



# SCORPIUS

THE JOURNAL OF THE  
MORNINGTON PENINSULA ASTRONOMICAL SOCIETY INC.

Volume XX, No. 2 (February 2011)

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.

## Extra Shuttle Flight Likely, Barring Major Budget Cuts

If NASA continues operating at 2010 funding levels as it has been doing, the agency will have enough money for a third space shuttle mission this year, which would be the last, a senior NASA official said today (Feb. 14).

The White House released its fiscal year 2012 budget request today, which, if authorized, would freeze NASA spending at 2010 levels. For the space agency, that would mean an annual budget of \$18.7 billion, the same level of funding the agency has been allocated under the current continuing resolution - a stopgap measure lawmakers have enacted while they debate a formal 2011 budget.

"Because these are tough fiscal times, tough choices had to be made," NASA administrator Charles Bolden said today during a press conference. "Our number one priority is safely flying out the shuttle."

NASA has three more space shuttle flights planned before it retires the shuttle fleet. The last mission, a planned June voyage of the shuttle Atlantis, was sanctioned by the October 2010 NASA Authorization Act passed by Congress and signed by President Barack Obama.

Last month NASA set a launch date of June 28 for Atlantis' mission, called STS-135.

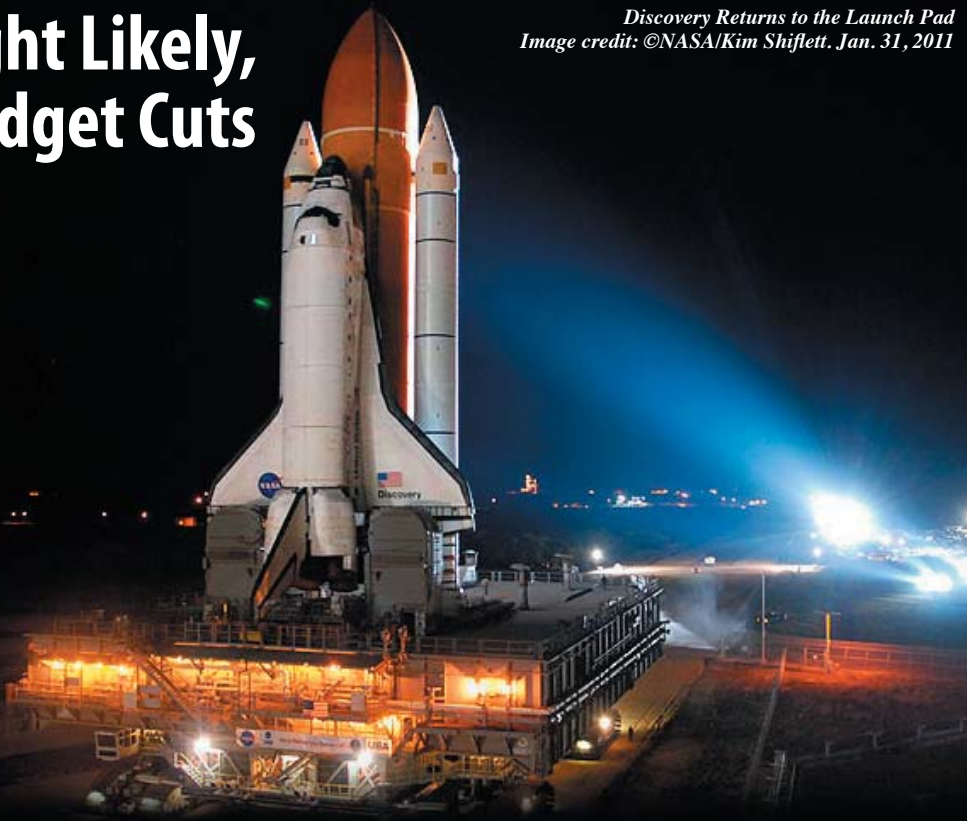
Yet funding for that flight has not yet been appropriated, and whether or not Atlantis flies depends on how much money NASA receives, said Bill Gerstenmaier, NASA's Space Operations chief.

*(Continued on page 6)*

<http://www.space.com/10857-nasa-final-shuttle-flight-budget.html>

©Article by Clara Moskowitz, SPACE.com Senior (14 February 2011)

*Discovery Returns to the Launch Pad*  
Image credit: ©NASA/Kim Shiflett. Jan. 31, 2011



# Society Calendar

## Upcoming Events in February

Wednesday 23rd of Jan.: February's Committee Meeting at The Briars (8pm).

