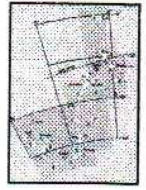




# SCORPIUS



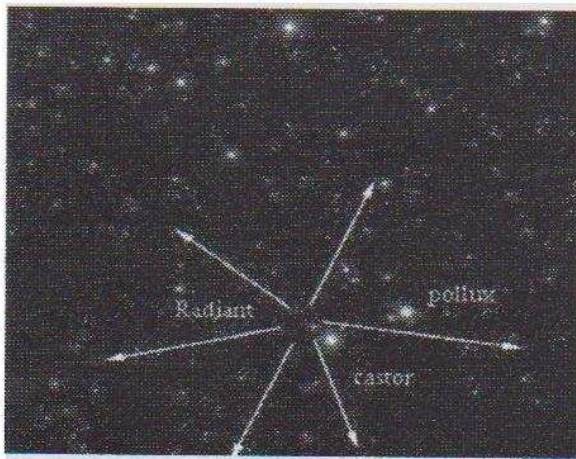
The Journal of the  
Mornington Peninsula Astronomical Society Inc.

Reg No: A268 ABN: 34569548751 ISSN: 1445-7032

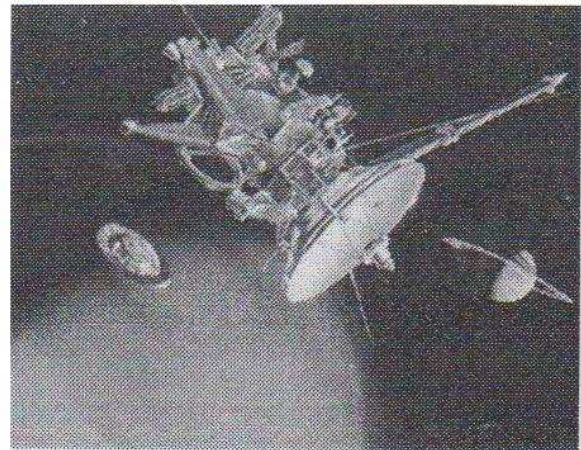
Volume XIII, No. 6 (Nov 2004)

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.

**Geminids Meteor shower  
peaks on Dec 14th**



**Huygens probe is released from  
Cassini on Dec 25<sup>th</sup> to explore Titan**



**Plus :**

**Why did the Genesis probe crash?**

**Start saving for your trip into space.**

**Kodak stop producing Technical Pan film.**

**Daytime occultation of Venus by a crescent moon.**

**Upcoming astro events and the planets put on some early morning displays.**

## November / December field nights and events

5<sup>th</sup> November – Public viewing night at Briars

7<sup>th</sup> November – Working Bee at The Briars

9<sup>th</sup> November – Rye Primary School

17<sup>th</sup> November – Monthly General Meeting

18<sup>th</sup> November – Rowville Secondary College

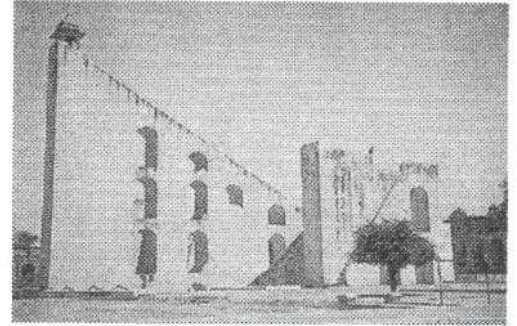
3<sup>rd</sup> December – Public viewing night at Briars



# Society News

## September General Meeting Report – *Stone Observatories in India*

The September meeting was chaired by the President and saw 35 in attendance. Peter Lowe gave a rundown of school and public viewing nights during the last month, all of which were blighted by rainy and cloudy weather. **Ian Sullivan** then gave the main topic of the evening about *Stone Observatories of India*. Ian has visited various regions of India six times over the years, and always makes a point of visiting their points of astronomical and historical interest. He presented an interesting slide shown of the facilities at Jaipur, Delhi, Ujjain and Varanasi, pointing out how they were used by the Maharajas to measure various astronomical parameters, often for astrological purposes. Jaipur sports the world's largest triangular equatorial sundial, standing 90 feet high and made of sandstone overlaid with a marble graduated scale, with a very 19<sup>th</sup> century looking belvedere adorned on the top. This site was by far the best preserved of the ones visited. Delhi and Varanasi also had similar sundials but these were in disrepair. The sites also had other examples of impressive stone sundials and stardials with one site having 12 triangle stone dials, each having its triangular gnomon inclined at different angles, and each intended to point to a constellation sign of the zodiac.

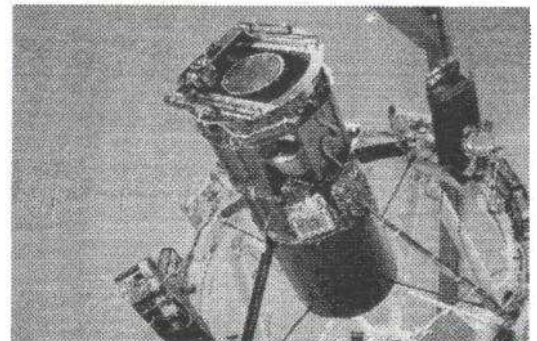


Following the teabreak, Bob Heale led with *Sky for the Month*, followed by Scott Gordon who had visited the new Mapleton Observatory in Queensland with his young son. This small observatory was built from scratch in 3 years from their State's gambling fund, supplemented by community assistance, and resides on a primary school's grounds, and had a number of unique ideas featured for it, which Scott illustrated with photos he had taken. The observatory is independent and does not belong to any astronomical society. Peter Lowe then presented some of the latest panoramic images from the rovers on Mars' surface, which are about to hibernate for a few weeks as Mars slips behind the Sun from Earth's perspective, and hence goes out of radio contact. Meeting closed at 10:35pm.

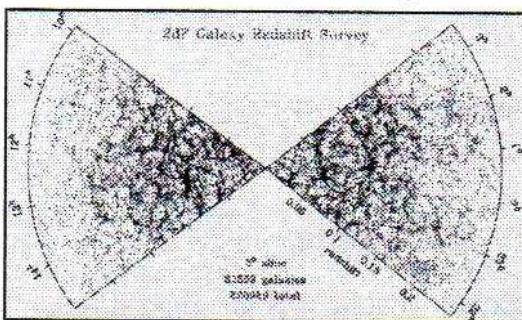
(Peter Skilton)

## October General Meeting Report – *The Anglo Australian Observatory's (AAO) 2DF redshift survey*

The October meeting was chaired by the Vice-President, and saw 37 in attendance on a fine evening to hear **Dr. Glen Mackie** from Swinburne University's Centre for Astrophysics and Supercomputing give a multimedia presentation about the **Anglo Australian Observatory's (AAO) 2DF redshift survey of galaxies** and what has been learned from it. The 2DF is an innovative special spectrograph camera which is attached to the giant AAO's telescope in Coonabarabran. A robotic system on it places 400 optical fibres, with tiny prisms on their ends, over the prime focus of the telescope so that the brightest galaxies in the image fall directly on a single optical fibre. The light from each galaxy then travels up the fibre and is split into its spectrum, which is then recorded.



