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SCORPIUS

THE JOURNAL OF THE
MORNINGTON PENINSULA ASTRONOMICAL SOCIETY INC.

Volume XVII, No. 4 (July/August 2008)

The Mornington Peninsula Astronomical Society (formerly the Astronomical Society of Frankston) was founded in 1969 with the aim of fostering the study and understanding of Astronomy by amateurs and promoting the hobby of amateur Astronomy to the general community at all levels.

The Society holds a focused general meeting each month for the exchange of ideas and information. Regular public and private observing nights are arranged to observe currently available celestial objects and phenomena. In addition, the society encourages the services of its members for educational presentations and observing nights for schools and community groups.

2008 National Science Week

National Science Week is an annual celebration of Australian science that aims to increase public awareness of the role that science, engineering, innovation, technology and entrepreneurship play in our daily lives. National Science Week activities also assist in making connections between science studies and the opportunities that open to those who pursue them and celebrates the achievements of Australians working within these fields.

This year, National Science Week runs from Saturday 16th to Sunday 24th August inclusive and is being promoted widely in schools and in the media nationally. In Victoria, National Science Week is coordinated by a voluntary committee chaired by CSIRO Science Education Victoria.

Many events are planned both within Victoria and nationally, and M.P.A.S. has taken a leading role in Australia by conducting educational events associated with National Science Week for all of its existence over the last 11 years. In fact M.P.A.S. were the first astronomy related events registered in Australia for some years. A growing list of these events for 2008 can be seen on the website www.scienceweek.info.au, so check it out regularly for new arrivals in all topics of science.

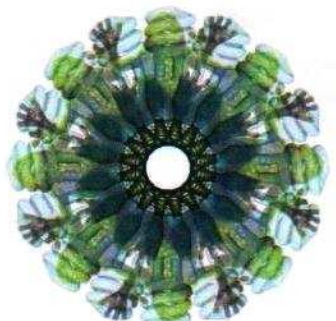
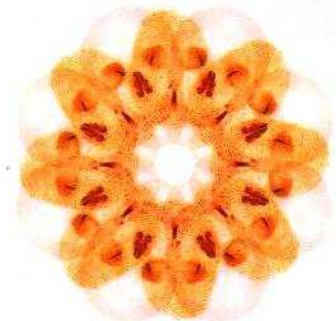
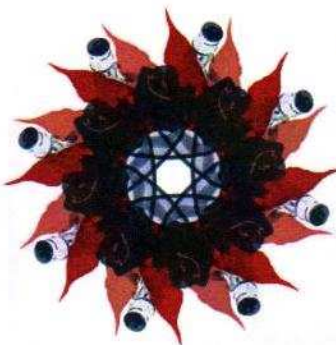
Surveys conducted after National Science Week and its promotion in the media, indicate that nearly 60% of the wider public have awareness of the week which is very high indeed.

Our society is again putting on special events during this Science Week period, which in recent years have seen a high public turnout. Details of our events can be found in the Upcoming Events on page 2.

This years Science Week will also give us a taste of the year long events planned in 2009, for the International Year of Astronomy. With the catch phrase "The Universe, Yours to Discover", the International Year of Astronomy coincides with the 400th anniversary of Galileo turning his telescope towards the heavens.

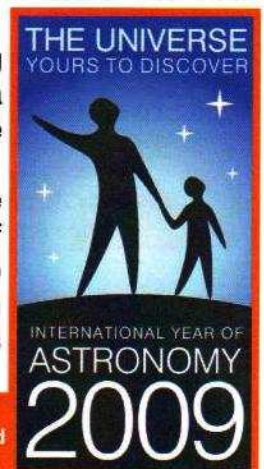
Left: The logos of this year's Science Week.

Right: The International Year of Astronomy Logo, which we will be seeing and hearing about a lot more next year.



national science week

16-24 august 2008 www.scienceweek.info.au



Also in **SCORPIUS** for May & June...
• Upcoming Events • Astro News • Society News & Pics • Skywatcher •

Society News

Upcoming Society Events for July & August

July

- Fri 4th - Public Viewing Night at The Briars (8pm)***
Sat 12th - Lunar Members Viewing Night at The Briars
Wed 16th - General Meeting at The Peninsula School (8pm)
Session 1 - Speaker - Rod Brown to speak about "Tides"
Session 2 - Open Forum & 'Sky for the Month'
Wed 23rd - Committee Meeting

August

- Fri 1st - Public Viewing Night at The Briars (8pm)***
Sat 2nd - Members Viewing Night at The Briars



**national
science
week**

16-24 august 2008

- Wed 20th - General Meeting at The Peninsula School (8pm)**
Session 1 - National Science Week lecture - T.B.C.
Session 2 - Open Forum & 'Sky for the Month'
Fri 22nd - Science Week Public Viewing Night at The Briars (8pm)*
Sat 23rd - Science Week Public Camera Night at The Briars (8pm)*

Note: Check E-Scorpius closer to Science Week for updated events, dates and times.

- Wed 27th - Committee Meeting**
Thurs 28th - St. Anne's Primary School Viewing Night (8pm)*
(to be confirmed closer to date - check with E-Scorpius)
Sat 30th - Members Viewing Night at The Briars

* Denotes assistance in the form of telescopes and general evening operating assistance (i.e. - parking, answering queries, organising supper, etc.) for the public/school nights would be appreciated.

Public Viewing Night Successes

Our public viewing nights have continued to be well attended this year, with the word of mouth, and the occasional newspaper reports obviously hitting the mark. However a lot of effort by our volunteer members goes into making these great nights. With Science Week and the St. Anne's school night coming up, we are putting out the call for extra volunteers to help cover what is shaping up to be a very busy August.

Below are two emails we received, appreciating the efforts put in by our members.

Well done to those involved.

Dear Peter,

Wednesday, 28 May 2008.

We thoroughly enjoyed the night. Your members were very patient with the children and parents. The talk on meteorites was excellent and the children were very excited about the possibility of holding the meteorite. I particularly enjoyed looking at Saturn. Please pass on my thanks and the thanks of our school community to all the members of the Mornington Peninsula Astronomical Society for their time and expertise in providing a unique and wonderful experience.

Thanking you

Jenny Anderson

Science Specialist, Moorooduc Primary School.

Saturday, 7 June 2008.

Dear Peter and team,

Thank you so much for the warm welcome and very interesting night at the telescopes. My students thoroughly enjoyed the friendly atmosphere and were delighted by the chance to view Saturn and Jupiter in particular.

I work with youth that have very limited life experiences and, as a result many of them have pretty poor social skills. A big part of my work is encouraging them to try something new and every time they encounter a friendly group such as the MPAS team they grow in confidence. I guess you could say that you have 'the family atmosphere'. I was very impressed.

I will see you next month...and during the course of the second half of the year another group of students will be making the trip to The Briars.

Thanks again,

Colleen Nazareth

Numeracy and Science Tutor, Narre Community Learning Centre

Society News

General Meeting News

For those that may have missed the last couple of monthly General Meetings at the Peninsula School, here is Marty Rudd's recap of the evenings. Remember these meetings are open to both M.P.A.S. members and general public. So come along, and bring a friend if you want. All are welcome.

16th April General Meeting

With 24 attendees, the April meeting was opened by president Peter Lowe. Bob Heale was then called upon to do the 'Sky for the Month' segment in which he required the use of the projector. It wasn't long before the question arose, 'How many astronomers does it take to turn on a projector?'. The projector was determined not to work but was eventually overwhelmed by about half a dozen or so even more determined astronomers to make it operate. After an amazing balancing act by John, with added support by Peter Skilton, and the use of a long pole, the roof mounted over head projector lost its battle of non operation and was finally turned on, resulting in applause and cheers from the onlooking crowd.

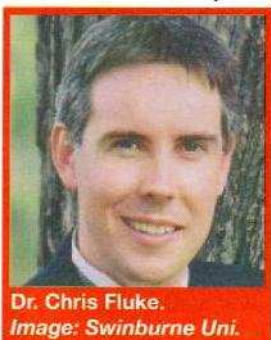
With the projector now operating Bob was able to commence the sky for the month. Following on, Peter Lowe gave an update of upcoming launches and space missions. He noted that the next Russian load to the ISS has been renumbered from number 13 to number 14 (a play on superstition ??) and that the Russians were also re-establishing their own launch facilities; while at the same time the US is winding down the shuttles and becoming more dependent on the Russians. The hype around a possible Chinese launch during the Olympic Games period has also increased as there is speculation of either a possible two man global orbit on the books or even a three man lunar orbit mission planned.

After the raffle was drawn (no luck for me this time) and the coffee break, Ian Sullivan did a quick presentation on the N.A.C.A.A. that he attended in Sydney. On the Monday morning he went to the Sydney Observatory where he did a tour of the complex. The Sydney Observatory was opened in 1858 and ceased operation in 1982 when it was then taken over by the powerhouse museum. Ian then proceeded to show photos of his trip but the technical gremlins took over yet again and the laptop he was using suddenly shutdown and would not turn back on!! Damn you technology!

Peter Lowe mentioned how at the N.A.C.A.A. it was great to see how much amateur science was being carried out including binary star monitoring, asteroid work, the search for exoplanets, flare monitoring and the use of the internet by amateur astronomers to 'data mine' information leading to increased discoveries and new research.