## Upcoming Events in March

Friday 4th of Mar.: Public Viewing Night at The Briars (8pm).

February's regular Public Viewing Nights at The Briars, starting at 8pm, and held regardless of the weather. As usual, a large turnout is expected so we will need at least 6 scopes.

Saturday 5th of Mar.: Members Solar Day & Viewing Night at The Briars.

This month's members viewing night has been organised for the 5th of March. This is an earlier start to the usual members day, with a 12pm start so Ian Sullivan can present his 'Calculations for observing Solar Noon' Afterwards some solar scopes will be set up to observe any activity on the surface of the Sun, and some solar theme videos throughout the afternoon.

Late in the afternoon we will fire the BBQ for the usual members night Sausage-Sizzle prior to the evening's observing with intensity of incident light from our Lunar neighbour is slight with a near New Moon. So why not bring your scopes along for a great night's viewing (weather permitting of course).

Tuesday 15th of Mar.: Cranbourne Secondary College Viewing Night (8pm).

This will be all their year 7's. We don't know the exact head count yet, but assume 150. As this is expected to be a large turnout, we will require at least 6 scopes to meet the demand. Cranbourne Secondary College address is Stawell Street Cranbourne, 3977. Melways Ref: 133 K4

Wednesday 16th of Mar.: St.Martins Primary School Viewing Night at The Briars. (8pm).

This is usual school camp turnout, and we will require at least 3 scopes to meet the demand. This is the same night as the March General Meeting.

Wednesday 16th of Mar.: March's General Meeting at the Peninsula School (8pm).

Session 1 - Speaker & Topic: To be Confirmed.

Session 2 - Open Forum and 'Sky for the Month'

Wednesday 23rd of Mar.: March's Committee Meeting at The Briars (8pm).

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### Newsletter Disclaimer

The Scorpius Newsletter is published online, once a month for its membership, by the Mornington Peninsula Astronomical Society.

As a newsletter, this publication presents news spanning a spectrum of activities, reports, and publications in order to keep society members abreast of a variety of events and views pertaining to astronomy. While prudent, reasonable effort has been utilized to verify factual statements made by authors, inclusion in this newsletter does not constitute or imply official MPAS endorsement.

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While all care is taken to ensure the above dates are correct, these can change at late notice. To be up-to-date on the latest society happenings, check either E-Scorpius, the MPAS website: [www.mpas.asn.au](http://www.mpas.asn.au), or the latest "What's On" for up-to-date information.

## 2011 Calendar

Need to look further ahead to see what is happening in 2011?

Then the MPAS 2011 Calendar is what you need. For the full listing of this year's society events, go to the MPAS website, and download the calendar from *Upcoming Events* page, or visit E-Scorpius and download from the online files section, under *Calendars*.



# General Meeting

## February's General Meeting

February 16, 2011

It was a rainy evening for February's General Meeting. President Peter Lowe was up in Benalla with Trevor Hand giving a presentation to the Benalla Astronomy, meaning Peter Skilton was our presenter for the evening.

Peter gave a quick rundown of society events over the past month, and of the coming events over the next month (see the Calendar page), and spoke briefly about the upcoming VASTROC. Peter also noted the amount of astrophotography that is now being placed on the society website, showing we have some very active members in that regard.

After Peter's rundown we had Bob's 'Sky for the Month' presentation (pages 13 & 14) and then the evenings raffle. We broke for an early Tea break.

After the break (and in lieu of not having a presenter this month) we settled in to watch the first episode of Brian Greene's 'The Elegant Universe'. Originally published as a book in 1999, this was adapted into a 3 part series for television in late 2003. The series introduces string theory. The series provides a comprehensive, though non-technical assessment of string theory and some of its shortcomings.

The first episode entitled 'Einstein's Dream', introduces the concept of string theory. The episode is centred around how Albert Einstein's theory of general relativity came into conflict with Isaac Newton theory of Gravity. To solve this conflict, Einstein dreamed of finding a single unified theory that would embrace all of nature's laws, and bridge this gap, however he passed on before solving this conundrum.