By looking at the position of absorption lines in the spectrum of each galaxy, the redshift of the galaxy is calculated as the lines either move further to red, if the galaxy is moving away from us, or to the blue, if it is moving towards us. Using Hubble's Law, once the redshift is known, the distance of the galaxy from Earth can be determined. Each image therefore provides 400 spectra in one go, and hence 3-dimensional positions of 400 galaxies each time. By repeating this process over 5 years on available telescope time, with each image a 90 minute exposure, a redshift survey of over 250,000 galaxies was conducted, with this concentrated in two slices of the sky covering 10% of the entire sky. The direction in which to do the survey was chosen so as to be out of the plane of the Milky Way so that local stars were easily eliminated from the survey.



The results of this massive survey showed clear large scale structure out to 2 billion light years from Earth, showing distinct voids or bubbles where galaxies were few, and filaments like a giant web where galaxies were plentiful. This structure is a remnant of the structure present on smaller scales at the time shortly after the Big Bang. The survey is considered statistically representative of the whole visible universe and enabled the mass density of the Universe to be determined, giving an upper limit on the mass of the neutrino, and the mass fraction of ordinary matter (like you and I) in the Universe.

Following the tea break, Bob Heale presented *Sky for the Month*, showcasing a number of double and multiple stars and the variable star R Lep. Marty Rudd reported on the prospects for this year's Orionids and Leonids meteor showers and Ian Sullivan presented slides of deep sky objects for the audience to try and identify. Meeting closed at 10:40pm.

(Peter Skilton)



## School and Public Nights

There was a school night at Mt.Eliza Primary on 7<sup>th</sup> September. The talk was given by **Peter Lowe** and **Don Leggett**, with **Bruce Tregaskis**, **Ian Sullivan** and one other member attending (\*\*\*\*\* Marty - though name was not recorded). Unfortunately conditions were totally overcast until the end of the evening as everyone was going home, when it cleared up! Nevertheless, the school really enjoyed the experience.

The public viewing night on October 1<sup>st</sup> at The Briars Visitors Centre saw 42 attend on a clear night, with plenty of children. The multimedia talk was given by **Richard Pollard** and **Peter Lowe**, and in the field were **Bob Heale**, **Bruce Tregaskis**, **John Cleverdon**, **Greg Walton**, **Peter Skilton** and **Don Leggett**. Aerial posters of Melbourne were given away on the night, as were red fluorescent glowsticks. Despite no planets being up at a reasonable hour, the evening went very well with a later Moon rate. A few satellite passes occurred, & other deep sky objects were on view.

## Astronomy 2005

It's that time of year again when the excellent annual Australian publication, **Astronomy 2005**, is being published. The book shows what's in the night sky throughout 2005, and is aimed at all levels of amateur astronomer, from newcomer to expert. RRP is \$22 to the public, though society members can get it at the discounted rate of \$20. You can also order in additional copies for Christmas presents.

Orders and payments can be made in person at any MPAS gathering, by cheque to P.O. Box 596, Frankston 3199, or by phone by leaving a message on 0419 253 252.

These sky almanacs will be available at the November meeting for collection, and at any society gathering after this. Hurry. The society only orders in a specific quantity each year, and it's first come, first served.

## Volunteer Small Equipment Grant 2004 (Round 2)

In August, the Treasurer, **Marty Rudd**, applied for the Volunteer Small Equipment Grant. These are grants supported by the government, which will provide funding of up to \$5000.00 to encourage the development of volunteer based local community organizations. The application was successful and now the MPAS has the following new equipment :

4 pair of gardening gloves	2 garden rakes	2 metal rakes
1 mattock	2 shovels	1 long handle garden shears
3 weeders	1 bow saw	1 5 litre weed sprayer
1 lopper and shear set	1 plastic tub wheelbarrow	1 line trimmer and line

With the current work going on up at the Briars site, the new equipment will come in very handy.

## Committee Elections

Have you considered joining the society committee?

The MPAS operates because we have a committee of management responsible for the general operation of the society. We're always on the look out for interested persons who can contribute to the society's success.

MPAS committee is structured under the constitution and has a number of specific officer positions together with a number of general committee members. Each committee member takes responsibility for handling some aspect of the society's business. The President and Vice President are responsible for the general planning and operation of the Society's business and represent the society to the members, other societies and the general public. The Secretary is the formal contact point of all formal society business and maintains the records of the society. The Treasurer monitors the society financial status and handles the various money transactions required. Other committee members provide logistical support for the various society activities & development programs. These include :

- Developing the forward society calendar of activities including speakers for the general meetings and special events both social and astronomical.
- The building sub-committee is responsible for the construction of the Briars shed.
- Handling and planning school viewing nights
- Preparing the "What's On" handouts for members.
- Publishing the Scorpius and managing the E-Scorpius internet chat room.
- Maintaining the publicity and public notices we require to keep the general public apprised of our activities.
- Developing and creating the library.

Without this group of dedicated supporters the society would definitely slow down.

If you feel you would like to get involved in the society business or have a particular skill you think would be useful to the society as a whole please give some thought to becoming a committee member.

**The Annual General Meeting will be held in February 2005. In this and the next edition of Scorpius, there will be a 'Committee Election Form' that can be used for the submission of nominations for the next committee.**

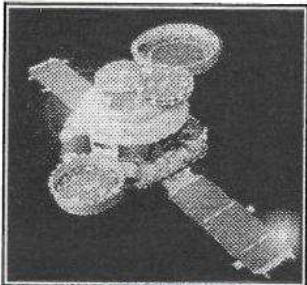


# Astro News

## The Genesis probe – all not lost ?

The Genesis probe was launched in August 2001 on a three year mission to collect particle samples of the solar wind. Scientists were heartbroken as they watched the \$260 million dollar probe and three years of data smash into the Utah desert at 350 km/h.

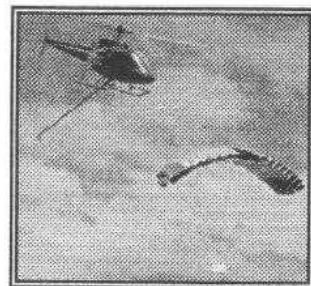
The probe returned to Earth on September 9<sup>th</sup> 2004, unfortunately in a manner that was unexpected. Parachutes were supposed to deploy as the probe descended through the Earth's atmosphere, then a helicopter with a long hook was then meant to scoop up the parachute with its precious cargo. The parachutes did not open.



Switches were meant to sense the braking of the probe during its high speed re-entry, initiating the deployment of the parachutes. The cause of the accident hasn't yet been confirmed but it is believed the complex set of gravity and altitude sensors failed to deploy the parachute.

At first, all was thought to have been lost but scientists at the NASA's Johnson Space Centre managed to salvage many of the probes 350 palm-sized wafers that were exposed to solar wind during the 32-million kilometre mission to collect atoms from the Sun. The samples will be moved to the JSC Genesis clean room where they'll be examined and then distributed to scientists, promising researchers years of study into the origins and evolution of the solar system.

(Marty Rudd)



## Book your seat for a trip into space

Peter Diamandis is a space travel fanatic. In 1980, as a freshman at the Massachusetts Institute of Technology, he founded Students for the Exploration and Development of Space. He started foundations to promote space travel including the International Space University, which now has permanent campus and staff in Strasbourg, France. He dreamed of commercial space travel for all, and saw that privately funded missions would be the best way to do it.