21st May General Meeting

President Peter Lowe opened the meeting with 25 people in attendance. He mentioned that Ian Sullivan had been in hospital recently and wished him a speedy recovery.



Dr. Chris Fluke.
Image: Swinburne Uni.

Dr. Chris Fluke was the special guest speaker for the evening and gave a fascinating talk on his life as an 'astronomical tourist'. He explained how recently Swinburne University had secured 15 nights of use of the Keck telescopes, a huge benefit to astronomy in Australia. Chris then mentioned how he had used the radio telescope array at Narrabri to study an area of sky near Abel 3667, but unfortunately three nights of observing yielded nothing. Chris also teaches history of astronomy and has travelled to various places of astronomical interest around the world over the years, but wondered if he could virtually visit these and other sites of interest. Using Google Earth, he took us on a tour of the world, visiting remote and fascinating sites of astronomical interest including Stonehenge and a radio telescope site (which I think was located in

Arecibo). Maybe the virtual tourist will be able to visit Mars. Dr. Chris Fluke's 'Astronomical Tourist' website can be found at www.astronomy.swin.edu.au/sao/tourist.

The raffle was drawn then after the coffee break Bob did 'Sky for the Month'.

18th June General Meeting

Approximately 25 members attended the June meeting, including Ian Sullivan, who was looking like a new man after his operation. He looked very Sir Richard Attenborough-ish sporting a new beard, and as Peter Lowe said, twenty years younger. Peter opened the meeting with a quick update on events at the Briars site. The sundial that Ian Sullivan has so diligently organised has arrived, while its position on the Briars is yet to be decided. A working bee the previous weekend led to the construction of a three metre by three metre garden shed which will house the recently purchased lawn mower as well as the wheel barrow (at last a home for it out

Continued on page 4

Society News

18th June General Meeting (Cont. from page 3)

of the toilet block) and other garden tools.

Peter Lowe gave an update of upcoming launches and space missions and astronomical news. The Chinese are now believed to be going to launch a three man space mission to coincide with the Olympics. The details of the mission are not yet known but quite possibly a space walk may be involved. The first advertisement to be transmitted into space was done from the Goldstone Radio telescope and involved the sending of an ad for Doritos chips to a star 42 light years away. I'm quite sure the shelf life of a bag of Doritos isn't that long. The Space Shuttle successfully returned after its mission to deliver the Japanese space module to the International Space Station while NASA has also announced that the next planned mission to the Hubble Space Telescope will have a second Shuttle at the ready in case there are any problems during the first mission. Lastly it was mentioned that June coincides with the 400th anniversary of Galileo's first use of the telescope.

Bob lastly did 'Sky for the Month' before the coffee break at which point the meeting was closed.

BORDER STARGAZE



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28-31 August 2008

All the Stars Will Shine on the Border

Border Stargaze is back, and registrations for Border Stargaze 2008 (28 - 31st August, 2008) are **NOW OPEN**.

The Astronomical Society of Albury/Wodonga (A.S.A.W.) is proud to announce that Border Stargaze 2008 will be held at The Wymah Valley Retreat formerly known as The Great Aussie Resort. The exciting news is that the retreat has undergone a major transformation. The quality and types of accommodation available have increased in addition to significant improvements to the existing facilities.

Located in the Greater Hume Shire the Retreat boasts a 300 acre property with a two kilometer frontage to Lake Hume. It is the ideal site for hosting a star party offering high standards of accommodation and supported by a great management team.

Only 30km from the twin cities of Albury and Wodonga we are also ideally located to major cities. Melbourne 350kms (3.5hrs), Sydney 560kms (5hrs), Canberra 310kms (3hrs) and Adelaide 764km (8hrs).

The retreat is an ideal location for individuals, families, schools or groups of any size. The amateur astronomer will enjoy excellent observing fields, and the pleasure of a wide range of facilities:

- Free Breakfast to registered guests on the Sunday will be returning as will the Cosmodome (Mobile Planetarium).
- Free Registration for children 13 and under - (Standard accommodation rates will still apply).
- Guest Speakers – Fred Watson, Rob McNaught, Phil Hart (Astrophotography).
- Astrophotography Workshops
- Astro Activities
- Vendors
- And so much more.....

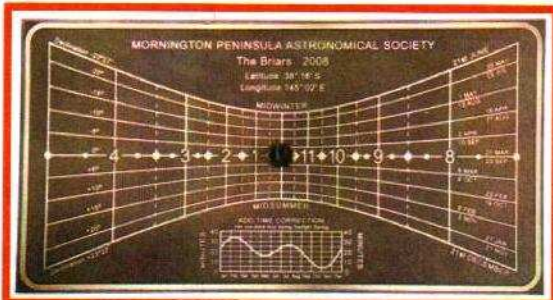
The information pack is available online. Check out our website - www.asaw.org.au

Cheers,

Petra de Ruyter

Secretary - Astronomical Society of Albury - Wodonga
Secretary - Border Stargaze 2008 Committee
Email: - davartep@iprimus.com.au

Society News



The society sundial to be set at the Briars.

Sundial arrives at the Briars

In the last edition of Scorpius, we showed you the diagram for the new sundial to be placed at the Briars. Now we actually have a picture of the sundial plate. Seen to the left, this sundial plate was delivered to M.P.A.S.'s own Ian Sullivan, just prior to going into hospital. Ian (sporting a new beard after surgery) has since delivered the sundial plate, made specifically for our location at the Briars.

It is hoped that we will soon be able to set the sundial in permanently at the Briars for members and visitors alike to use.

Sustainable Exhibition Centre Update



The Sustainable Exhibition Centre, as seen from the North-West corner of the upper observing pad. As you can see, the roof is near level to the western tree line. Hence the western horizon is not greatly affected by the new development

Just an update for those members who have visited our Briars site recently and have noticed that construction of the Sustainable Exhibition Centre is underway. These pictures taken recently, show where the S.E.C. is in relation to our society facility. It appears not too much of the viewable western sky has been lost, and at this stage no power is connected to cause any nighttime light pollution concerns.

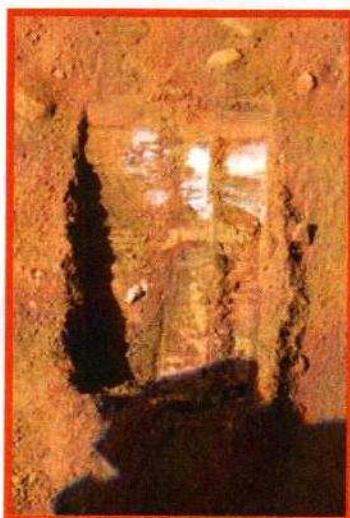
Once again we make members aware that, for the next few months while the construction proceeds, access to our site may be limited and parking will need to move south of our pedestrian gate. We ask visitors to take care when driving or walking around the site. Any major changes affecting our use of the Briars site will be communicated in either Scorpius, E-Scorpius, What's On, or at the monthly General Meeting.



The view from the road towards the B.A.C.



The access path for cars to the B.A.C.



Phoenix Follow Up (From the May/June edition of Scorpius)

Last issue of Scorpius looked at the arrival of the Phoenix lander on Mars, and it's mission to find evidence of water under the Martian surface.

Well it did successfully land as predicted on the 25th May and has since started using it's onboard instruments to find it's goal. And recent images from the Phoenix do look promising (see left).

Less promising is the picture supplied exclusively to Scorpius, by our own Peter Skilton (see right). *Ed - I really don't think this is authentic.*

To follow the Phoenix Mission online, click on either:

<http://www.nasa.gov/phoenix> or <http://phoenix.lpl.arizona.edu>.

White material, possibly ice, is located only at the upper portion of the trench, indicating that it is not continuous throughout the excavated site. According to scientists, the trench might be exposing a ledge, or only a portion of a slab, of the white material.

Image credit & Note: NASA/JPL-Caltech/University of Arizona/Texas A&M University



Water on Mars??



The Committee and Society welcome the following new members.

Wishing you both clear skies.



Dennis Newton
Maciej Milczaek





Skywatcher Events for

Eclipse & Olympics in 2008

Events for JULY

3rd July - Alpha-Capricornids meteor shower is active with maximum activity around the 30th of July, and coinciding with the new moon. (Z.H.R. of up to 5). Radiant in North Eastern, Eastern sky.

- 3rd - New Moon.
- 6th - Mars, Moon, Saturn & Regulus Align.
- 10th - First Quarter Moon.
- 14th - Occultation of Antares by the Moon. Disappears at 9:33pm and Reappears at 10:53pm.
- 17th - Jupiter 3° North of Moon (10pm).
- 18th - Full Moon.
- 20th - Neptune 0.9° South of Moon (11pm).
- 26th - Last Quarter Moon.

Events for AUGUST

- 1st - New Moon.
- 3rd - Venus, Saturn, Moon & Regulus close together
- 4th - Mars 4° North of Moon (10pm)
- 9th - First Quarter Moon.
- 13th - Jupiter 3° North of Moon (12am).
- 14th - Venus 0.2° South of Saturn (5am).
- 15th - Venus, Saturn & Mercury only 1.8° apart (6:30pm)
- 17th - Full Moon, with Partial Lunar Eclipse. Mid eclipse is at 7:10 am.
- 21st - Venus, Saturn & Mercury now 8.5° apart (6:30pm)
- 26th - Last Quarter Moon.
- 31st - New Moon.