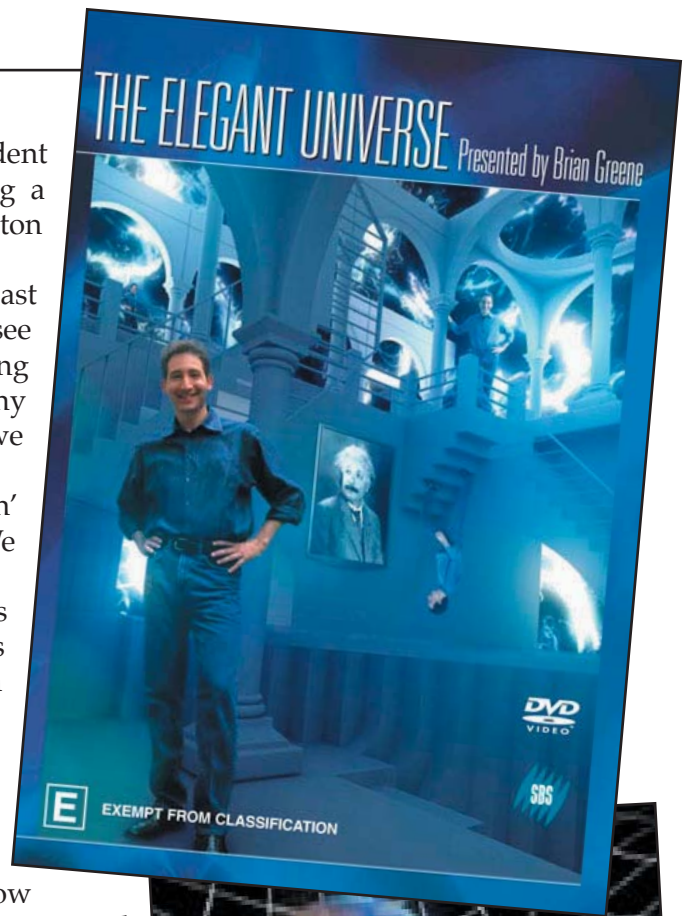
Introduce string theory as a possible solution to this problem of Einstein's, and this does tick off a few unanswered questions. But without solid proof, and the associated theoretical problems with string theory (e.g. multiple dimensions), it still remains just a theory.

This confusion concluded February's General Meeting, just after 10pm.

The Elegant Universe DVD is available at SBS shops, and is classification exempt.

<http://www.sbs.com.au/shop/product/category/DVDs/203/Elegant-Universe-The>

DVD & Inserts Image Credit: © Image Credit: <http://www.pbs.org/wgbh/nova/physics/elegant-universe-einstein.html>.





## 2011 Astronomy Australia — VASTROC 2011 Update



Once again, the society is fortunate enough to secure your guide to the astronomical year ahead with the **2011 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 \$25 to the public, though society members can get it at the discounted rate of \$20.

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 will be available at any society gathering.

**Hurry!** The society only orders in a specific quantity each year, and it's first come, first served.

### Snake Warning for the Briars

With Summer now passing, we wish to remind all members that this is still a time to be aware of snakes at the facility. Usually there are a few sightings reported each Summer, into early Autumn.

If anyone does come across a snake on the site or in any part of the grounds at the Briars then the best thing to do is to walk away and alert other people of the presence of the snake.

Do not disturb the snake or attempt to kill the snake under any circumstances as they are a protected species on the Briars site.

In our latest update about VASTROC 2011, we are please to announce that registrations are open, and the forms are available now online for members to download.

As a reminder, our society will hosting VASTROC 2011 over the weekend of April 29th to May 1st. The venue for the 2011 VASTROC will be the Briars Camp (near our MPAS 'Briars Astronomy Centre'), Mt Martha on the Mornington Peninsula.

The costs for this Event are:

All Inclusive Attendance - \$150 (Friday Night, All Saturday, and Sunday Morning)
Saturday Only Attendance - \$100
Sunday Only Attendance - \$50

Both the 'All Inclusive' and 'Saturday Only' is inclusive of the Saturday Night VASTROC Dinner.

As mentioned previously, VASTROC is an opportunity to get to know the other Victorian societies and meet like-minded amateurs from across the state to share stories, experiences and hopefully come away with new ideas about amateur astronomy. The convention is a mixture of social get-togethers, special topic discussions and in some cases How-To Workshops.