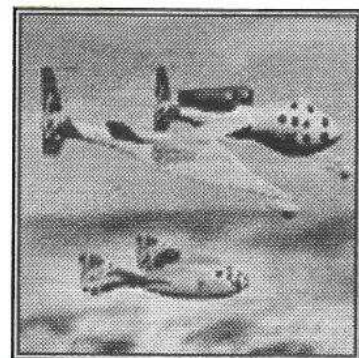
In 1996 he created the Ansari X prize, to kick-start the development of privately built rocket ships that could make spaceflight available to the public. The US \$10 million prize would go to the first a spacecraft capable of carrying three people, making two flights to an altitude of just over 100 km within two weeks. The goal was to show that the rocket that could go back and forth like a spaceliner.

SpaceShipOne was one such entry into the competition, with \$20 million in backing from Microsoft co-founder Paul Allen. In Early October, SpaceShipOne was taken to an altitude of 14km above the Mojave desert underneath the belly of a mother plane. Test pilot Brian Binnie then fired the craft's engines and the ship streaked skyward at about three times the speed of sound on a half-hour flight that took it more than 100 km high, generally considered the point where space begins. SpaceShipOne then glided back to Earth safely. An hour after landing, SpaceShipOne's team was declared the winner.

If you have a spare \$300,000 then you could be heading into space in 2007. Richard Branson, Virgin Airlines owner and adventurer, has made a deal, worth up US\$25 million over 15 years, to license the technology that led to SpaceShipOne. He announced that by the beginning of 2007, Virgin Galactic will be offering paying customers flights into space.

For more info on Virgin Galactic, visit the website : <http://www.virgingalactic.com>

(Marty Rudd)



## Kodak stops production of Technical Pan film : 1977 – 2004

Confirming several months of rumors, Eastman Kodak has officially announced that it is discontinuing production of its Technical Pan film, which is arguably the finest commercial black-and-white film ever made for astrophotography. Citing steadily declining demand for the fine-grain, red-sensitive, high-contrast emulsion, the company acknowledged that its last production run of Technical Pan film was "several years ago," and that the film will remain available only until the existing inventory is depleted. Any likelihood of the film being returned to active manufacture were unlikely due to several key elements used in production were no longer available.

Kodak introduced Technical Pan Film SO-115 film in 1977 as a green-sensitive modification of its Solar Flare Patrol Film SO-392 available since the late 1960's. University of Denver astronomer Edgar Everhart showed that Technical Pan's sensitivity for long-exposure astrophotography could be dramatically increased by gas-hypersensitization (S&T: February 1981, page 100). Thus began a nearly 20-year love affair between amateur astrophotographers and gas-hypered Technical Pan film. The rise of digital imaging, fuelled by red-sensitive CCDs, led to rapidly declining sales of the film. Tech. Pan film will still be missed, since there's never been a competing emulsion that can be used as an astronomical substitute. Nor has digital imaging yet advanced to the point where it can fully replace wide-field, film-based astrophotography.

(Peter Skilton)



## Mercury Astronaut Dies



The last person to fly a Mercury spacecraft, Gordon Cooper, died at his home on October 4<sup>th</sup>. He was aged 77.

Cooper piloted the Faith 7, the last flight of the US Mercury program making him the last American to fly solo into space. The Faith 7 flight was the longest of the program lasting 22 orbits over 34 hours and 20 minutes. Later he served as command pilot of the Gemini 5 flight with astronaut Charles Conrad.

Cooper was famous for his reply to the question "Who was the greatest pilot you ever saw?". He replied, "You're looking at him".

## Martian Water

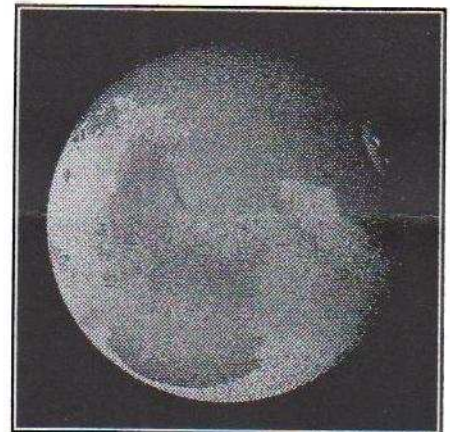
This is what Mars may have looked like not long after its formation with planet wide oceans. Today the Martian environment is decidedly dry. We see dried oceans beds, dried lake beds, dried river beds. The only location we know contains water is at the polar icecaps but this is not enough to explain the abundant evidence for historic planetary oceans. Some of the water is thought to be still frozen underground but again this is not thought to be enough to account for the estimated amounts of water released in Mars's early volcanic period.

Recent results from the ASPERA-3 instrument on board Mars Express confirms that a very efficient process is at work in the Martian atmosphere, which could explain this loss. Mars is bombarded by solar wind particles from the Sun. On Earth this solar wind is deflected by the Earth's magnetic field but on Mars the solar wind drives directly into the upper atmosphere and steadily erodes the atmosphere away into space. It is this process that is believed to have stripped away large amounts of water that was initially present.

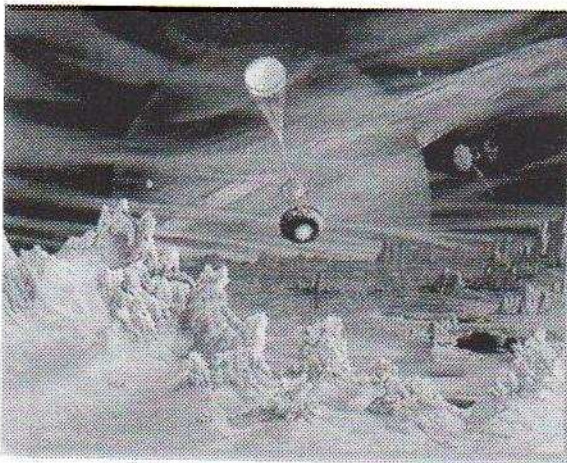
ASPERA-3 simultaneously measures the solar wind particle density as well as the planetary wind contribution. The solar wind interacts with the Martian atmosphere at about 270kms.

The Mars Express orbiter is performing the most detailed exploration of the surface ever done and is compiling a detailed audit of the Martian water budget. The orbiter mission is expected to last two Martian years (approx 1360 Earth days) but will continue to orbit.

(Peter Lowe)



## Cassini's Huygens Probe



After a seven year journey attached to the side of the Cassini spacecraft, the Huygens probe will be released on December the 25<sup>th</sup> to begin a 21day trip to Titan. Huygens will coast to Titan in 'sleep mode' where it will be activated automatically, only 15 minutes before it begins its decent into Titan's atmosphere.

Titan's nitrogen rich atmosphere is ten times thicker than the Earth's own atmosphere, so when Huygens reaches the outer limits of this nitrogen rich atmosphere at approximately 600 km into space, the probes instruments will switch on. There are six scientific instruments on board that will collect data and images of Titan's atmosphere and surface.