In August 2008, China will be hosting the Games of the XXIX Olympiad, in Beijing. But before this, China will also be privilege to have a Total Solar Eclipse over part of their country.

This total eclipse starts in far western Canada, through Greenland, then central Russia (where the greatest eclipse duration of 2min 27sec occur), eastern Mongolia, and finishing in central China. Towards evening, the total eclipse reaches the region around the historical silk road and the Great Wall of China before the eclipse ends in the region between the cities Xian and Zhengzhou at sunset.

In Ancient China, observing total solar eclipses was a major element of forecasting the future health and successes of the Emperor, and astrologers were left with the onerous task of trying to anticipate when these events might occur. Failure to get the prediction right, in at least one recorded case in 2300 BC resulted in the beheading of two astrologers, Hsi and Ho. Because the pattern of total solar eclipses is erratic in any specific geographic location, many astrologers no doubt lost their heads.

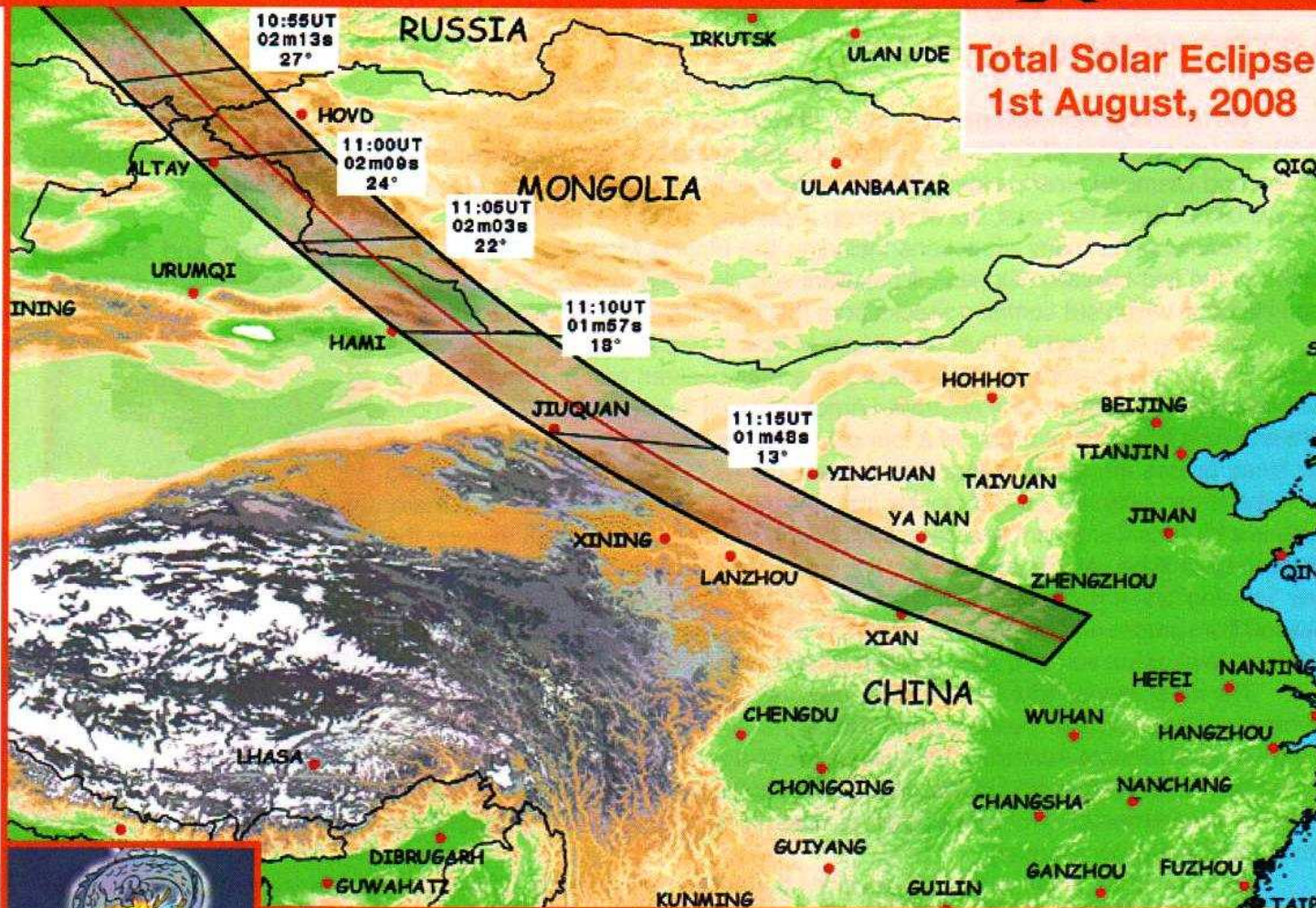
By about 20 BC, surviving documents show that Chinese astrologers understood what caused eclipses, and by 8 BC some predictions of total solar eclipse were made using the 135-month recurrence period. By AD 206 Chinese astrologers could predict solar eclipses by analyzing the Moon's motion.

Being out of the eclipse corridor, the Olympic city itself, Beijing will only see the moon cover 90.9% of the evening sun. But unlike the Olympic games, if any Chinese miss this Total Solar Eclipse, they will get another chance to see the next T.S.E. on July 22nd of next year.

RISE and SHINE TIMES

	Sun				Moon			Mercury		Venus		Mars		Jup
	Twilight Begins	Rise	Set	Twilight Ends	Rise	Set	Phase	Rise	Set	Rise	Set	Rise	Set	Rise
Jul 5	06:02	07:36	17:14	18:47	09:16	19:42	Waxing Past New Moon	05:57	15:48	08:08	17:43	10:18	21:09	17:26
12	06:01	07:34	17:18	18:51	12:22	02:08	Waxing Past 1st Q. Moon	06:17	15:56	08:12	17:58	10:01	21:03	16:54
19	05:58	07:30	17:23	18:55	18:14	08:03	Waning Past Full Moon	06:47	16:22	08:14	18:13	09:44	20:56	16:22
26	05:54	07:25	17:28	18:59	00:47	11:13	Last Q. Moon	07:18	17:03	08:13	18:28	09:27	20:50	15:50
Aug 2	05:49	07:19	17:34	19:04	07:45	18:31	Waxing Past New Moon	07:39	17:48	08:10	18:44	09:10	20:44	15:19
9	05:43	07:12	17:40	19:09	10:54	00:58	1st Q. Moon	07:50	18:30	08:06	18:59	08:53	20:38	14:48
16	05:35	07:04	17:45	19:14	17:07	06:35	Waxing to Full Moon	07:53	19:05	08:00	19:15	08:36	20:32	14:18
23	05:27	06:54	17:51	19:19	D.N.R	09:52	Waning to Last Q. Moon	07:50	19:34	07:54	19:30	08:19	20:26	13:49
30	05:17	06:45	17:57	19:24	06:14	17:21	Waning to New Moon	07:42	19:57	07:46	19:44	08:02	20:21	13:20

JULY and AUGUST 2008



In ancient China, the Chinese believed a dragon was swallowing the Sun during an eclipse, and therefore they banged drums and symbols and shot arrows sky wards to scare the dragon away.



Possible 'Games' Launch

Rumors persist about a possible manned space launch, by the Chinese, which may just happen to coincide with the Olympic Games. China are only the third country (behind the United States and Russia) to launch astronauts, - sorry, Chinese version is "Taikonauts".

As to what is actually planned, or exact dates for this upcoming space flight is still shrouded in mystery.



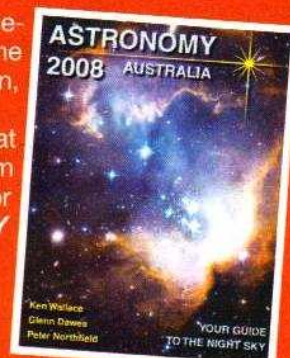
Taikonauts Fei Junlong & Nie Haishen, after China's second manned spaceflight, back in 2005.

Date	Saturn		Uranus		Neptune		Day	Month
	Set	Rise	Set	Rise	Set	Rise		
08:03	10:28	21:22	22:44	11:15	20:23	09:59	5	Jul
07:32	10:03	20:58	22:17	10:47	19:55	09:31	12	
07:01	09:37	20:34	21:49	10:19	19:26	09:03	19	
06:31	09:11	20:10	21:20	09:51	18:58	08:35	26	
06:00	08:46	19:46	20:52	09:24	18:29	08:07	2	Aug
05:30	08:21	19:23	20:23	08:56	18:01	07:39	9	
05:00	07:55	19:00	19:55	08:27	17:33	07:11	16	
04:31	07:30	18:36	19:26	07:59	17:04	06:43	23	
04:03	07:05	18:13	18:57	07:31	16:36	06:15	30	

These times and much more celestial information can be found in the excellent annual Australian publication, **ASTRONOMY 2008**.

These publications are aimed at all levels of amateur astronomer, from newcomer to expert. See page 11 for more information about **ASTRONOMY 2008**.

Now only \$14 for members



Society News

In 2007, our own Ian Sullivan took a journey to Europe and United States, visiting some interesting astronomical wonders along the way. This final excerpt, looks at the last leg his of journey.