VASTROC has been going strong for more than twenty years now, and our society is once again looking

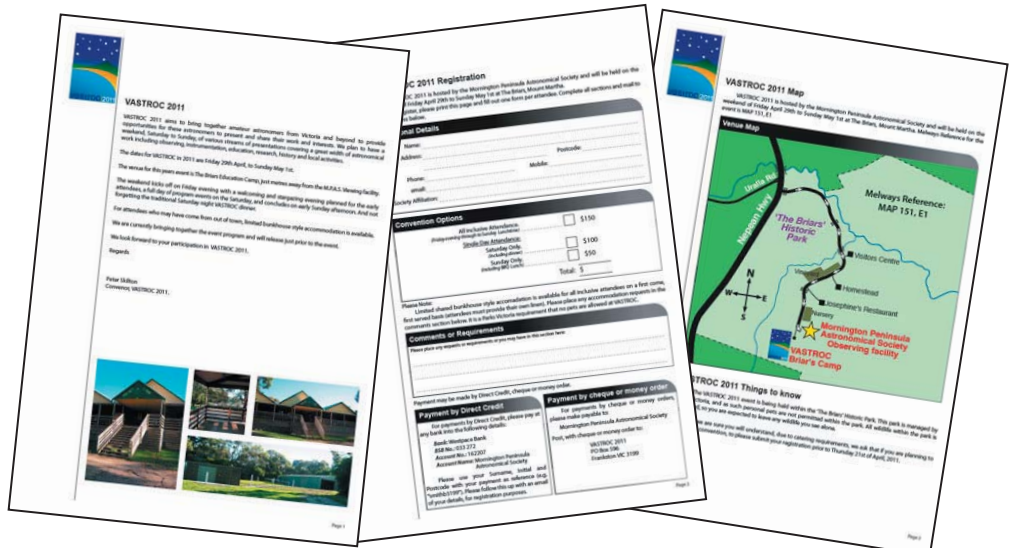


forward to challenge and reward of hosting this Biannual event.

While we still have programming details coming together, we hope to have a wide variety of presentations, workshops, and open forums for all our attendees.

And a quick reminder, it isn't too late to submit a presentation or workshop. The 'Call for Presentations' information form is still available on the society webpage, for downloading.

Both the Registration form and Call for Presentations forms are available on the society website at: [http://www.mpas.asn.au/vastroc\\_2011.htm](http://www.mpas.asn.au/vastroc_2011.htm)





## Benalla Meteorite Storm

Ok, so not an actual meteorite storm, but while our February General Meeting was occurring, Trevor Hand and Peter Lowe were taking the Treavor's Meteorite roadshow up to the people of Benalla.

With a bit of promotion behind the visit in the local paper, all was set for a

ensign.benalla.net.au

### Meteorite talk

Avid amateur astronomer Trevor Hand has been collecting meteorites for several years and will be speaking at the annual general meeting of Benalla Astronomy on February 16.

A member of the Mornington Peninsula Astronomical Society (MPAS), Mr Hand received a request last year asking if any MPAS members would be interested in talking to the Benalla society.

Mr Hand gave a similar talk a couple of years ago to the Astronomical Society of South Australia as a guest speaker on behalf of the Astronomical Society of Victoria.

He will be talking about the origins of meteorites; where they come from and what they are made of. He will also be talking about some of the early theories of their origins (late 1700s to early 1800s), including volcanoes or those simply blown in by the wind (even if they weighed as much as a car).

Mr Hand will bring samples of a number of meteorites, including an 11 kg iron meteorite, and samples of different types of materials from meteorite impacts, various types of glass created by the impact and other materials.

All samples will be available at the end of the talk for attendees to see and hold in their hands, so bring along a camera. Mr Hand also has some 'surprise' items which people would never imagine even existed, let alone will be seeing for themselves on the night.

Mr Hand promises his talk won't be a dry, technical one and will even have a bit of humour interspersed throughout.



Space rocks: Trevor Hand will address the Benalla Astronomy group next month, bringing some 'surprises'.

ASTRONOMY  
- BENALLA

PRESENTS  
**TREVOR HAND**  
Mornington Peninsula Astronomical Society

The  
**'Meteorite Man'**

Wednesday, 16<sup>th</sup> February  
7:30 pm  
at Benalla Christian School Library Room  
(21 Sydney Road)

Come hear Trevor, an "avid amateur astronomer", speak on his fascinating collection of meteorite specimens.

Be amazed at what you will see, AND what you will be allowed to hold in your very hands. Hear the incredible story of earth's interaction with these remnants from space.