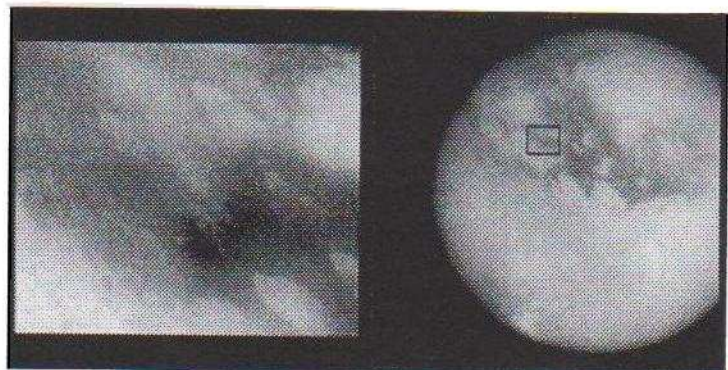
Five batteries will power Huygens for between 153 and 180 minutes maximum. This gives the probe enough time to make its 2.5 hour parachute assist descent through Titan's atmosphere, take its scientific readings and up to 1100 images, and hopefully

land on Titan's surface (whether it be land or liquid).

The probe's radio link will be activated early during descent phase, and the Cassini orbiter will collect the information and data sent from the probe over the next few hours and store it in its Solid State Recorders. Just after the end of this three hour period, Cassini's high-gain antennae will turn away from Titan and Huygens and point towards the Earth, where all that precious data will be sent and processed.

(Marty Rudd)

Titan and the Huygens touchdown site





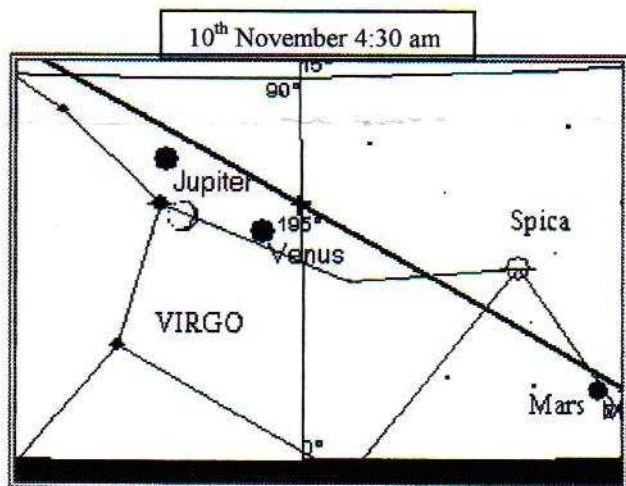
# Skywatchers Events

## November

- 5<sup>th</sup> Morning sky - Venus passes 0.5° from Jupiter  
Moon last quarter  
Sth Taurids meteor shower maxima
- 10<sup>th</sup> **Occultation of Venus by the Moon during day**  
**Morning sky - Venus, Jupiter & Moon close together**
- 12<sup>th</sup> Nth Taurids meteor shower maxima
- 13<sup>th</sup> New Moon
- 14<sup>th</sup> Twilight - Moon located above Mercury
- 17<sup>th</sup> Leonids meteor shower maxima in the morning
- 19<sup>th</sup> First quarter Moon
- 27<sup>th</sup> Full Moon

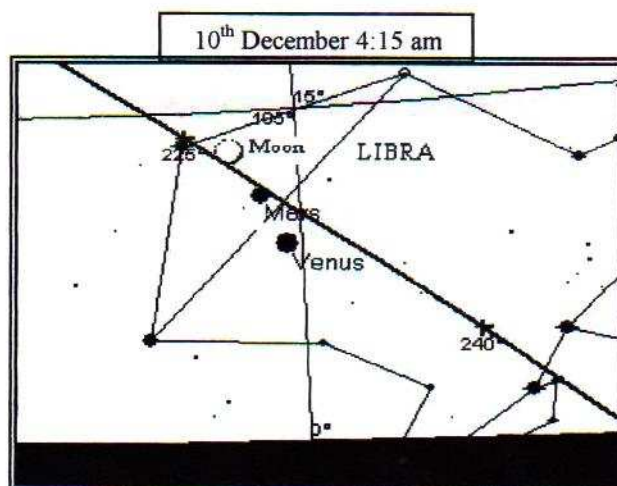
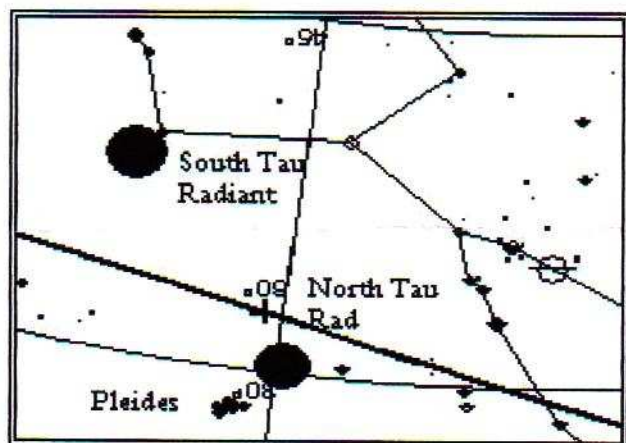
## December

- 5<sup>th</sup> Morning sky - Venus passes 1.2° from Mars  
Moon last quarter
- 10<sup>th</sup> **Venus, Mars, Moon close - morning sky**
- 12<sup>th</sup> New Moon
- 14<sup>th</sup> **Geminids meteor shower max - morn. sky**
- 19<sup>th</sup> First quarter Moon
- 27<sup>th</sup> Full Moon
- 29<sup>th</sup> **Antares, Mars, Venus, Mercury grouped together - dawn sky**



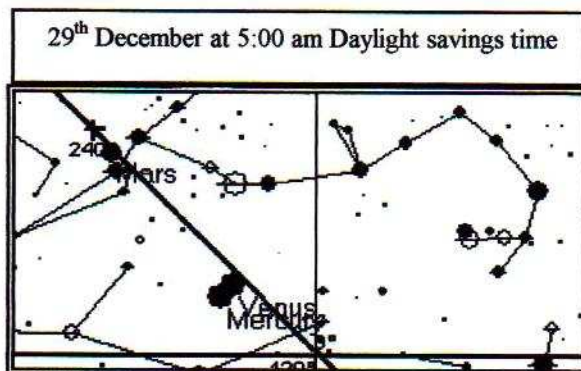
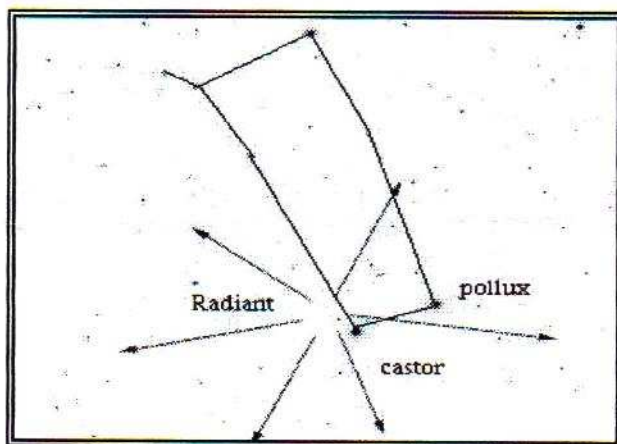
East

Radiant positions for the Southern Taurid and Northern Taurid Meteor shower maximas



East

Radiant Position for the Geminids Meteor Shower during night of maximum





## OCCULTATION OF VENUS BY THE CRESCENT MOON

On Wednesday November 10<sup>th</sup> near lunch time during the day, the planet Venus will be visible to the unaided eye very near to, and just above and to right of, the thin waning crescent Moon, which will only be 8% sunlit. This close approach is quite rare, and should provide the community with an opportunity to see Venus during broad daylight, weather permitting, before it is occulted (hidden) by the Moon. The proximity of the Sun will make the sky bright, but with a little searching the thin Moon should be seen.