ASTRONOMICAL ASPECTS OF SULLIVAN'S OVERSEAS TRIP

Part 3: Islands of Hawaii

We landed at Honolulu mid afternoon, stayed near the airport, and took a bus into town. The aim was to see Waikiki Beach at sunset while having a drink outside a faded pink aging expensive hotel. The sun shines on the beach background Diamond Head, a large volcanic crater only for a few minutes. I took a photo but lost the camera next day. We dined, not at the hotel, but at a cheap Japanese restaurant nearby.

Honolulu has many attractions including the Bishop Museum with a modest planetarium, and the Royal Palace of the last Hawaiian Queen Lili'uokalani was deposed in 1893. It is the only royal palace on American soil. Pearl Harbour, which still contains wrecks from the 1941 Japanese air raid, is a half day excursion.

Deciding to spend the bulk of our time in Hawaii (the Big Island) we flew to its capital Hilo on the Eastern end. We stayed at a backpackers camp, Arnotts Lodge established by a member of the Australian Arnott's biscuit family, which also has motel units and runs its own tours. We did a tour of volcanic crater and lava fields of Kilauea and hiked across the large caldera. Lava at around 1000°C intermittently flows into the sea and can often be viewed closely from the road - but not while we were there. There is a Visitor's Centre and the Jagger Museum. We did however walk through the Thurston Lava Tube set in the rainforest. It is a cave formed by flowing lava, the outer layer 'freezing' and forming the tube. The only 'volcanic' activity we did see, was steam released from cracks and man-made holes. It is actually the result of rainwater soaking down into lava or hot volcanic rock and being vaporised.

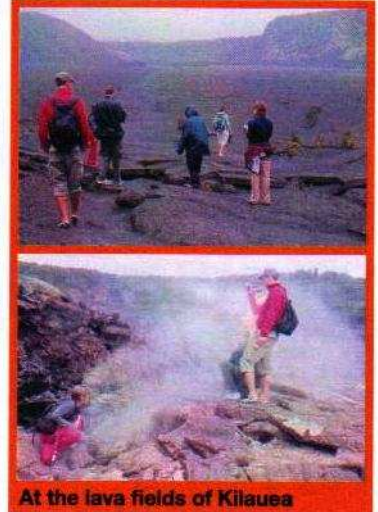
The other regular tour from Arnotts was the visit to the summit of Mauna Kea the higher of two volcanic peaks around the centre of the island both over 13,000 ft above sea level (double Australia's Mt Kosciusko). The saddle road winds up between the two peaks, and a side road climbs to the Onizuka Visitor Centre at 9,200 ft, around where the accommodation for astronomers is sited, as nobody lives on the summit (Hawaiian astronaut Onizuka, died in the 1986 Challenger disaster).

We spent time there to acclimatize, and I bought a planisphere for 20\$N. There were some interesting plants around in a desert-like vegetation. At the summit, another 4000 ft up, I felt much weaker and colder as we observed the sunset along with many other tour vehicles from both Hilo and Kona (the latter are much more expensive). Many volcanic cones are visible along the summit and the ascending road. You need your own transport to visit the summit from early afternoon, to see inside some domes like the Subaru which offer free tours daily.

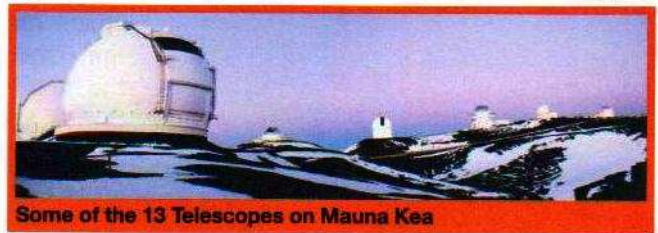
There are now 13 operating telescopes on land leased by the University of Hawaii since 1968. The largest is the W M Keck Observatory with its 36 hexagonal mirror segments, each 6 ft across, arranged to gather light or infra red rays, as a single, or two separate telescopes. In 1996 the Keck 1 discovered a galaxy in Virgo at 14 billion light years - the most distant ever. Nearby is Japan's Subaru Telescope with its 27 ft optical mirror - the world's largest. The name Subaru means the Pleiades, but does not relate to the make of car I drive.

After sunset we drove back down to the Visitor Centre where volunteer amateurs train their telescopes on the night sky to entertain independent visitors. I got a quick look through a Celestron 8 but visitors on tours (like us) were stuck with a tour guide (without telescope) who identified the constellations by Polynesian names as well as the universal names. He even sang a song about the beauty of the heavens while I tried to find my way around the Northern sky. Fortunately CRUX was visible but I did not have the right lens for a photo. The night sky was beautifully clear, as is all but one or two nights each month. We viewed for about a half hour then drove back to Hilo where next day we saw a new astronomy centre with the usual planetarium and exhibits including a suspended rotating (2 m?) globe of Mars with features digitally projected on it. I think the exhibits were too advanced for the general populace - maybe influenced by the local professionals at Mauna Kea?

Ian Sullivan



At the lava fields of Kilauea



Some of the 13 Telescopes on Mauna Kea



Missing Scorpius?

If you know of any society members who are missing their bi-monthly fix of Scorpius in the mail, please email us at scorpius@mpas.asn.au to let us know, and correctly put you on the address list. Thanks.

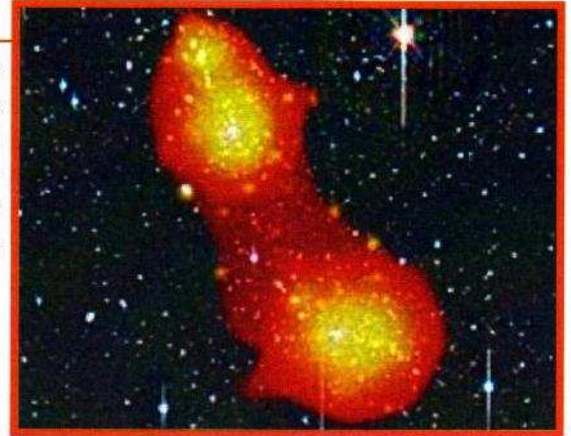
ASTRO NEWS

Missing Matter

Only about 5% of the energy in the universe consists of normal matter, as we know it. The rest consists of the elusive dark energy (72%) and dark matter (23%). All the visible matter in the universe accounts for about half of the 5% of normal matter and appears to be distributed in a web-like structure with galaxy clusters at the web nodes. It was theorised that a low-density hot gas permeates the space between these clusters.

The very low density of the gas has made it difficult to detect. Astronomers have now confirmed the existence of a hot gas between galaxy clusters using the XMM-Newton X-ray observatory. By a fortuitous alignment the galaxy clusters Abell 222 and Abell 223 allow the observatory to view along the filament connecting the two clusters to reveal a bridge of hot gas emitting low energy X-rays. This measurement is at the sensitivity limit of the observatory instrumentation but makes a start to understanding the distribution of matter in the cosmic web.

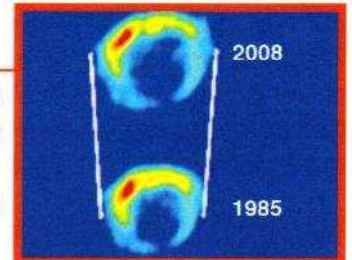
These observations help identify the requirements for future X-ray observatories designed to study the gases structures between galaxy clusters.



Youngest SuperNova

Astronomers using the Very Large Array (VLA) radio telescope and the Chandra X-ray satellite have been able to track the expansion of a supernova remnant and discovered it probably exploded just 150 years ago.

Images taken in 1985 using the VLA and in 2007 using the Chandra satellite showed a 15% increase in size over the intervening 23 years.



Jupiter's New Red Spot

A third red spot has appeared in Jupiter's clouds next to the Great Red Spot and Red Spot Jr. The Great Red Spot has been known for some 350 years when telescopic observations first started. Red Spot Jr. appeared in 2006.

The spot started as a whitish oval and has slowly changed to a red colouration. The colour change is thought to indicate the storms have intensified and are dredging up material from deep beneath the cloud tops and lifting it to higher altitudes where solar ultraviolet radiation induce colour changing chemical reactions.

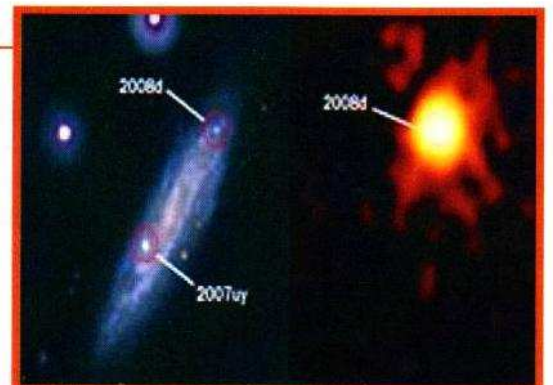
Detailed satellite studies suggest Jupiter is in the midst of a global climate change due to planetary warming. The temperature difference between the equator and near the South Pole has increased by about 10°C leading to instabilities generating additional atmospheric vortices.



Star Death

A supernova is a vast stellar explosion occurring at the end of a massive star's life after which the remnant forms a neutron star or black hole. Astronomers have seen numerous supernova aftermaths but would like to see one at the moment of explosion. A fortuitous observation using the Swift orbiting X-ray telescope showed a sudden and extremely luminous blast of X-rays released by a supernova in the galaxy.