Trevor is riveting to listen to. He has been Guest Speaker to the Astronomical Society of South Australia on behalf of the Astronomical Society of Victoria, and comes to us from the Mornington Peninsula Astronomical Society.

Trevor will be accompanied by Peter Lowe from the Society, who will also speak on the Society's big Conference to be held later this Easter.

Entry by Gold Coin donation



great presentation by Trevor.

And from all reports he didn't disappoint. The Benalla Astronomical Society suspended their usual monthly meeting to allow Trevor to present his hand-on talk which was highly appreciated by those who attended.

Peter and Vivienne Lowe also attended both to support Trevor in his talk, and advertise the upcoming VASTROC. It is hoped members from this newly formed society can attend the event at The Briars.

*Far Left Insert: Trevor giving his now well polished talk on meteorites*

*Left Insert: Benalla society members and general public await to hear Trevor's presentation.*

*Credit Article and Image: © Benalla Ensign Newspaper.*

*Credit Promotional Poster: © Ian Corry, Benalla Astronomy Society.*

*Insert Pictures: Peter Lowe*

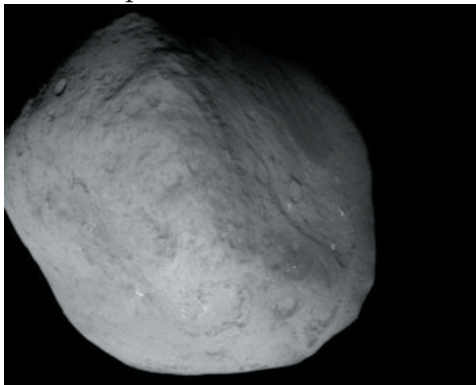




## Comet Hunter's First Images on the Ground

February 15, 2011

Mission controllers at NASA's Jet Propulsion Laboratory, Pasadena, Calif., have begun receiving the first of 72 anticipated images of comet Tempel 1 taken by NASA's Stardust spacecraft.



The first six, most distant approach images are available at

<http://www.nasa.gov/stardust>

<http://www.jpl.nasa.gov>

Additional images, including those from closest approach, are being downlinked in chronological order and will be available later in the day.

A news conference previously planned for 10 a.m. PST (1 p.m. EST) will be held later in the day, to allow scientists more time to analyze the data and images. A new time will be announced later this morning.

Stardust-NEXT is a low-cost mission that expands on the investigation of comet Tempel 1 initiated by NASA's Deep Impact spacecraft. JPL, a division of the California Institute of Technology in Pasadena, manages Stardust-NEXT for NASA's Science Mission Directorate, Washington, D.C. Joe Veverka of Cornell University, Ithaca, N.Y., is the mission's principal investigator. Lockheed Martin Space Systems, Denver, built the spacecraft and manages day-to-day mission operations.

Article Credit: © JPL Press Release

Image credit: © NASA/JPL-Caltech/Cornell

[http://stardustnext.jpl.nasa.gov/mission/comet\\_hunter\\_first\\_images.html](http://stardustnext.jpl.nasa.gov/mission/comet_hunter_first_images.html)

## Photo Shows Big Holes in the Sun

February 11, 2011

A Japanese spacecraft has spotted two huge holes in the sun – gateways for solar material and gas to spill out into space.

Scientists call the sun holes "coronal holes." They are gaps in the sun's magnetic field which make a hole through the star's super-hot outer atmosphere – the corona – allowing gas to escape, according to a NASA description.

Japan's Hinode sun-watching satellite photographed the sun's two coronal holes on Feb. 1. In the image, one coronal hole appears near the top center of the sun while another one – a polar coronal hole – is visible near the bottom of the view. The holes appear darker than other parts of the sun, but there's a reason for that.

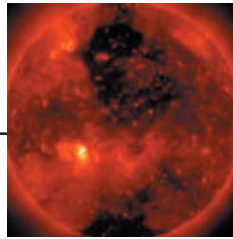
"The holes are relatively cool in temperature as compared to the active regions nearby – such as the bright region on the lower left portion of the solar disk – the cooler temperature is one of the reasons for the darker appearance," NASA officials said in a statement.

Japan's Hinode solar observatory has been studying the sun since the spacecraft's launch in 2006. The satellite is designed to study the sun's magnetic field to help scientists better understand how its energy propagates through different layers of the sun's atmosphere.

