in the running of the Mornington Peninsula Astronomical Society and members are encouraged to take part in assisting with events and working bees whenever they are able to. Working bees and volunteer assisted events are publicised on the 'What's On' flyer and in the 'Scorpius' newsletter so if you see an event you think you can help with then by all means contact the relevant event organiser or a member of Committee.

Astronomy 2006

It's over half way through the year and there are a few copies of the excellent annual Australian publication, **Astronomy 2006**, available for purchase. The book shows what is in the night sky throughout 2006, and is aimed at all levels of amateur astronomer, from newcomer to expert.
Pricing is $20 to the public, though society members can get it at the discounted rate of $18.
Orders and payments can be made in person at any MPAS gathering or by cheque to P.O. Box 596, Frankston 3199
These sky almanacs will be available at any society gathering. There's a few left so get in quick before they're sold out.

Kaurna Night Skies

Before Europeans first came to colonise the Adelaide Plains of South Australia in 1836, the night skies would have been truly dark by today's standards. There was no street lighting, no security lighting and no industrial pollution to obscure the view of our galaxy. However, within a short period of time of just over 150 years South Australians have managed to create a large metropolis of approximately 1 million people with industries, communities and lots of street lighting. And although Adelaide's skies are still quite good by world standards, this light pollution has managed to obscure the faint light, which has often been travelling for aeons from reaching the Earth and the Adelaide Plains.

Kaurna dancers at the South Australian Museum recently.

Sadly few people now give thought to the original inhabitants of Adelaide Plains the Kaurna People. Before European occupation, the Kaurna (pronounced gar-na) had been living on the Adelaide Plains for thousands of years. They were comprised of a number of different clan groups who were united by a common language. According to records the Kaurna lived as far north as the township of Port Wakefield (about 1-hours drive north of Adelaide) near the coast and inland to Crystal Brook, and as far south as Victor Harbor (note: many Kaurna and their descendants still live in the Adelaide region). Their traditional boundary to the east is the Adelaide foothills and to the west the Adelaide coastline. The Kaurna were bordered by the Peramangk People in the Mount Lofty Ranges to the east, by the Ngarrindjeri and Ramindjeri Peoples to the southeast and by the Ngadjuri People to the north.

There were 650 Kaurna People on the South Australian Register in 1842. However, before Europeans began the occupation of the Adelaide area on mass in 1836, many of the diseases of the west which had been brought by the convicts and colonists from Europe were to decimate many Indigenous Australian populations. For example, it is believed that through the interaction of Aboriginal Groups in the eastern states with invading Europeans that many diseases such as smallpox had migrated down through the Murray-Darling Aboriginal Nations who unwittingly spread the disease. Once Europeans first started arriving at Holdfast Bay on the Adelaide coastline many of these diseases had already impacted upon the Kaurna People, therefore, it is hard to say with certainty how many Kaurna People may have already fallen to these pathogens.

The Kaurna People still occupy the Adelaide Plains. However, over time, and through brutal government policies they were displaced and moved on to other lands. Resurgence and interest in Kaurna Culture has recently been taking place, as it has been for many other Aboriginal Cultures around Australia. For example, similar to the nomenclature now used in the Northern Territory where Ayers Rock is usually called *Uluru*, many notable Adelaide place names now share dual naming. For example, the main river which runs through Adelaide the River Torrens is now also known as Karrawirraparri (*karra*=Red Gum, *wirra*=forest and *parri*=river).

Today, because of the endeavours of a few thoughtful individuals about 3,500+ words of the Kaurna language survive. Unfortunately, little is now known of the astronomy and cosmological beliefs of the Kaurna. However, these same people responsible for the recording of Kaurna linguistics also documented snippets of Kaurna knowledge of the night sky in addition to their cultural and spiritual beliefs.

Most notable of these recorders were two Lutheran missionaries who had arrived from Germany in the colony in 1838. Clamor Schürmann and Christian Teichelmann had come to Adelaide fleeing the religious persecutions of their homeland in the interest of greater freedom and converting the local Anglo and Indigenous populations to their own faith. Schürmann and Teichelmann established the first 'native school', as it was then called, on the banks of the River Torrens *Karrawirraparri* at a place that is known as *Piltawodli*, which means 'possum's house'. It is here that the two missionaries likely recorded some of the Kaurna cosmological beliefs.

Somewhat similar to some ancient Egyptian beliefs, the Kaurna believed that celestial bodies such as the stars formally lived on the earth. They believed that while on the earth these celestial bodies lived their lives partly as men, and partly as animals. Eventually, they exchanged this existence for a higher level and ventured into the heavens. Thus, the Kaurna applied names given to beings on the earth to celestial objects and there was a close connection between the lower and upper realms of existence.

In many ancient and primeval cultures the sun is nearly always seen as male and the moon is viewed as female. For example, to the ancient Greeks the sun was the god Helios who daily drove his fiery chariot across the sky westward and the moon was the goddess Selene. In addition, in ancient Egypt the sun was known as the supreme god *Ra* and to the Aztecs of Mexico as *Huitzilopochtli* both male deities. However, in many but not all Aboriginal Australian cultures, our sun is often viewed as female and the moon as male. For the Kaurna People this is also the case. The Kaurna called the sun *Tindo* and the moon was named *Kakirra*. Although, Wyatt (1879) claims that *Kakirra* is male, not female. When the moon was full it was called *Kakirramunto*. *Kakirra* was believed to have a benevolent affect on human affairs, however, *Tindo* (sometimes written as *Teendo*) was considered to be more malevolent in nature.

Accordingly during the hours of darkness the Kaurna believe that *Tindo* sat in her *Wodli* (wurley) and ate fish. Furthermore, the Kaurna People believe that *Tindo* was originally created by an ancestral being named *Monaincherloo*, who was also known by the name *Teendo yerle* which meant 'sunfather'. Wyatt (1879) had recorded that the Kaurna believed that *Teendo yerle* had created the sun, moon, stars, men and "plenty of things."

Kaurna Elder Steve Goldsmith playing the 'Yidaki' (Didgeridoo) at NACAA 2002 in Adelaide.

The Kaurna called the constellation of Orion *Tiinninyarra* (also sometimes written as *Tiinninyarrana*), and the *Tiinninyarra* are a group of young men who are hunting emu, kangaroo and other game of the celestial plain known as the *Womma*. They are hunting this game by the banks of a river, which they called *Wodliparri* (*wodli*=hut and *parri*=river). Therefore the band of the Milky Way from the Southern Cross through to the constellations of Orion, Auriga and Taurus is seen as a giant river in the sky world, and along the edge of the river are reeds and huts. Neighbours of the Kaurna to the south the Ramindjeri People who live around the Encounter Bay area also saw the band of the Milky Way as a river in the sky world with huts along the edge.

Additionally, along the edge of the *Wodliparri*, a group of women are collecting reeds and berries and they are known as the *Mankamankarrana* who many astronomers know today as the 'Seven Sisters' or the 'Pleiades' cluster. The Pleiades are an open cluster of stars which formed approximately 50-60 million years ago and are located some 378 light years away from our sun.