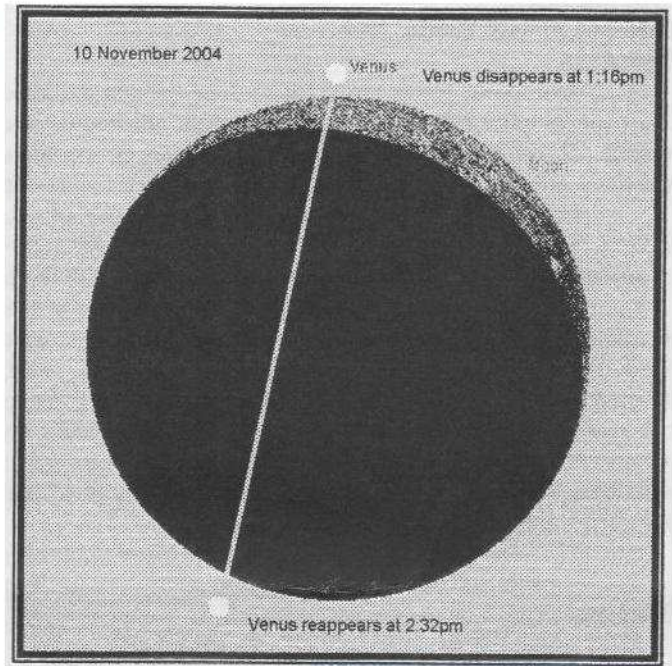
At 02hr16m03s UTC (or 1:16pm Australian Eastern Daylight Saving time), Venus will disappear behind the bright limb of the Moon at an altitude of 44 degrees, and azimuth of 308 degrees (look to the north west horizon). At 03hr32m43s UTC (or 2:32pm AEDST), Venus will reappear from behind the dark limb of the Moon, at its lower left position, at altitude 31 degrees and azimuth 291 degrees (look to the west north west horizon). This should appear quite noticeable as the dark limb will be invisible to your eye, and Venus will appear to wink into existence out of the blue!

Because Venus is not a point source of light, and subtends a measurable angle, it will take it 34 seconds during the ingress stage of the occultation until it fully goes behind the lunar mountains and valleys, then 31 seconds during the egress stage when it emerges from behind the Moon.

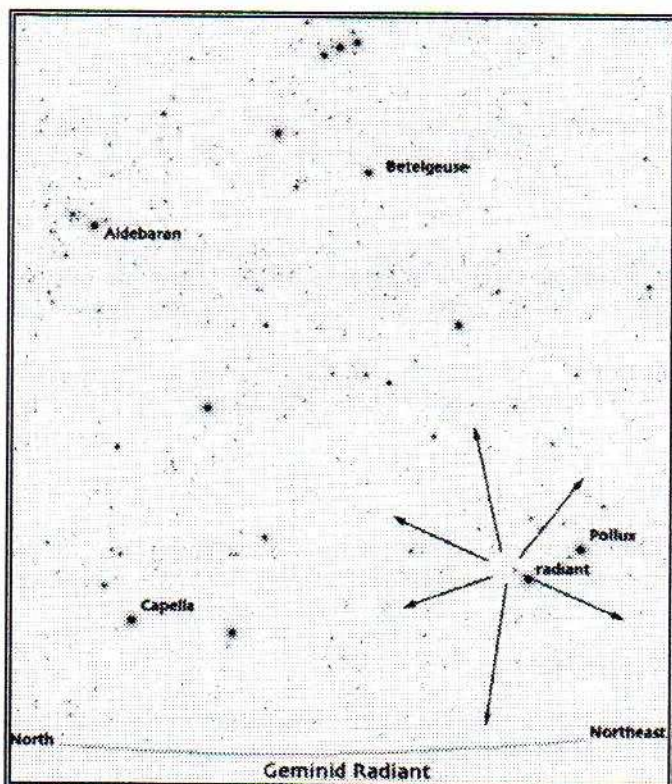
In the Moon's motion across the sky at the time of the occultation, it appears to travel more slowly than the background stars and planets, and so these catch up the Moon from behind its brighter trailing edge, then overtake it and set below the horizon ahead of its leading dark edge.

Observers of this event are reminded to take care not to look towards the Sun in the sky by accident as eye damage could occur. One way to help prevent this is to shield the Sun from your view by using the corner of a building, or some other immovable, opaque large object so that your head is in the shadow. Occultation event predictions here are provided by David Herald's excellent WinOccult software.

(Peter Skilton)



## METEOR SHOWERS



(Geminid Radiant approx 11:00 pm local time)

### Geminids

The Geminids is one of the best annual meteor showers to observe. Although best situated for Northern Hemisphere observers, we still get a great display. On the night of maximum, the radiant rises at about 10:00 pm on the 13<sup>th</sup> of December, and reaches greatest altitude at about 1:00 am. The maximum hourly rate may go as high as 80. The moon is just after new so will not interfere with this shower at all.

The Geminids was first noted as a meteor shower in the 1860's and has been observed and recorded almost yearly ever since. It wasn't until 1983 that the asteroid 3200 Phaethon was determined to be the parent body of the Geminid stream. It was the first time an asteroid had been definitely linked to a meteor shower and it subsequently serves as an important link between comets and meteor streams.

### Leonids

Leonids meteor shower is rapidly dwindling in activity as compared to recent years. Best chances to see any activity are to observe on the mornings of the 17<sup>th</sup> and 18<sup>th</sup> of November. The radiant is located in the middle of the sickle in the constellation of Leo.



## BOOK REVIEW

“The Stargazer – The Life and Times of the Telescope” by Dr. Fred Watson

Published Allen & Unwin, 2004

Price \$35A

Astronomy today could not be done without a telescope of some sort or other. In fact the telescope it could be said was the tool which converted astrology into astronomy and made it a science. Therefore an understanding of the history of the telescope as an instrument and the people and times affecting its development makes for interesting reading.

Dr. Fred Watson is Astronomer-in-Charge of Australia’s premier optical telescope facility: the Anglo-Australian Observatory at Coonabarabran NSW and is one of those rare breeds of professional astronomers who gets in and mixes it with the amateurs.

The book is much more than a mere chronicle of the development of the telescope as an instrument. We get to see some of the characters that sought to use the instrument for fame and fortune, sometimes with great success and sometimes ... well, fate can be so cruel!! The book successfully presents technical development of telescopic instruments from its earliest beginnings via spectacle manufacturers. As with all good books this one reads easily, quickly and is hard to put down. Fred’s writing style is free and entertaining converting the book from a presentation of facts into a fascinating who-dun-it covering some 400 years of instrumental history. One of the axioms of journalism is “Never let the facts get in the way of a good story” but when the facts are already a good story Fred Watson has succeeded in turning them into a good yarn.

PS. While the development Kepler’s planetary laws of motion is an interesting story, I’m not sure I’m all the better for knowing some of the details of his personal hygiene habits but then that’s what makes it a good yarn.