Theory predicts the supernova would release an X-ray blast and this is the first time such a blast has been observed. The explosion has now been observed using radio, optical and X-ray telescopes and the observations are expected to better explain the structure of massive stars and the formation of neutron stars and black holes.

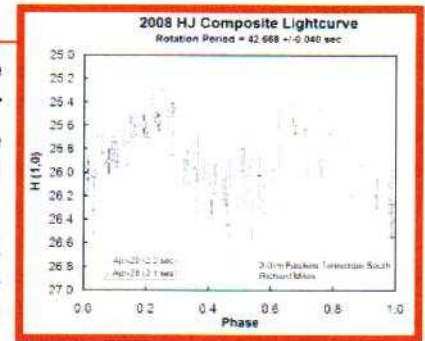


ASTRO NEWS

Super Rotating Asteroid

A British amateur astronomer using the Faulkes Remote Telescope located at Siding Springs, Australia has discovered the fastest rotation rate for an asteroid to-date. The newly discovered asteroid 2008 HJ was found to be rotating once every 42.7 seconds nearly twice as fast as the previous record holder 2000 DO8 which rotates once every 78 seconds.

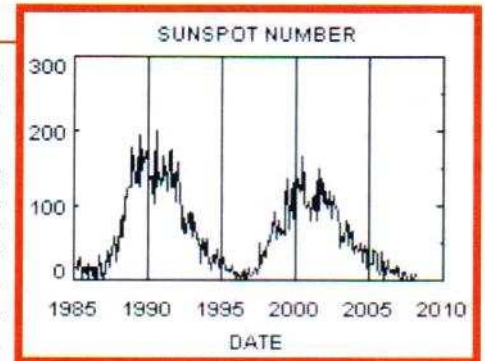
2008 HJ is thought to be a stony object, some 12m x 24m in size with a mass of approximately 5,000 tonnes. This tiny object became visible because of its close approach to Earth in April 2008 when it came to roughly one million kilometres from our planet.



No Sunspots

The Sun is currently at the low point in the sunspot cycle known as Solar Minimum. The solar cycle is roughly a 22-year cycle during which we see sunspots appear following an 11-year cycle.

Scientists had expected the Sun to have passed the current sunspot minimum and be well into the build up for the next cycle and yet very few sunspots have appeared. This apparent delay in the start of the next cycle is a bit of a mystery. The sunspot count or number of sunspots visible at any one time usually starts quickly and builds to a peak over about 5 years and then slowly decline. It is believed the next cycle might be one of the more active ones with a fast sunspot count build up. Time will tell. The next 18 months promises to be an interesting time to observe the Sun.



Weighing Brown Dwarfs

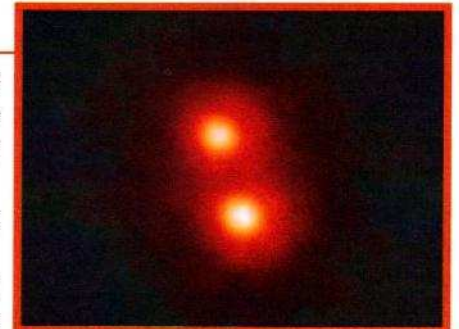
What is the smallest mass need to produce a star? Stars at this mass limit known as brown dwarfs or "failed stars" are thought to be as light as 0.03 solar masses. Brown dwarfs burn their hydrogen fuel very, very slowly and have the longest life cycles of any other star.

Brown dwarfs represent the transition between the largest gas giant planets such as Jupiter and the smallest and coldest stars.

Using the latest adaptive optics attached to the 10-metre Keck II telescope equipped on Mauna Kea, Hawaii, astronomers have been able to obtain precise orbits for two binary brown dwarf pairs. From this extremely challenging measurements the masses of the two components stars can be calculated.

The first pair known as 2MASS 1534-2952AB is only 6% of a solar mass while the second pair HD130948BC is slightly more massive at 11% of a solar mass. This puts the individual brown dwarf masses at roughly 30 time that of Jupiter.

The two binaries are located in the constellations of Libra and Bootes at about 45 – 60 light years distance.



Society Subscriptions for 2008

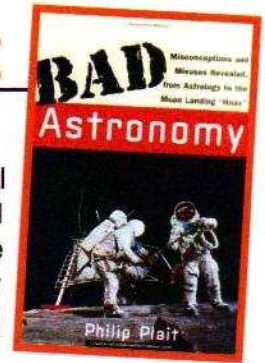
This is a reminder to members who have failed to renew their subscriptions this year. Subscriptions are the life blood of the society and we cannot continue to operate if members don't renew their subscriptions. If you are not financial could you please direct your subscriptions to the Treasurer. Payments can be made in person at any M.P.A.S. gathering or by cheque to P.O. Box 596, Frankston 3199. Please note that cheques are to made out to the '**Mornington Peninsula Astronomical Society**'. The M.P.A.S. abbreviation will no longer be accepted, as that is not the name of the account the cheques are deposited into.

The fees for this year are as follows:

\$50 - Full Member	\$65 - Family Membership
\$45 - Pensioner Member	\$60 - Family Pensioner Membership
\$22 - Newsletter Subscription Only	

SOCIETY BOOK REVIEW:

'Bad Astronomy' by Philip C Plait. Book Review by Ian Sullivan.



The book explains misconceptions, and misuse of theory explaining natural phenomenon such as those 'explained' by astrologers. I doubt if anyone in MPAS would believe you can balance an egg on its end only at the time of the Vernal Equinox (March 21). We know that the equinoxes actually occur in an instant and you would have to interpolate your local mean (clock) time. Moreover in Southern Hemisphere Mar 21 is in autumn. The act can be accomplished at any time with enough patience.

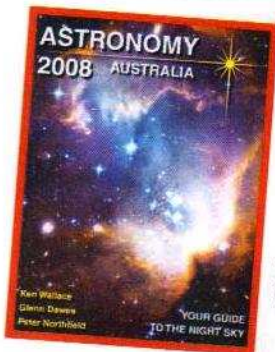
Another trick is called the 'Coriolis Effect' which is the direction of flow, water circles around a plughole on its way out of a sink or other vessel. It is clockwise N of the Equator and anti clockwise S of the Equator. He describes a con man in Kenya who demonstrated in a village in Kenya on the Equator that it works! I also saw it demonstrated, very casually, in Quito, Ecuador in my travels in 2005. I could not detect how they did it, and was so hampered by language I did not remonstrate. Plait explains that only in global effects like cyclonic storms is this effect actually realised. However his diagram of this in the book shows directions opposite to his explanation.

His explanation of how the Moon has a greater tide raising effect than the Sun is worth reading. I don't think many people can actually explain how tidal bulges occur on opposite sides of Earth caused by forces one toward the Moon, the other away from it. Gravity is also discussed in the alignment (in a rough 25š arc) of planets in 2000, which some cranks predicted disaster. Back in 1962, these planets were 'bunched up' within 16š without incident.

Other matters explained include why the sky is blue, why stars twinkle, and the Moon landing hoax. Who has heard of Velikovsky? Only our senior members would remember his book- 'Worlds in Collision' which was a best seller? Astrology, UFO's, and selling star names are also debunked. I know several respectable institutions who raise lots of money selling stars to the public. Amateur groups could do it too, but most could not do a credible job, even in the eyes of the gullible.

I recommend you all read 'BAD ASTRONOMY'

'Bad Astronomy' was donated to our society by Peter Skilton. We thank Peter for his contribution, and remind everyone this and other books are available for you to borrow from our society library.



2008 ASTRONOMY AUSTRALIA

The society still has available your guide to the astronomical year ahead with the **2008 ASTRONOMY AUSTRALIA**. This practical guide to all things astronomical in the Australian skies is a wonderful reference for all levels of star-gazers, from newcomer to expert. Pricing is **\$18** to the public, though society members can get it at the discounted rate of **\$14**.

Orders and payments can be made in person at any M.P.A.S. gathering, by cheque to P.O. Box 596, Frankston 3199, or by phone by leaving a message on 0419 253 252. These sky almanacs are available at any society gathering.

Society Pics

Society Pics this edition looks at things a little more down to Earth this month with pictures from the recent nights at the Briars Astronomical Centre. These pictures show members (and ASV guests) enjoying each others company, as winter continues to not always play along with our observing needs. The pics below were taken by John Cleverdon. If you want to show other M.P.A.S. members what you are photographing, send them into: scorpius@mpas.asn.au



A.S.V. Night at the Briars back in April.



Members Night in June.



Working Bee back in June, putting in the new garden shed

Office bearers of the Mornington Peninsula Astronomical Society

President: Peter Lowe - 0419 355 819
Vice President: Bob Heale
Scorpius Editor: Brett Bajada
Committee: Ian Sullivan, Kevin Rossiter,
 Terry Ryan, Brett Bajada
Phone Contact: Peter Skilton

Secretary: Peter Skilton - 0419 253 252
Treasurer: Marty Rudd - 5977 8863
Public Officer: Rhonda Sawosz

Web Master: Steven Mohr

GENERAL 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.asn.au>

email: welcome@mpas.asn.au

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 it's library, made available during General Meetings.