In addition, the dark patches along the band of the Milky Way are known as *Yurakauwe* (*yura*=monster or magnificent creature and *kauwe*=water). These dark patches are seen as waterholes, lagoons and billabongs where a very dangerous 'being' is said to reside. The Kaurna believe that if you were to wander too close to - or swim in these areas you would be dragged down under the water and killed by this creature.

Prominent in the skies of Australia is the majestic Wedged-tailed Eagle *Aquila Audax*. Eagles and other Australian Birds feature strongly in many stories told by Indigenous Australians and the Kaurna have an eagle constellation known as *Wilto*. Unfortunately, there do not seem to be ethnographical recordings of which particular stars that the constellation of *Wilto* was comprised. However, I personally believe the Kaurna were referring to the Southern Cross as *Wilto*. I have a number of reasons for believing this.

The Ngadjuri People who lived in the Barossa Valley and Clare Valley region north of the Kaurna People had a constellation they called *Wildu*. The Ngadjuri People viewed the Southern Cross as the footprint of the Wedge-tailed eagle *Wildu*. Furthermore, there are many words that are similar in the Ngadjuri and Kaurna languages in addition to some similar stories. To me, *Wildu* and *Wilto* are very similar in sound and they both refer to an eagle. Furthermore, one needs to be mindful that the Aboriginal Peoples of Australia did not use a written language, so many of these names have been recorded by early ethnographers who often spelt the word the way it sounded to them.

Accordingly, as we journey further north through the different Aboriginal Groups in South Australia other peoples also saw the Southern Cross as a Wedge-tailed eagle. Like the Ngadjuri People, the Adnyamathanha People of the Flinders Ranges also called the Southern Cross *Wildu* and it was seen as the footprint of the Wedged-tailed Eagle *Aquila Audax*. In addition, the Aranda People who come from the far north of South Australia and part of the Northern Territory saw the Southern Cross as a Wedged-tailed Eagle that they called *Waluwara*. The two pointer stars alpha and beta Centauri are his throwing stick and the Coalsack Nebula is his nest in the sky. The four brightest stars in the Southern Cross are *Waluwara's* talons.

The Aboriginal Groups of Australia shared a close relationship with their environment and the natural world for 45,000+ years. Today we are left with just a taste, of the incredibly complex knowledge and understandings that the Kaurna People and other Aboriginal Peoples of Australia have developed over these thousands of years. This early drive to understand the night sky still fires the passions of many contemporary astronomers. Hopefully, efforts will continue to preserve these remaining snippets of stellar knowledge for future generations of Indigenous descendants and night sky enthusiasts.

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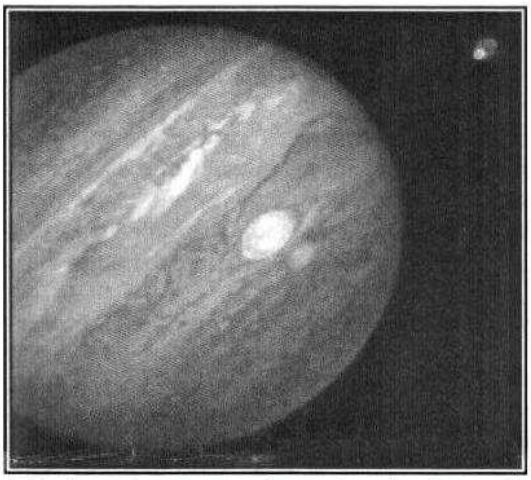
Article written by Paul Curnow (B.Ed.) of the Adelaide Planetarium, South Australia.

Mornington Peninsula Astronomical Society

Astro News

Jupiter's two red spots

Astronomers have taken images of Jupiter's lesser known red spot, a smaller landmark called Red Spot Junior. The smaller spot is about as wide as Earth and formed from the merger of three white spots sometime between 1998 and 2000. Red Spot Junior only turned red in December 2005, astronomers say.



Using the Keck II telescope on Hawaii's Mauna Kea, scientists from the University of California, Berkeley, and the WM Keck Observatory captured a high-resolution picture of both small and large red spots late in July. Both are located in the same area and appear to be racing each other around the planet. The larger Great Red Spot rotates westwards, in the opposite direction to the planet, the scientists say. As alternating bands on the surface of Jupiter move in opposite directions, the nearby smaller spot moves eastwards.

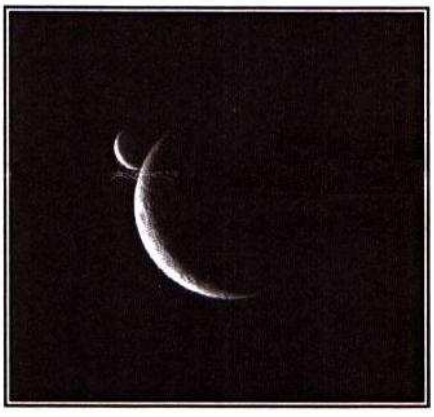
The two spots are about the same colour when seen in visible light, but Red Spot Junior is much darker when viewed at infrared wavelengths, the scientists say. That difference could mean the smaller storm's cloud tops are lower than the big storm's. Astronomers have known about Jupiter's Great Red Spot, a high-pressure storm on the big planet's surface, for centuries. This better known spot is nearly twice its smaller companion's size and has been circling Jupiter for at least 342 years.

Scotty back in space

The remains of actor James Doohan, who played Scotty on *Star Trek*, will be blasted into space in October, the company organising the flight says. The actor who inspired the catchphrase "Beam me up, Scotty", even though it was never actually uttered on the show, died a year ago at the age of 85. Houston-based company Space Services originally planned to blast Doohan's remains into space last year but the flight was delayed to allow more tests on the rocket. The company previously blasted the remains of *Star Trek* creator Gene Roddenberry into space in 1997. James Doohan passed away on July 20, 2005 at his home. Wende, his wife of 28 years, was at his side.

Enceladus occults Rhea

NASA's Cassini spacecraft captured this photograph of Saturn's moon Rhea emerging from behind another of its moons, Enceladus. At 1,528 km (949 miles) across, Rhea is actually three times larger than Enceladus (505 km or 314 miles), but Cassini was much closer to Enceladus when it captured this occultation event on July 4, 2006.



Taken only five minutes after Enceladus (505 kilometers, or 314 miles across) first approached the limb of Rhea (1,528 kilometers, or 949 miles across), this view shows the bright little moon emerging from behind the larger moon's crescent.

The image was taken in visible light with the Cassini spacecraft narrow-angle camera on July 4, 2006 at a distance of approximately 1.4 million kilometers (800,000 miles) from Rhea and 1.9 million kilometers (1.2 million miles) from Enceladus. The view was obtained at a Sun-moon-spacecraft, or phase, angle of about 142 degrees relative to both moons. Image scale is 8 kilometers (5 miles) per pixel on Rhea and 11 kilometers (7 miles) on Enceladus.