*Peter Lowe.*



## WEB SITES

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

- The 2DF Galaxy Redshift Survey : [www.aao.gov.au/2df/](http://www.aao.gov.au/2df/)  
 The Genesis Mission Probe : <http://genesismission.jpl.nasa.gov/>  
 SpaceShipOne / Virgin Galactic : <http://www.virgingalactic.com>  
 Cassini and the Huygens Probe : <http://www.esa.int/SPECIALS/Cassini-Huygens/index.html>  
 : <http://saturn.jpl.nasa.gov/home/index.cfm>  
 Meteor Showers : <http://comets.amsmeteors.org/meteors/calendar.html>  
 : <http://www.imo.net/>
- Other great web sites :
- Melbourne Planetarium : <http://www.museum.vic.gov.au/planetarium/>  
 Anglo Australian Observatory : <http://www.aao.gov.au/>  
 Perth Observatory Night Camera : <http://perthobs.highway1.com.au/>

## TIDBITS

### AUSTRALIAN SKY AND TELESCOPE

‘Australian Sky and Telescope’ magazine is to be launched in Australia in early December. Paragon Media, in Australia, announced that a licensing agreement had been signed for an Australian edition of Sky & Telescope magazine, published in the US since 1941 by Sky Publishing Corporation.

To be published eleven times a year, Australian Sky & Telescope will bring a new level of professionalism and excellence to astronomy journalism. With over 40 astronomy clubs Australia has a very large - and growing - astronomical community. “We plan to help grow the market,” says Ian Brooks, Managing Director of Paragon Media. “Given the respect this title receives, we are confident that it will rapidly find a following in astronomy and science circles, then attract the attention of the general public.”

The first edition of Australian Sky & Telescope will go on sale at newsagents and selected retail outlets in early December and cost \$7.50. For information about Australian Sky & Telescope contact Paragon Media on 02 9439 1955 or contact Todd Cole on [todd@paragonmedia.com.au](mailto:todd@paragonmedia.com.au).

### VASTROC 2005

The A.S.V. is responsible for VASTROC 2005. The Conference will be held at the RSL Hall in the town of Heathcote on the weekend of April 9 & 10 – 2005. For more info contact the Convener of the VASTROC 2005 organising committee, Barry Adcock at the ASV, on (03) 9459 4015.

### DAVID MALIN LECTURE AT THE MELBOURNE PLANETARIUM

The Melbourne Planetarium is pleased to be hosting a talk by David Malin, who I’m sure is known to most through his stunning astrophotography work. The admission charge is \$12.50 for adults, \$10.00 concession and \$6 Museum members. Bookings are essential and can be made by calling Scienceworks on 9392 4819.  
 WHEN: Thursday 11th November, 6:30pm  
 WHAT: Making Sense of Heaven and Earth



## Office bearers

President	:	Peter Lowe – 0419 355 819	Secretary	:	Bob Heale
Vice President	:	Ian Sullivan	Treasurer	:	Marty Rudd – 5977 8863
Editor	:	Marty Rudd	Public Officer	:	Rhonda Sawosz
Committee	:	Don Leggett, Peter Skilton			

## Meetings

Meeting Venue: Peninsula School, Wooralla Drive, Mt. Eliza (Melways map 105/F5) in the Senior School at 8pm on the 3<sup>rd</sup> Wednesday of each month except December.

Phone: 0419 253 252

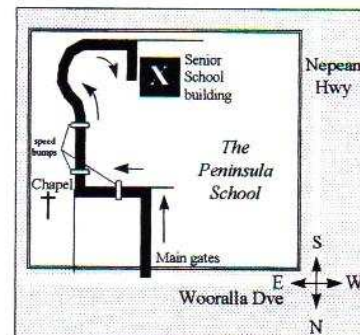
Mail: P.O. Box 596, Frankston 3199, Victoria, Australia

Internet: <http://www.mpas.websyte.com.au>

E-mail: [quasar3671@aol.com](mailto:quasar3671@aol.com)

## Subscriptions

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



## Loan Equipment

The Society has an 8-inch reflector, 80mm refractor and binoculars available for loan.

Contact 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

- 5<sup>th</sup> Nov, Friday - Briars Public Viewing Night
- 7<sup>th</sup> Nov, Sunday - Working Bee at the Briars from 11am, with BBQ lunch provided.  
Contact Jane McConnell on 9787 5591 or 0438 013 268 if require further info.
- 9<sup>th</sup> Nov, Tuesday - Rye Primary School. Approx 50 x 10-11y.o. 4 scopes required.  
Lyons St., Rye (Melways 168 F5)
- 17<sup>th</sup> Nov, Wednesday - Monthly General Meeting at The Peninsula School  
Session 1 : Speaker  
Session 2 : Video – Christmas Star  
Session 3 : Open forum and *Sky for the Month*
- 18<sup>th</sup> Nov, Thursday - Roweville Secondary College. 50 x 15y.o.  
Humphreys Way, Rowville (Melways 82 F1)
- 3<sup>rd</sup> Dec, Friday - Briars Public Viewing Night

If you can assist with school viewing nights, please contact the secretary.

## New Editor for Scorpius

Richard Pollard has done a fantastic job over the past years in editing and producing Scorpius, but has decided to resign as editor. This is due to his focus shifting to producing and maintaining educational Powerpoint presentations for the MPAS and involvement in organising NACAA 2006, as well as his increased commitment to the Cranbourne CFA.

You may have noticed that this latest edition of Scorpius is quite different to previous editions. I decided to try a different format, with information covering a broad range of areas of astronomy including the latest news, must see future astronomical events as well as the usual run down of MPAS news.

(Marty Rudd)



**MPAS Inc. Annual General Meeting (AGM) Elections**

Nominee: \_\_\_\_\_  
 Proposer: \_\_\_\_\_  
 Seconder: \_\_\_\_\_

} must be current  
 financial members

Position (tick 1 or more \*\*\*):

*Office Bearers:*    President    Vice President    Treasurer    Secretary

*Ordinaries:*    Public Officer      Ordinary Committee Member (5 of these)

Acceptance Signature of Nominee: \_\_\_\_\_      **Return to Secretary  
 prior to 7 days before AGM.**