CONTRIBUTIONS TO SCORPIUS

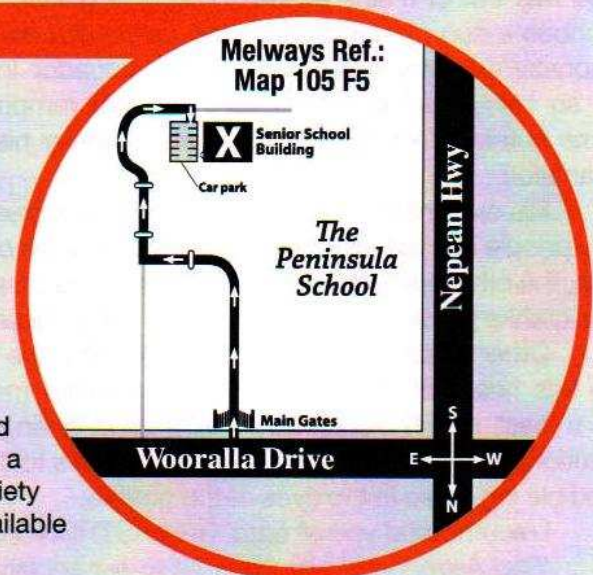
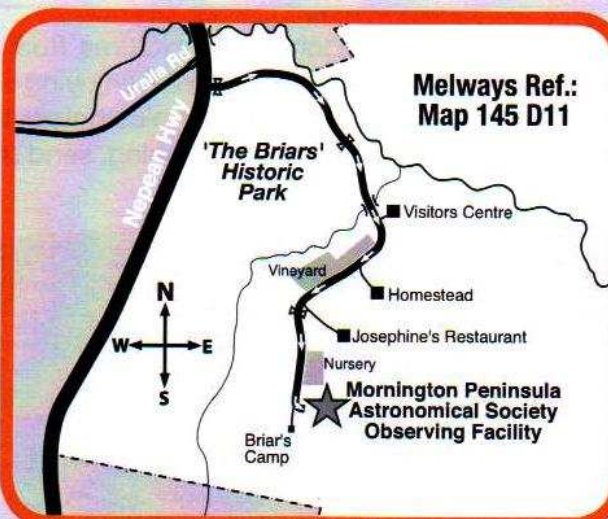
If you would like to submit an article or written contribution to Scorpius, then please send your submission to M.P.A.S., P.O. Box 596, Frankston 3199, or email you can now email to scorpius@mpas.asn.au.

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. And the new **Society Pics** page requires images that you have taken for all members of the society to see - don't keep them to yourself! All contributions are welcome.

E-SCORPIUS NEWSGROUP

The M.P.A.S. has an online newsgroup called E-Scorpius. Here you will be kept up to date with the latest M.P.A.S. news and event information as well as being able to 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.



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 Greg Walton on either 9773 0098 or 0415 172 503 if they need help in getting to the site. Upon arrival at the site, remember to sign the attendance book in the observatory building to verify that the mobile is turned on.

Gallery Images taken from the Briars by Greg Walton



M42 taken with MPAS 18inch EQ F4.5 Pentax ist ISO3200 30sec 24Nov2006 By Greg Walton Briars Mornington No editing

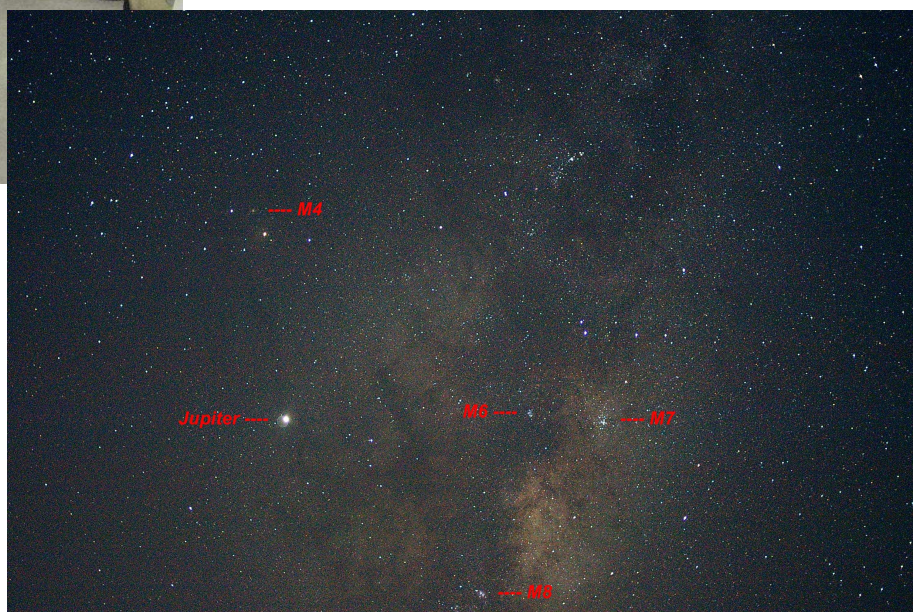


Below - Centre of Milky way Galaxy taken on 12th May 2007 with Pentax ist

Photo - By Greg Walton

Above - Solstice Party at the MPAS briars site on 21st July 2008

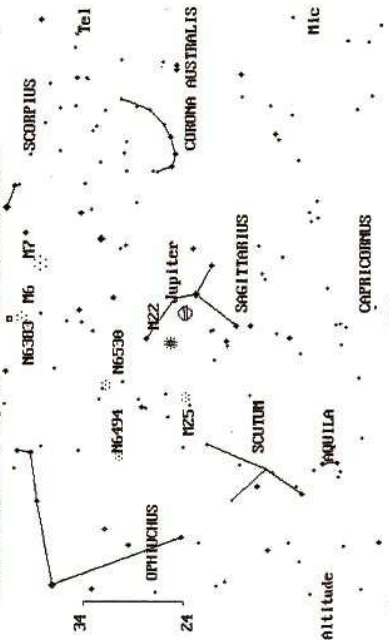
Photo - By John Cleverdon



SKY FOR THE MONTH 16TH JULY TO 19TH AUGUST 2008 MORNINGTON PENINSULA

and MARS

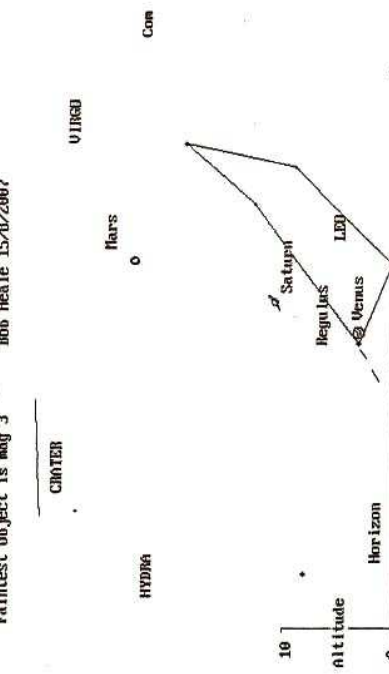
JUPITER 6:57pm Dark Sky (just) 26th July 2008 Standard Time
 Faintest object is mag 5.5 Bob Heale 15/07/2007



Jupiter may have inside company below
 it in the form of Comet 2007 N3 Lutin?
 currently ~ mag 10-5 brightening to 8-5??
 Jupiter passed over SAGITTARIUS
 stars slightly west of sigma 6
 and phi - phi 12/8 - 21/8 and
 Jupiter possibly stationary
 19/8 (it likes the stars)

Note the famous
 planetaries near
 horizon
 M57, M27,
 N7009
 N7293

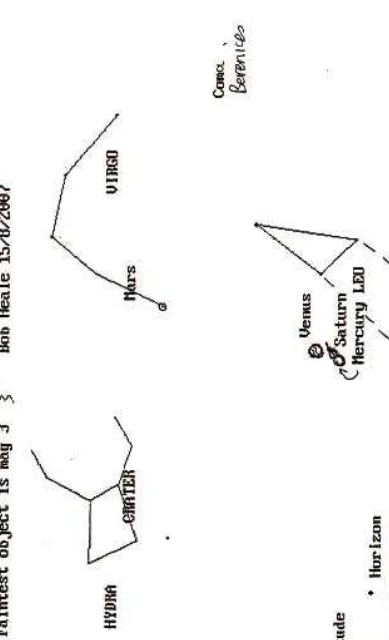
HEB/AUB 6:31pm 1/2 Dark Sky 6th August 2008 Standard Time
 Faintest object is mag 3 Bob Heale 15/07/2007



As above Venus moves quite close NE 5/8
 to SE 6/8 past Regulus
 similarly Mercury 10/8
 quite close to Regulus
 NE
 18/8 - 23/8
 Mercury slig lfly
 NW to SW of
 Venus

As above Mercury 15/8 slightly north
 of Saturn, 16/8 slightly south of
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 south to produce fric effect, Mars
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 very slig lfly NW and SE of Saturn (S
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 Venus Southern
 Bob Heale
 MPAS 14/7/2008

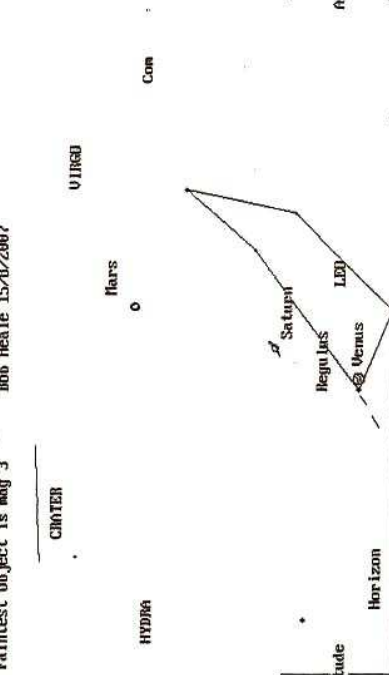
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 MPAS 14/7/2008