The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the mission for NASA's Science Mission Directorate, Washington, D.C. The Cassini orbiter and its two onboard cameras were designed, developed and assembled at JPL. The imaging operations center is based at the Space Science Institute in Boulder, Colo.
(Original Source: NASA/JPL/SSI)

Raining methane on Titan

The forecast for Titan is rain, methane rain. Scientists have found that the methane rain may range from a persistent drizzle that keeps the surface of Saturn's largest moon damp to fierce storms that could produce huge droplets. "We have found the first evidence of drizzly rain on a remote planet, in this case Titan, which consists of liquid methane and a little bit of nitrogen," says Dr Tetsuya Tokano of Germany's University of Cologne. The researchers used data from the NASA/European Space Agency Cassini-Huygens mission to measure the atmospheric chemical composition, temperature and pressure on Titan.

The Cassini craft was launched in 1997 and reached Saturn in 2004 after cruising past Venus and Jupiter. Information from the probe showed Titan, which is larger than the planet Mercury, is cold and windy with a dense atmosphere of methane and nitrogen. According to the team's findings, much of the surface of Titan could experience a drizzle for the next few years.

Magnitude of an Astronomical Object

"Visual magnitude" is a scale used by astronomers to measure the brightness of a star. The term "visual" means the brightness is being measured in the visible part of the spectrum, the part you can see with your eye (usually around 5500 angstroms).

The first known catalogue of stars was made by the Greek Astronomer Hipparchus in about 120 B.C. and contained 1080 stars. It was later edited and increased to 1022 stars by Ptolemy in a famous catalogue known as the "Almagest". Hipparchus listed the stars that could be seen in each constellation, described their positions, and rated their brightness on a scale of 1 to 6, the brightest being 1. This method of describing the brightness of a star survives today. Of course, Hipparchus had no telescope, and so could only see stars as dim as 6th magnitude, but today we can see stars with ground-based telescopes down to about 22nd magnitude.

When astronomers began to accurately measure the brightness of stars using instruments, it was found that each magnitude is about 2.5 times brighter than the next greater magnitude. This means a difference in magnitudes of 5 units (from magnitude 1 to magnitude 6, for example) corresponds to a change in brightness of 100 times. With equipment to make more accurate measurements, astronomers were able to assign stars decimal values, like 2.75, rather than rounding off to magnitude 2 or 3. There are stars brighter than magnitude 1. The star Vega (alpha Lyrae) has a visual magnitude of 0. There are a few stars brighter than Vega. Their magnitudes will be negative.

Astronomers usually refer to "apparent magnitudes", that is, how bright a star appears to us here at Earth. Apparent magnitudes are often written with a lower case "m" (like 3.24m).

The brightness of a star depends not only on how bright it actually is, but also on how far away it is. For example, a street light appears very bright directly underneath it, but not as bright if it's 1/2 a mile away down the road. Therefore, astronomers developed the "absolute" brightness scale. Absolute magnitude is defined as how bright a star would appear if it were exactly 10 parsecs (about 33 light years) away from Earth. For example, the Sun has an apparent magnitude of -26.7 (because it's very, very close) and an absolute magnitude of +4.8. Absolute magnitudes are often written with a capital (upper case) "M".

Skywatchers Events

August

2nd	Moon first quarter
9th	Full Moon
10th	Mercury & Venus 2.4° apart (AM)
16th	Moon last quarter
21st	Mercury & Saturn 0.7° apart (AM)
22nd	Moon, Venus, Saturn, Mercury close (AM)
27th	Venus & Saturn 0.1° apart (AM)
28th	Moon close to Spica (PM)

Scorpius – The Scorpion

Scorpius is one of the oldest constellations known - possibly even one of the original six signs of the zodiac. While the sun still traverses Scorpius, it only takes nine days to do so; most of the time is spent in neighbouring Ophiuchus (which is the only constellation that the sun enters but which is not a part of the zodiac). The asterism of a gigantic skewed "S" was seen in many ancient cultures as a scorpion, possibly handed down by cultural conquest or influence. The two stars lambda and upsilon, both called "The Sting" in Arabic, traditionally form the stinger, although some star maps currently show the nearby "G Scorpii" as one of the stingers. We have recently changed our graphic to reflect the original stingers. The constellation was once much larger, but the western portion representing the claws of the scorpion was given to Libra.

Alpha Scorpii is better known as *Antares* ("Rival of Mars"). This is one of the four Royal Stars of the ancients, along with Aldebaran, Regulus, and Fomalhaut. It glitters with an unusual metallic red while the entire region is bathed in a pale red nebula, lit from the same star.

This red supergiant has a visual binary that just might be visible, depending on local conditions and the size of one's scope (see below). The star is estimated to be between 285 sun diameters to about 700 suns. It's 600 light years away. Due west 1° (about half the distance to sigma Sco) is the bright globular cluster M4, while another globular cluster, M80, is 4° NNW of Antares. See below for these deep sky objects.

Double stars in Scorpius:

Alpha Scorpii is a visual binary which may be difficult to resolve due to the brightness of the primary. Try a moonlight night, which should cut the glare of the brighter star: 1.1, 5.4; PA 274°, separation 2.6". The companion is usually described as green in colour, probably a visual effect created by the red glow of Antares. The star is estimated to orbit its primary every 900 years.

Beta Scorpii : This superb double has a pleasant colour contrast: white and bluish-green and separation of 13.7".

Xi Scorpii is also a multiple system. Components AB form a close binary with period of 45.7 years. The companion is now gradually drawing away from the primary. They have a separation 0.39".

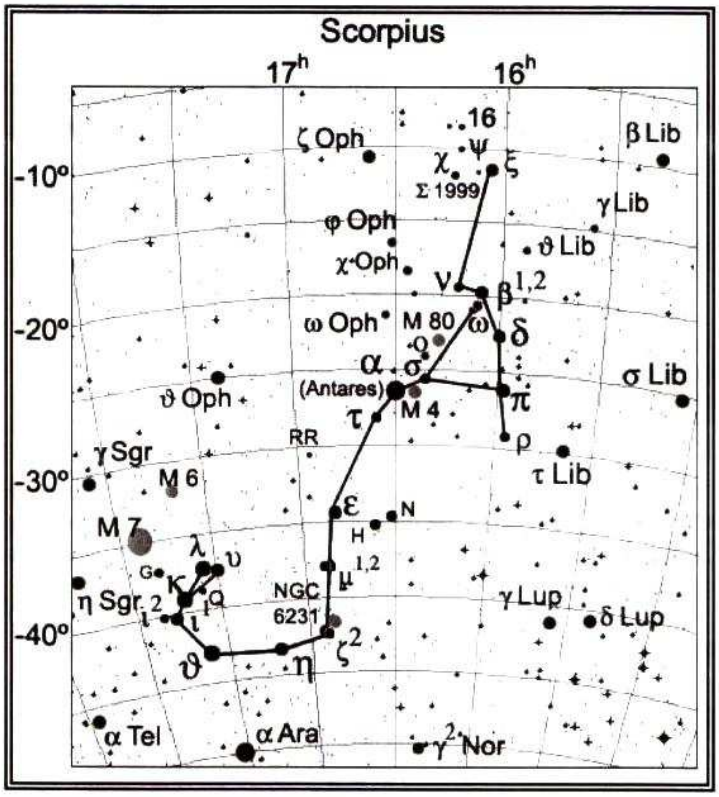
Sigma Scorpii : a double with a faint companion with a separation 20".