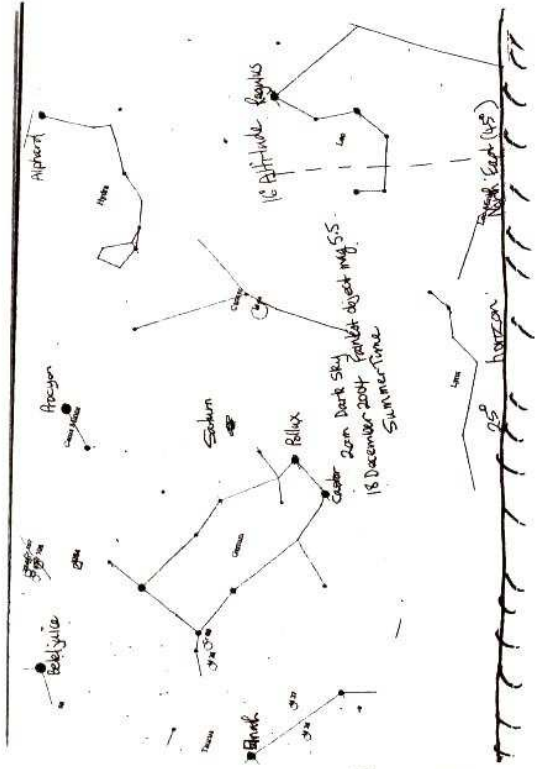
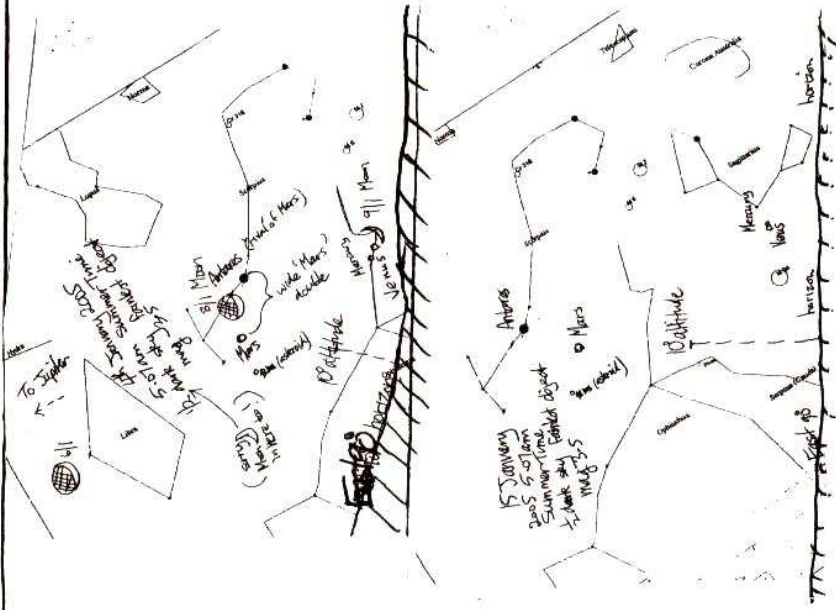
\*\*\* *Note that one person cannot nominate for multiple Office Bearer positions.*



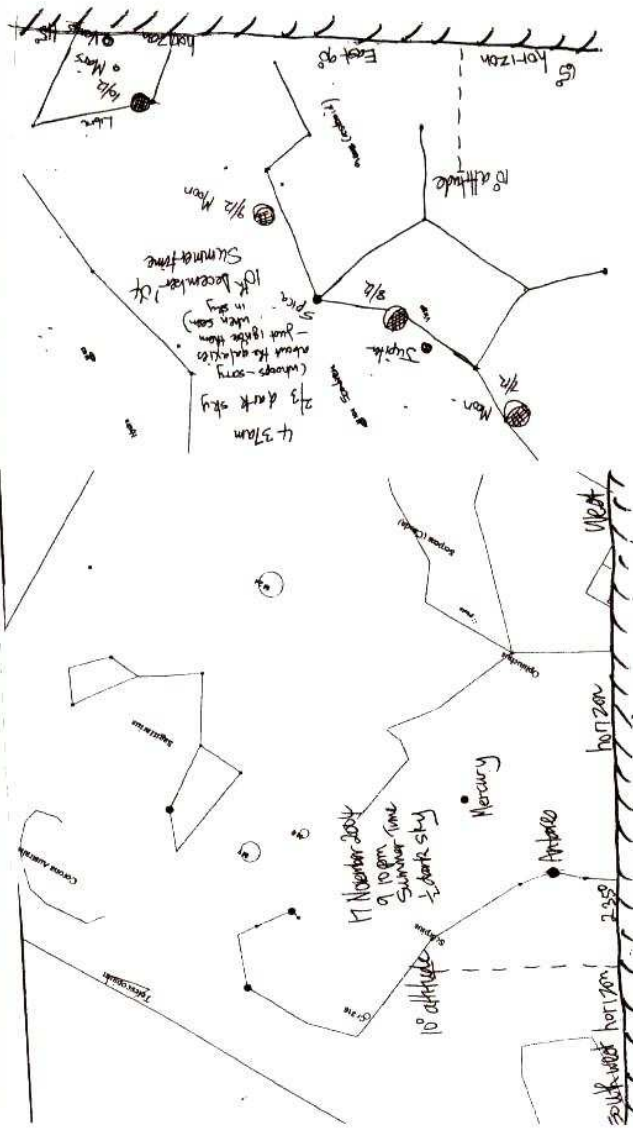
ABOVE - Xmas BBQ 11th December 2004 at the Briars  
 Photo - By John Cleverdon