This finder chart 4:30am
 North Eastern Sky (initially) for
 2007 W1 Boattail, medium
 height

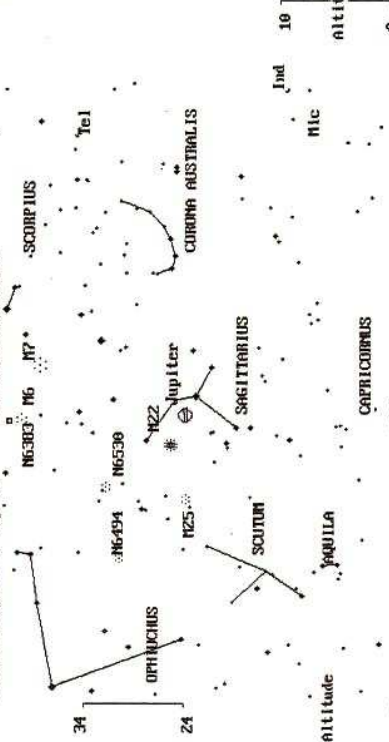
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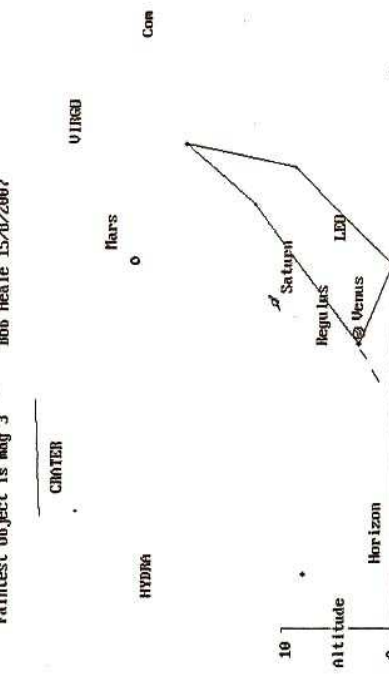
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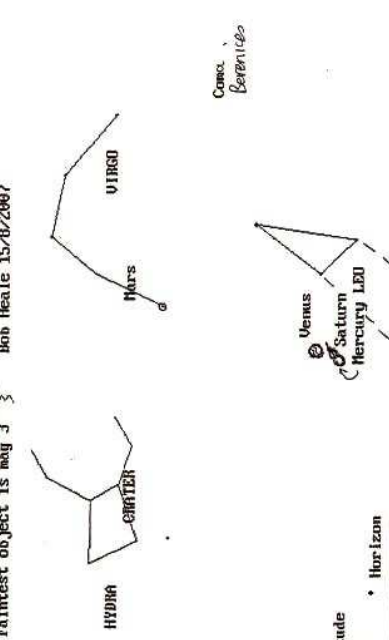
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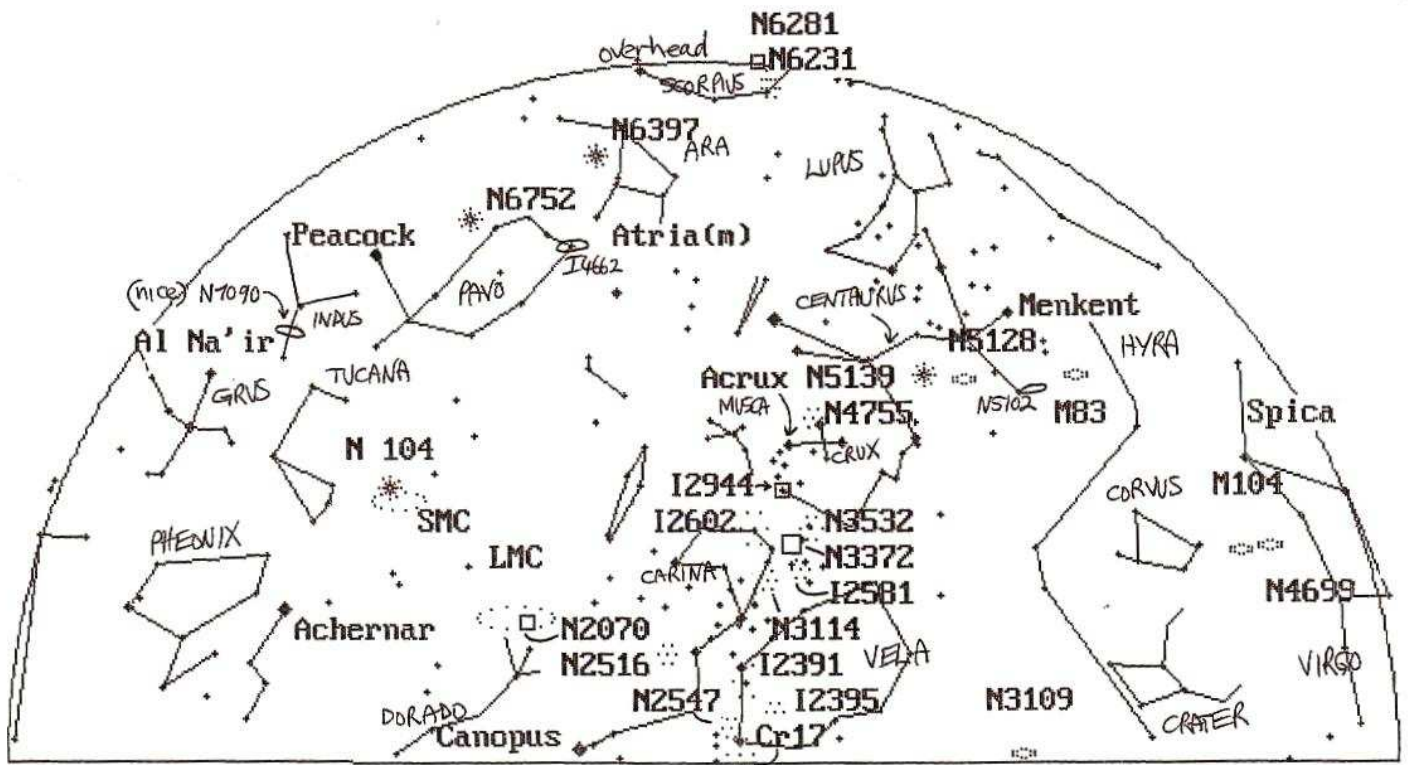
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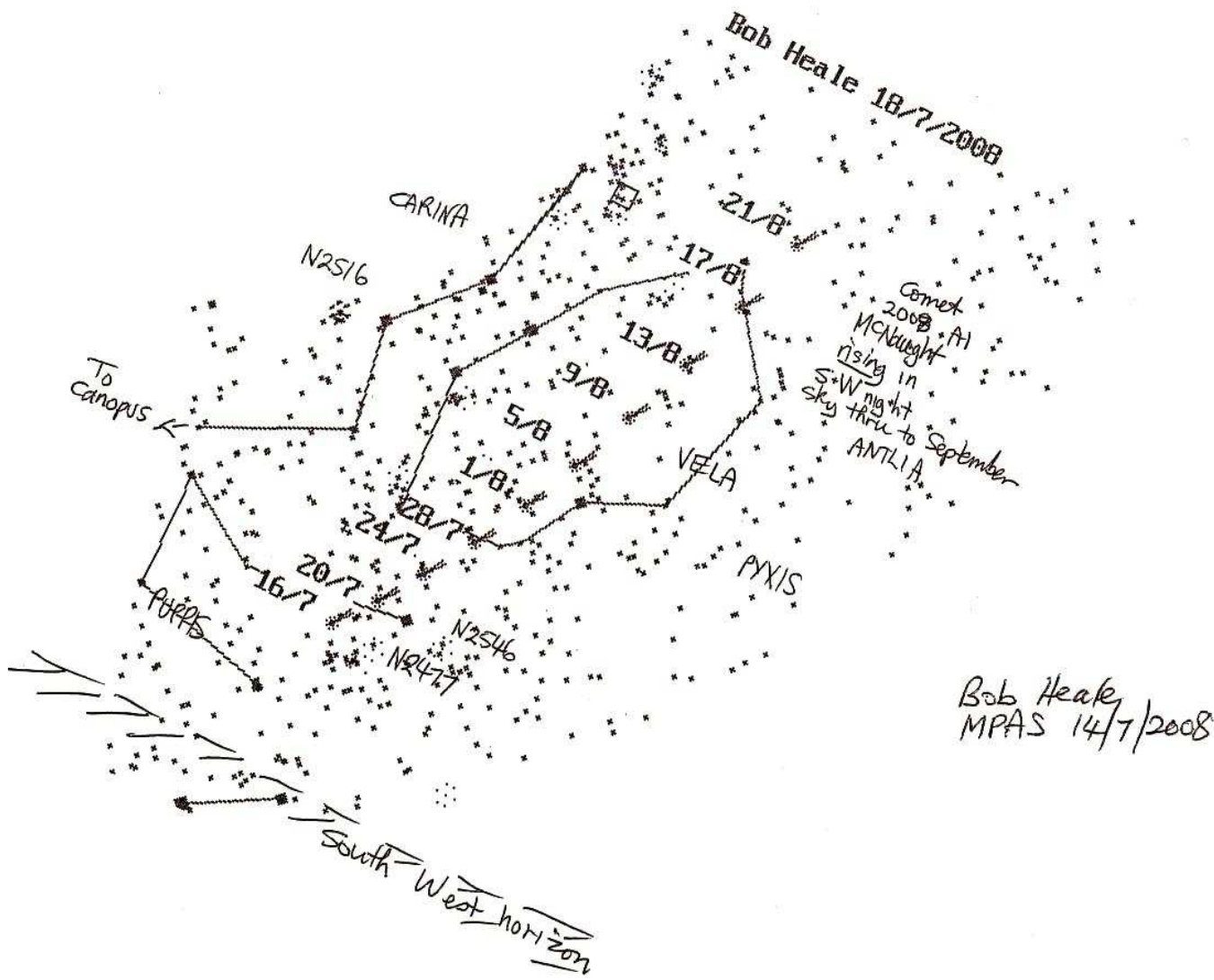