Variable stars in Scorpius:

RR Scorpii is the brightest long-period variable in the constellation, with a visual magnitude range of 5.0-12.4 every 281.45 days.

Deep Sky Objects in Scorpius:

M4 (NGC 6121) is a rather near globular cluster (6000-10,000 light years) but without a large telescope it will not appear very spectacular. There may be as many as fifty RR Lyrae variables in the cluster.
M4 is located just west of Antares, roughly half way to sigma Scorpii.



M6 (NGC 6405) is the second-best cluster of the constellation (after M7). This is an open cluster which sometimes bears the name "The Butterfly Cluster". Its brightest star is BM Scorpii, a sixth-magnitude yellow giant. The cluster is about 1500-2000 light years away.

M7 (NGC 6475) has no name, but is clearly the best deep sky object of the constellation. This magnificent open cluster is extremely large (two full-moon diameters) and quite bright, being visible even to the naked eye under the right conditions.
A scope easily resolves the stars, the brightest twenty-two of which range from 5.6 to 9.0. There are several close visual binaries in the cluster. (See Burnham for these, as well as extensive notes on this cluster.)
M7 is 4° NNE of lambda Scorpii. It's about 800 light years away.

M80 (NGC 6093) is a rather faint, very compact, globular cluster in the vicinity of Antares, between this star and beta Scorpii, and more narrowly speaking, nearly midpoint between two 8th-magnitude stars (which are the brightest stars of the region). The cluster is quite distant, some 36,000 light years away, and it takes a very large telescope to study it in detail.

NGC 6231 is a naked-eye open cluster one half degree north of zeta Scorpii (which is in fact a member of the group). This cluster is certainly worthy of being a Messier; while noticeable to the naked eye, binoculars resolve its various members. It's about 5500-6000 light years from us.

The stars that make up the cluster are generally supergiants that resemble the Pleiades in miniature. Burnham points out that if this cluster were the same distance as the Pleiades, its stars would outshine the Pleiades "by a factor of about 50 times". The cluster is only part of a much larger, very scattered, cluster called H 12, which is found one degree north. In fact, the stars seen as joining NGC 6231 and H 12 actually form one of the spiral arms of our own galaxy.

WEB SITES

Further information on some of the stories in this edition of Scorpius can be found at the following web addresses :

NASA	: http://www.nasa.gov/home/index.html
Astronomy news	: http://www.astronomy.com/
Star Trek	: http://www.startrek.com
Cassini Mission	: http://saturn.jpl.nasa.gov
Cassini imaging team homepage	: http://ciclops.org

Contributions to Scorpius

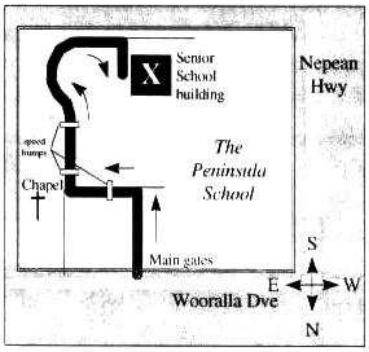
If you would like to submit an article or written contribution to Scorpius then please send your submission to MPAS, PO BOX 596, Frankston, Vic, 3198
or email to quasar3671@aapt.net.au (Attn : Marty Rudd).
Any astronomical events that you have witnessed or tales you would like to tell, things you have for sale (eg : telescopes, eyepieces etc.) then please send them in. All contributions are welcome.

Office bearers of the Mornington Peninsula Astronomical Society

President	:	Peter Lowe – 0419 355 819	**Secretary**	:	Don Leggett - 5985 4927
Vice President	:	Ian Sullivan	**Treasurer**	:	Marty Rudd – 5977 8863
Editor	:	Marty Rudd	**Public Officer**	:	Rhonda Sawosz
Committee	:	Peter Skilton	Kevin Rossiter		
		Terry Ryan	Bob Heale		
Librarian	:	Andrew Thornton	**Web Master**	:	Richard Pollard
Phone Contact	:	Peter Skilton			

Meetings

Meeting Venue: *Peninsula School*, Wooralla Drive, Mt. Eliza (Melways map 105/F5) in the Senior School at 8pm on the 3rd Wednesday of each month except December.
Phone: 0419 253 252
Mail: P.O. Box 596, Frankston 3199, Victoria, Australia
Internet: http://www.mpas.websyte.com.au
E-mail: skywatch@iprimus.com.au



Subscriptions

Full Member	$50.00	Family	$65.00
Pensioner	$45.00	Family Pensioner	$60.00
Student	$35.00	Newsletter Only	$22.00

(Please send payments to the MPAS, PO Box 596, Frankston, Vic, 3199)

Loan Equipment

The Society has an 8-inch reflector, 80mm refractor and binoculars available for loan.
Contact Kevin Rossiter or a committee member to arrange the loan of equipment.
The Society also has books and videos for loan from its library, made available during General Meetings.

Viewing Nights

Members only: Any night, at The Briars, Nepean Hwy, Mt. Martha, starting at dusk. If you would like to know if others are observing at the site, then call the society's site mobile on (0408) 127 443. Members visiting The Briars for the first time must contact John Cleverdon on 5987 1535 if they need help in getting to the site. Upon arrival at the site, remember to sign the attendance book in the observatory building and verify that the mobile is turned on.

Future Events

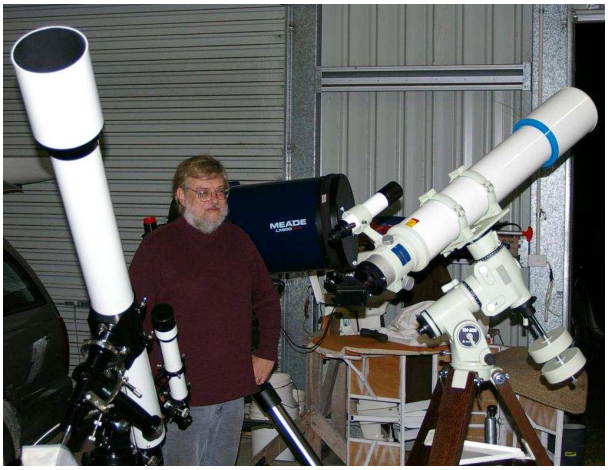
Friday 4th August – Public viewing night at Briars
Saturday 12th August – Members movie afternoon at Peninsula School, starting 2:00pm, contact Don on 5985 4927.
Wednesday 16th August - General Meeting at The Peninsula School
- Session 1 : Speaker Dr. George Elliston – 'Planetary Orbits'.
- Session 2 : Video
- Session 3 : Open forum and *Sky for the Month*

Thursday 17th August – Heathmont Primary School viewing night at the Briars. If you can help on the night and wish to attend then contact Don on 5985 4927 for more information.
Saturday 19th August – National Science Week public & members astrophotography and viewing night at the Briars viewing site, starting 8:00pm.
Saturday 26th August – Member's viewing night at the Briars starting 8:00 pm.