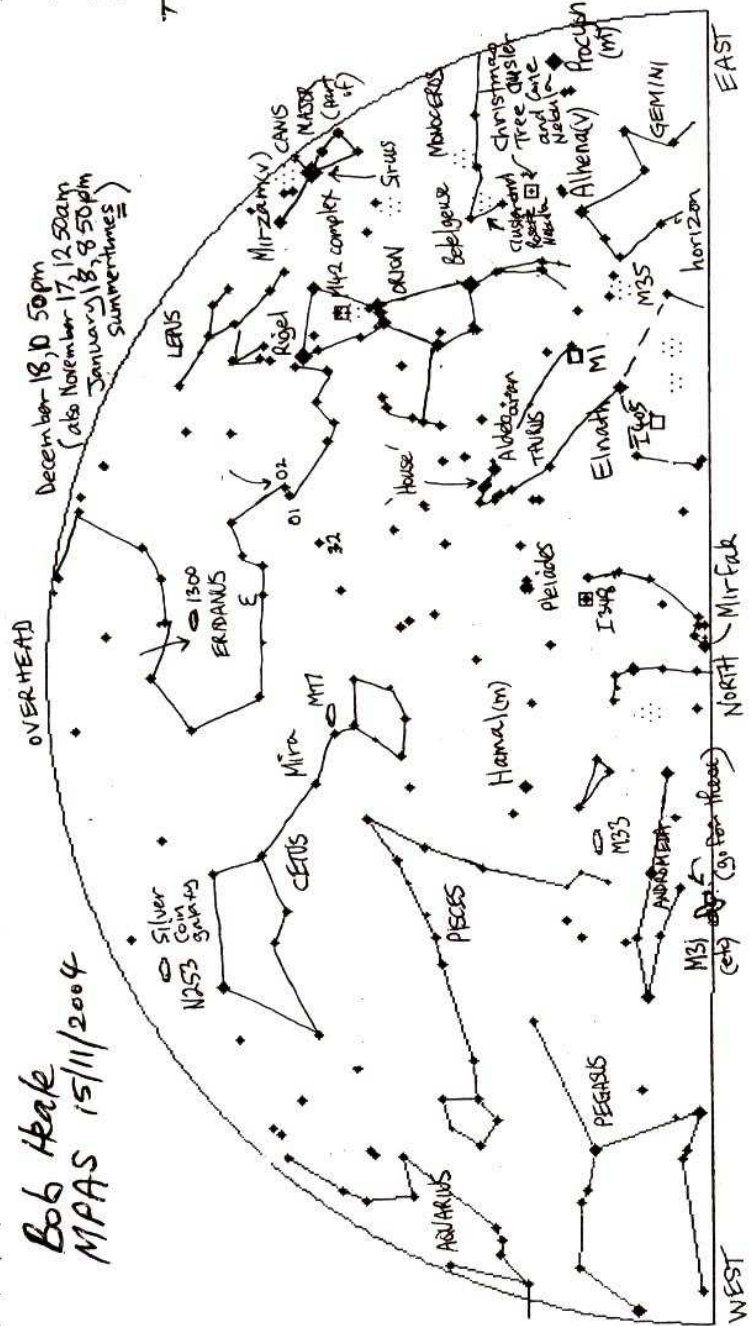
18 JANUARY 2005 MORNINGTON PENINSULA



SKY FOR THE TWO MONTHS 17 NOVEMBER 2004 TO



Bob Heale MPAS 15/11/2004



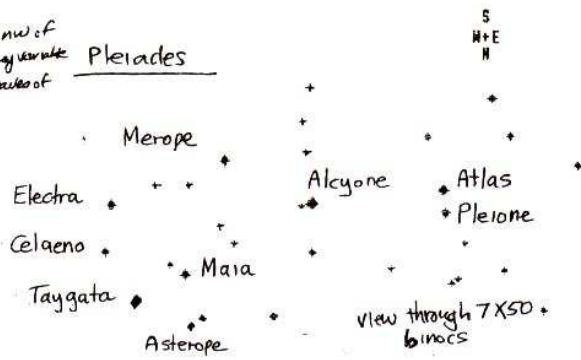


# "Pleiades" and the "Hyades Cluster" in TAURUS

Pleiades or Seven Sisters M45 is a nearby young galactic star cluster, the stars of which are imbedded in nebulosity shining by light reflected from microscopic solid particles (the blue light colour coming from very hot stars). Pleione is a young variable star. Many stars are doubles and there are several wide bright pairs. Dawes, mid 1800's saw 13 stars without optical aid epoch 2000

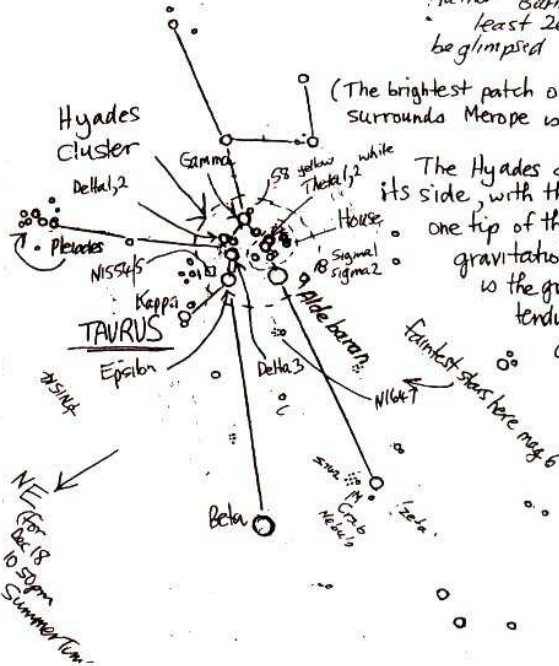
Bob Heale's "House" near Aldebaran red stars w/ Tau 1 just nw of theta 1 (to the side of House's roof) semi reg variable 9-13, better in mag 7-9 red in 'celes of attic' an Aldebaran's side

**Hyades**  
An open cluster consisting of 3 easy double stars called the "Hyades" or "Hyades cluster" Best in 10X50 binocs



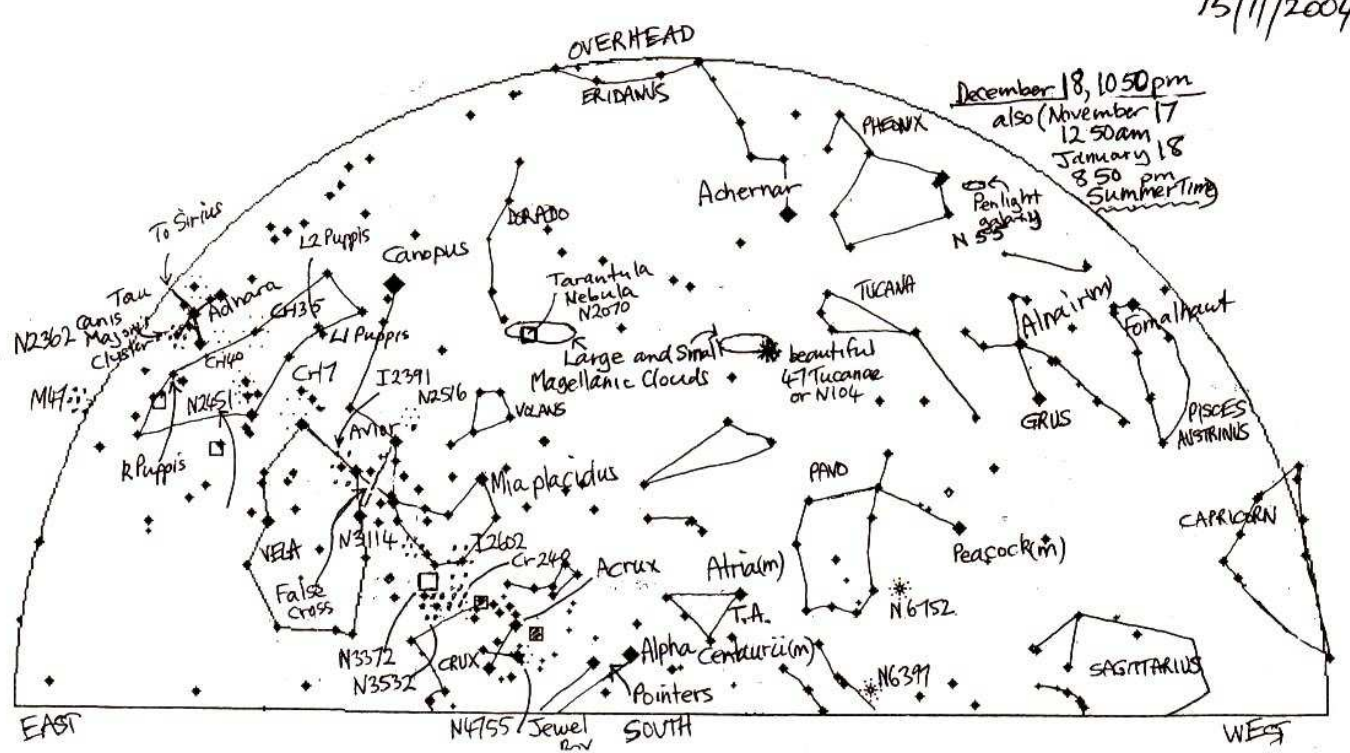
Author Burnham remarks there are at least 20 stars in vicinity which could be glimpsed

(The brightest patch of nebulosity - which surrounds Merope is NGC 1435)



The Hyades cluster looks like a V lying on its side, with the orange-red Aldebaran at one tip of the V. Within the group, 2 sets of gravitational force are at work, one is the gravity of the stars as a group, tending to pull them into a more compact volume, the other is the overall gravity of the Milky Way galaxy tending to pull the stars apart. Here, these two influences are nearly equal and so the cluster is unstable and likely to be disrupted

Bob Heale  
MPAS  
15/11/2004



December 18, 10:50pm  
also (November 17 12:50am  
January 18 8:50 pm  
Summer Time)