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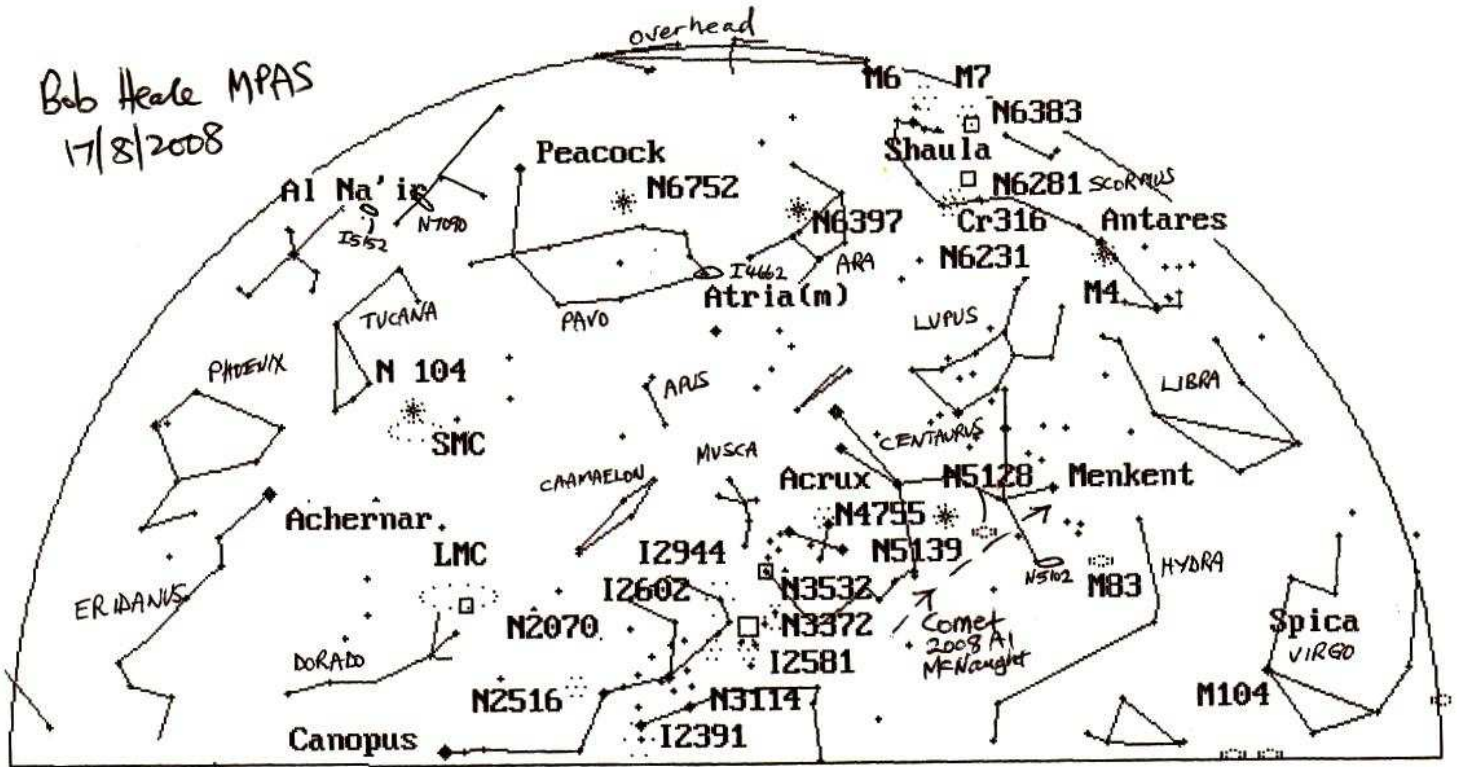


July 19, 2008 and 9pm 2nd August SSW Dark Sky 2008 Standard Times also 10pm
 8pm 16th August

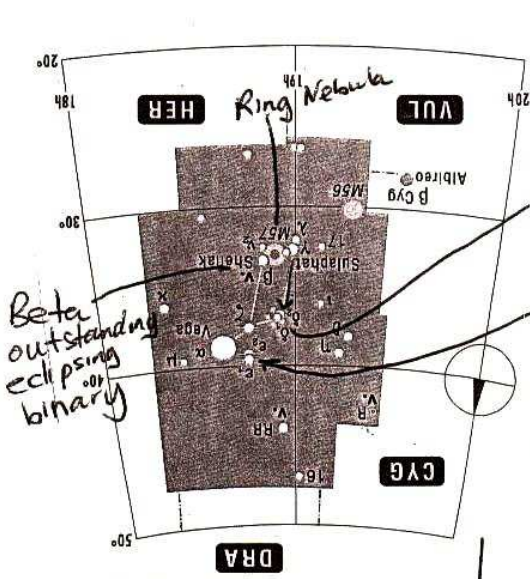


Bob Heale
 MPAS 14/7/2008

Bob Heale MPAS
17/8/2008



Also 19th August 8 45pm 2nd September SSW Dark Sky 2008 Standard Time N4699
and 16th September 7 45pm



Zeta is a double

(surrounded by
close star cluster
Stephenson 1)

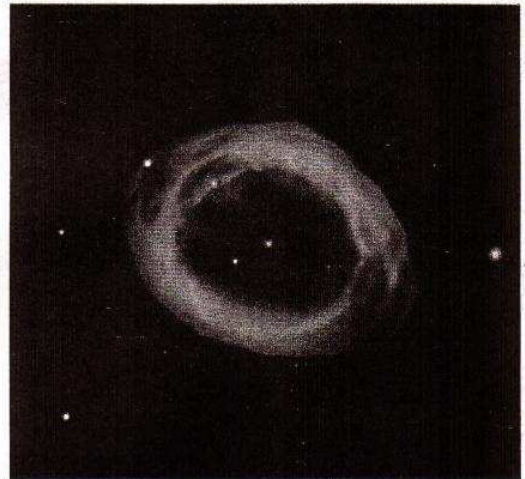
easy double
Delta 1 5.6
Delta 2 4.3

Epsilon
Lyrae, the
well known
'double -
double'
binoculars
Separate Epsilon 1
(E1) and Epsilon 2
(E2) mags 4.7,
4.5

each is a close
double needing scope!

Beta
outstanding
eclipsing
binary

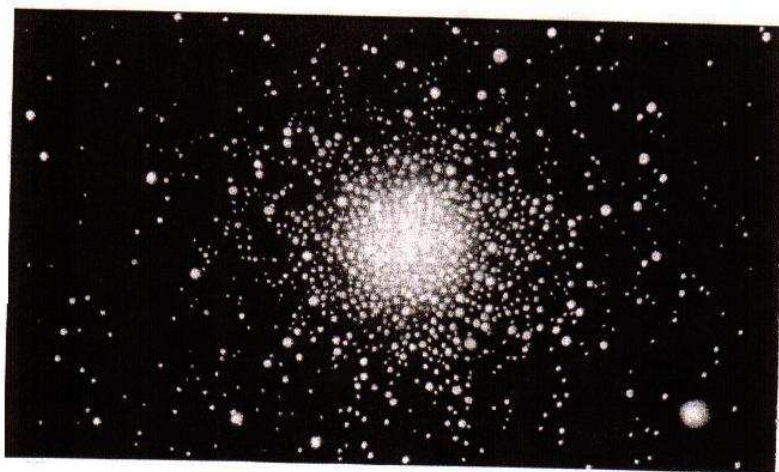
Refer NNE chart over!



refer
NNE
chart
over.

M 57 - NGC 6720 - The
Ring Nebula in Lyra, per-
haps the best-known plan-
etary nebula. Its total
brightness is 9.0 mag, app-
arent diameter 70", dis-
tance about 1,500 to 2,000
light-years. It is not a sim-
ple ring, but a complex
three-dimensional forma-
tion. Its central star is faint
(less than 15.0 mag) and
cannot be observed with
small telescopes.

Globular star cluster NGC 6752, total brightness 5.5 mag, apparent diameter 42',
distance from the Sun about 14,000 light-years.



Refer above Δ chart
SSW
in PAVO, just above 'birds
head'. Nudge the scope
slightly East in RA only
to find pair of galaxies
NG 6769 / NG 6770 (8", 10", 12" some)