Join the E-scorpius newsgroup

The MPAS has an online newsgroup called E-Scorpius. Here you will be kept up to date with the latest MPAS news and event information as well as being able join in discussions and ask questions with other members. To join go to http://groups.yahoo.com/ and sign up to Yahoo groups. You require to sign up to Yahoo groups to join E-Scorpius. Once you have signed up at Yahoo Groups, email skywatch@iprimus.com.au saying that you want to join E-Scorpius and you will be added to the E-Scorpius list. Come on, join up. The more people in the group the better.

Scorpius Extra!!!!!



Above - MPAS guest speaker Bill Busler visits MPAS members on 26th July 2006

Photos - *By Greg Walton*

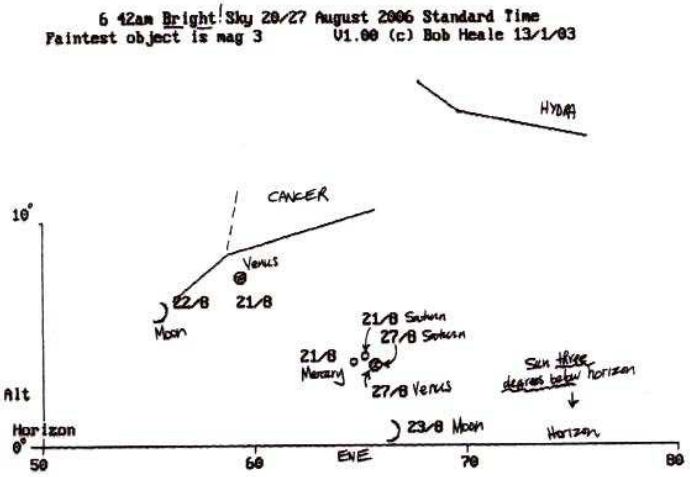
Right - Science week Public Night on 19th August 2006

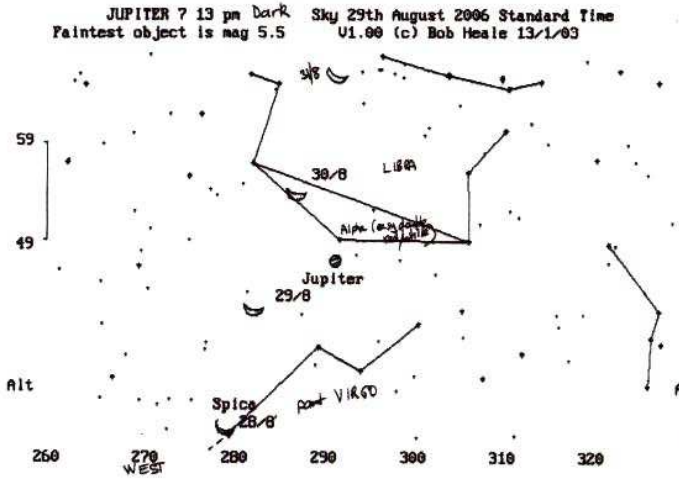
Both Photos - *By John Cleverdon*

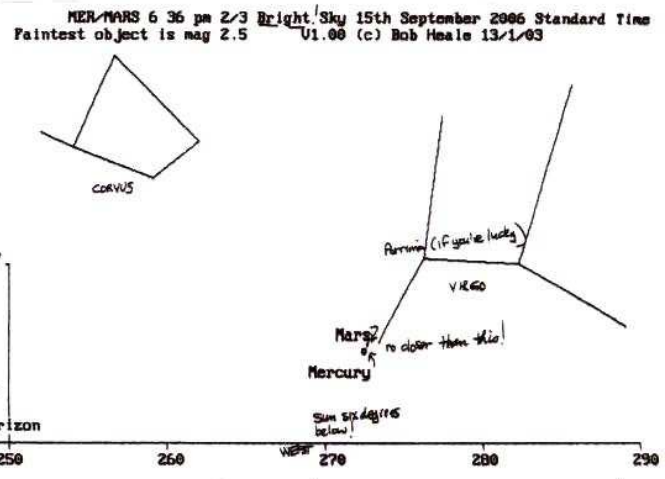
Below - Working Bee at the MPAS Briars site on 17th September 2006

All Photos - *By John Cleverdon*

SKY FOR THE MONTH 16TH AUGUST TO 19TH SEPTEMBER 2006 MORNINGTON PENINSULA







All planets including Enviced are increasing in Right Ascension

— Mercury passes over north west edge of Saturn 21/8 in a bright sky (Sun three degrees below horizon)

— Venus passes nearly in entirety over Saturn 27/8 in similiar bright sky (Sun three degrees below horizon)

— Mercury, Mars closish 15/9 about 6 36 pm in 2/3 bright sky (no pass over)

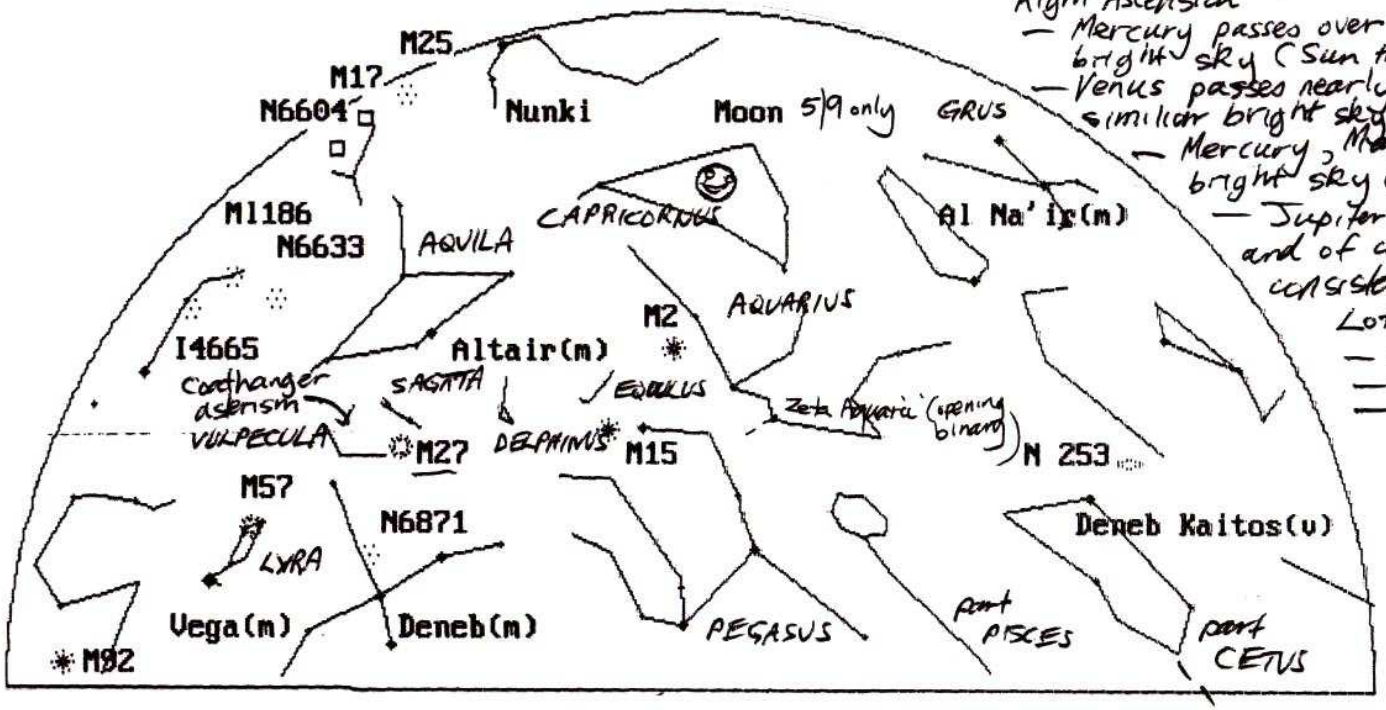
— Jupiter passes close by Alpha Librae 11/9 and of course, Enviced is moving smoothly consistently between COLUMBA and LEPUS

Lots of worthwhile objects

— Dumbell planetary M27

— now opening binary Zeta Aquarii

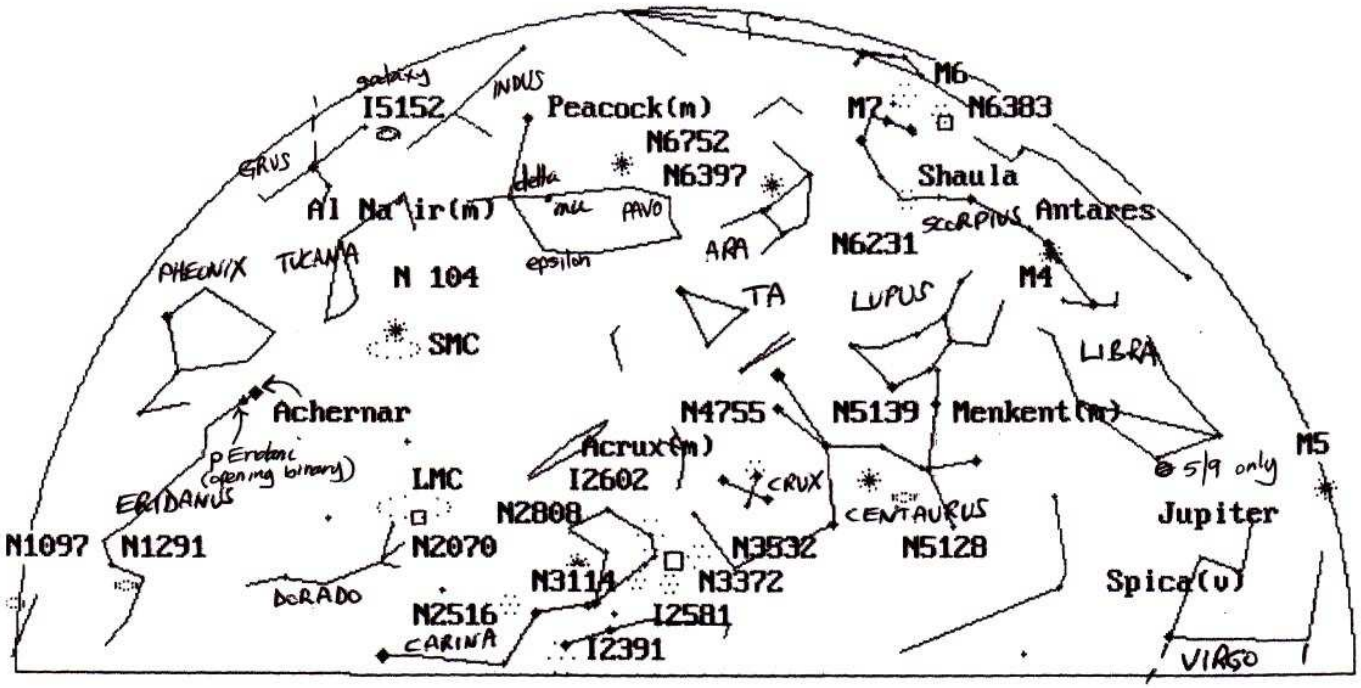
— Coathanger asterism large binocs or wide field small apertures



Also 22nd August 9 00pm 5th September NE Dark Sky 2006 Standard Time
10 pm and 8pm 19th September 2006 Standard Times

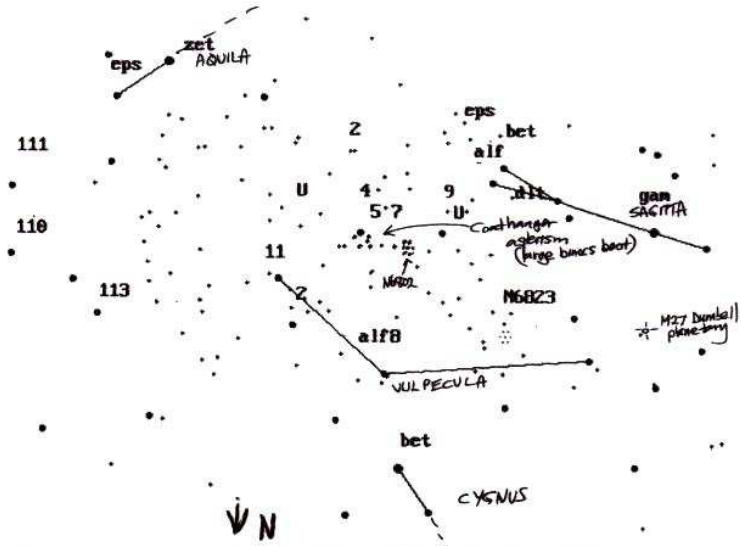
Bob Heale MPAS
15/8/2006

Mornington Peninsula Astronomical Society



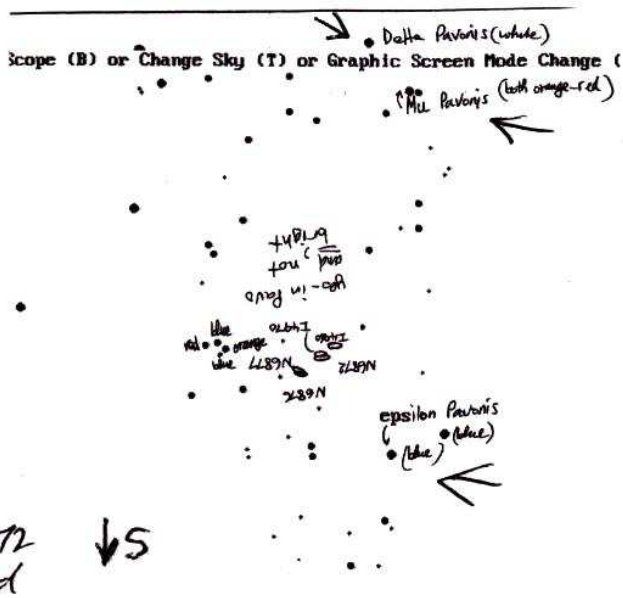
Also 10pm 22nd August and 8pm 19th September 2006 Standard Times 9 00 pm 5th September WSW Dark Sky 2006 Standard Time

All objects above easy (except for galaxy I 5152)
p Eridani a now opening colour contrasting binary (near Achernar)
The Milky Way is beginning to bottom



This chart refer NE chart over

This chart refer above in PAVO

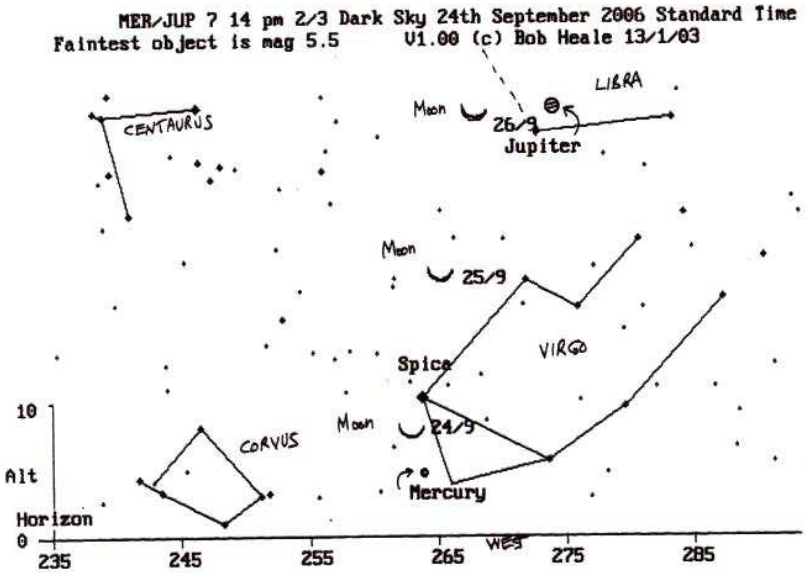


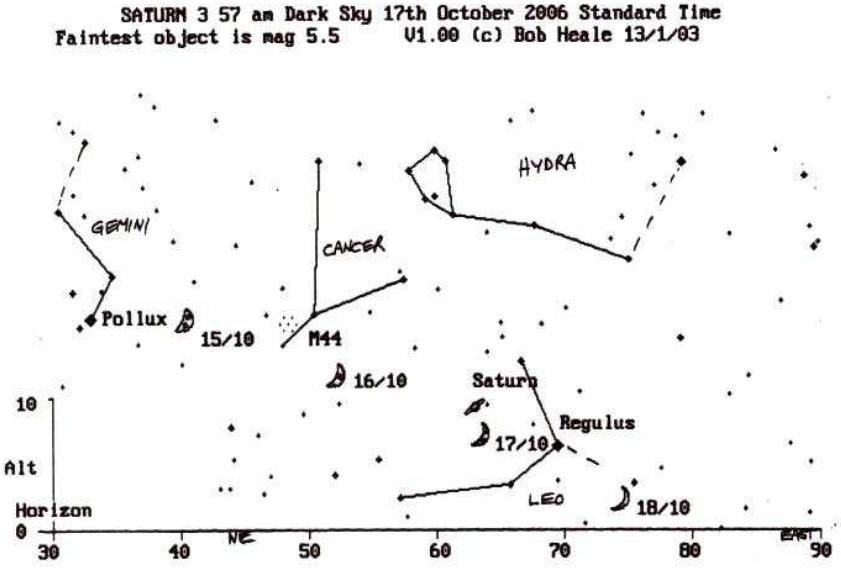
centre galaxy N6872 is a much elongated spiral, N6876 very elliptical – the others who knows – charmed within 15cm aperture by Hartung

↓S

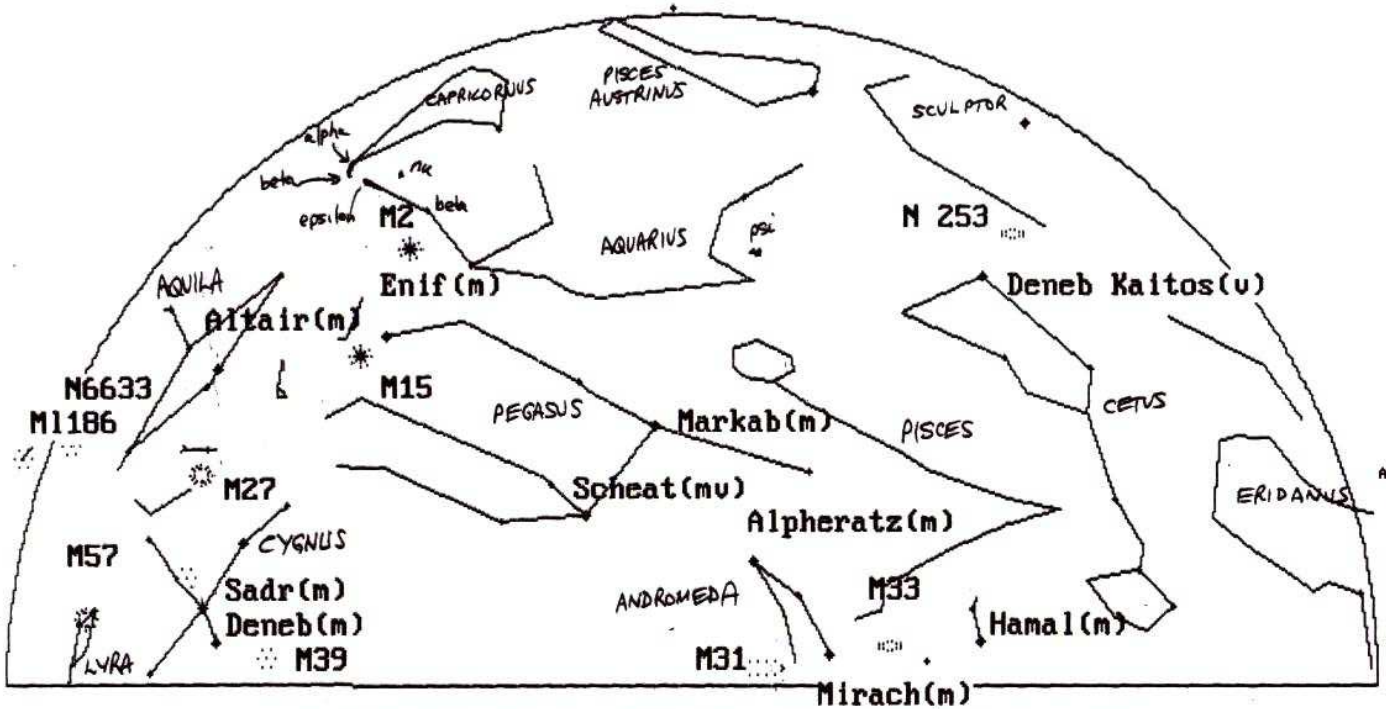
Bob Heale MPAS
15/8/2006

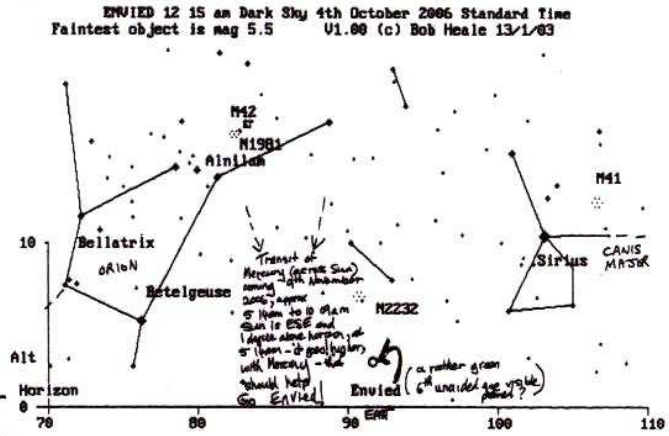
SKY FOR THE MONTH 20TH SEPTEMBER TO 17TH OCTOBER MORNINGTON PENINSULA





Transit of Mercury (across Sun) coming 9th November 2006, approx 5 14am to 10 09am Sun is ESE and 1 degree above horizon, at 5 14am - it good higher, with Mercury - that should help



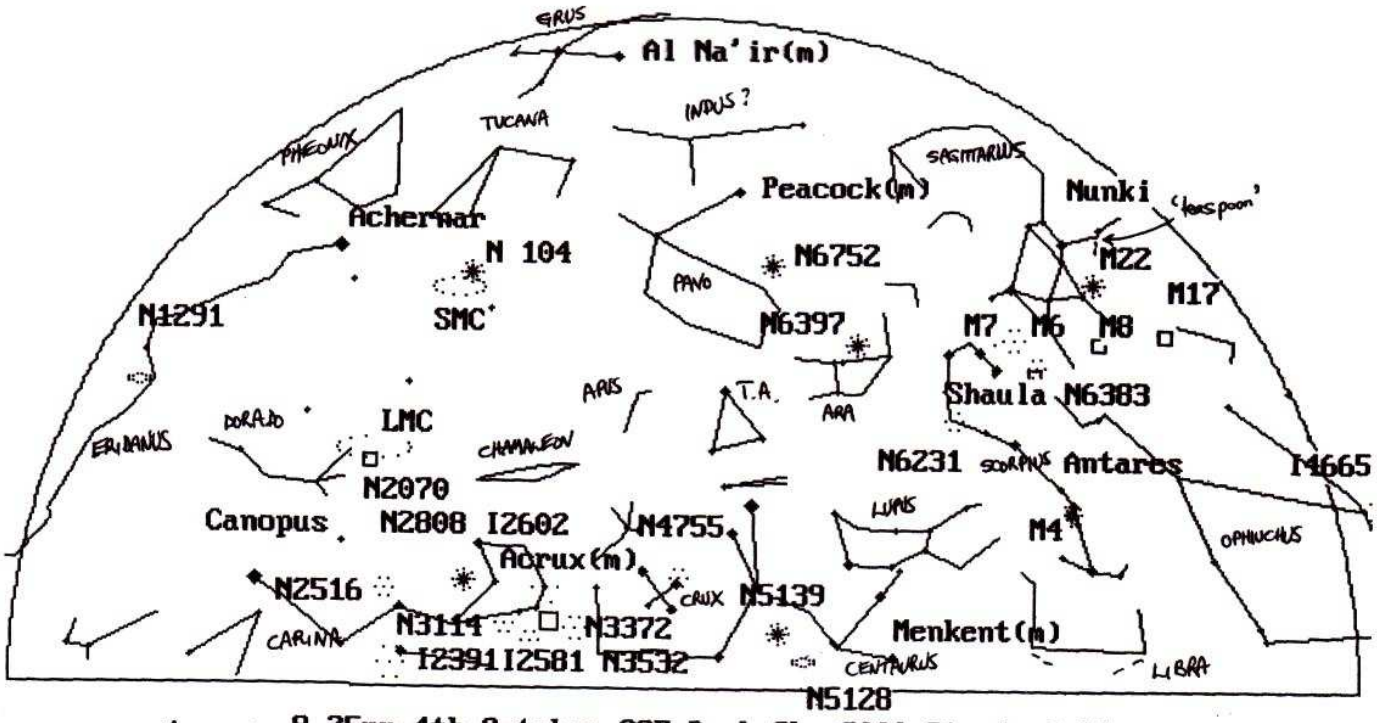


9 25pm 4th October ENE Dark Sky 2006 Standard Time

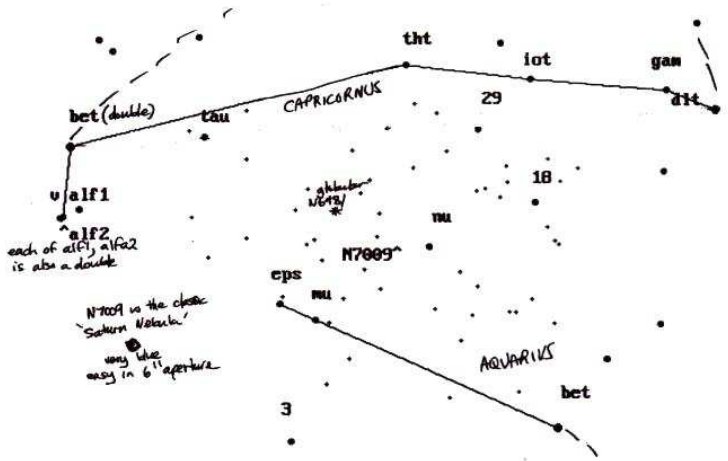
Also 20th September 10 25pm, 17th October 8 25pm

Bob Heale
MPAS
20/9/2006

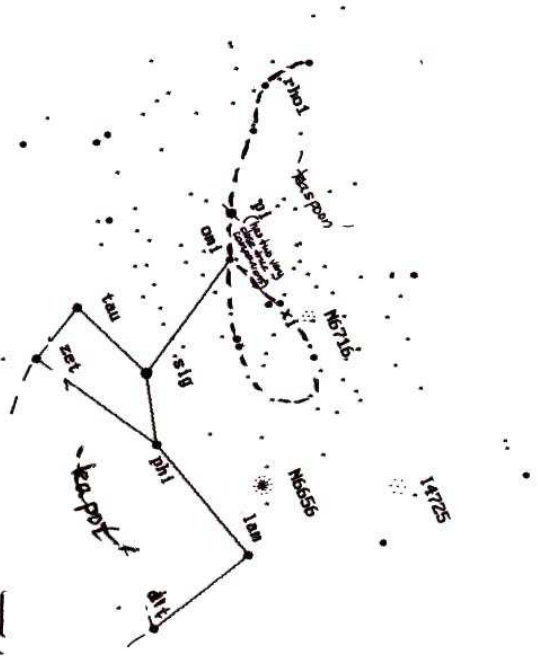
Mornington Peninsula Astronomical Society



also 20th September 10 25pm, 17th October 8 25pm 9 25pm 4th October SSE Dark Sky 2006 Standard Time



← this 'finder chart' for alpha Capricornis, beta Capricornis, Saturn nebula N7009 or globular cluster N6981 — refer ENE chart over



Bob Heale
MPAS
18/9/2006

this chart → refer above SSE chart the 'teaspoon' of SAGITTARIUS above 'teapot' 7X50 or 10X50 binocs only!*!