The mission is a collaborative effort between the Japan Aerospace Exploration Agency, Japan's National Astronomical Observatory, NASA, and the space agencies of Norway, the United Kingdom and the European Space Agency.

Article Extract and Image Credit: © SPACE.com

<http://www.space.com/10825-sun-holes-space-photo-hinode.html>



## Extra Shuttle Flight Likely, Barring Major Budget Cuts (Concluded)

February 14, 2011

(From Page 1)

The current continuing resolution expires March 4, and lawmakers are working to pass another that would extend through September.

"The '135' question will get addressed through the continuing-resolution process for fiscal year 2011," Gerstenmaier said. "We're pressing on, assuming we're going to go get the flight, and we'll see what happens."

The final mission would deliver spare supplies to the International Space Station to help outfit the orbiting lab for the period following the shuttles' retirement.

Once the shuttles are grounded, NASA will have to rely on international unmanned cargo ships to haul supplies to the station until U.S. commercial cargo spacecraft become available.

"From a technical standpoint, we have extremely strong justification for that mission. It gives us some more margin for commercial resupply," Gerstenmaier said, explaining that Atlantis' flight would enable the station to last longer without private U.S. cargo deliveries. "Our estimates show if we do not have the flight, we will need the cargo services to be in place in 2012."

If current levels of funding hold, that should be enough to allow NASA to fly STS-135.

"Only if we get some severe cuts would we not be able to go fly the flight," Gerstenmaier said.

Insert Image Credit: © NASA.com

<http://www.space.com/10857-nasa-final-shuttle-flight-budget.html>



## Passing of Arthur Page

Since our last edition of Scorpius, the society was saddened by the news of the passing of Arthur Page. As some members may already know, Arthur Page was associated with the A.S.A., A.A.Q. and with the Berenice Page Medal that gets awarded at each N.A.C.A.A. dinner. Greg Bond of the A.A.Q. put together the following obituary.

### OBITUARY FOR ARTHUR PAGE by Greg Bond

It is with sadness that I announce that Dr Colonel Arthur Anthony Page founding member of the AAQ passed away in the early hours of Tuesday morning 1st February, 2011.

Arthur was known to many past and present members of the AAQ and many in the wider astronomical community. While his attendance at meetings had waned, his enthusiasm for astronomy had not. Arthur's contribution to astronomy earned him membership of the International Astronomical Union (IAU) in 1985 and at that stage, he was the first Australian non-professional astronomer to be admitted to the organization. He also became a member of The Astronomical Association of Australia (ASA) and later in life reached Honorary Fellow status. He was also recognized for his achievements by the University of Queensland with an Honorary Doctorate of Philosophy (Science) in 1994.



Arthur was born on August 3rd, 1922 in Yokohama, Japan to Anton & Elena Pappadopoulos. The grandson of noted Russian astronomer Professor Artemic Robertovich Orbinsky of the Pulkova and Odessa Observatories, Arthur was destined for the stars. Arthur settled in Australia in 1941, and the following year joined the army. After the war Arthur studied Physiotherapy and began work at the Commonwealth Rehabilitation Centre on Swan Road, Taringa. During that time, Arthur joined the army reserve in 1950 and retired with the rank of Colonel in 1972. Arthur and second wife Berenice, built an Observatory at their residence in Chermside and both collaborated with the CSIRO Division of Radiophysics flare star program.

The Berenice Page Award for Excellence in Amateur Astronomy, bequeathed after her sudden death in 1970, was inaugurated by the ASA in 1972.

In 1971 Arthur married Aileen and in that same year he moved his observatory to Mt Tamborine. The observatory was officially opened in 1973 by the then Chief of the CSIRO Division of Radiophysics, Paul Wild. The opening was attended by visitors to the 54th Symposium of the IAU held on the Gold Coast. In 1978 the telescope was upgraded to a 12" f15 Dall-Kirkham Cassegrain coupled with a photoelectric device which steered Arthur's research program on a new path. Arthur retired as Senior Physiotherapist in 1983 but remained very active in the Astronomical arena taking up an honorary chair in the Physics Department at UQ in 1987.

Arthur was a founding member of the Astronomers' Association of Queensland (AAQ) and was its first President in 1969. In 1993 Arthur donated his equipment to the UQ Physics Department and through their collaboration with USQ, the Mt Tamborine observatory was dismantled and the mount was moved to Mt Kent and re-housed with a 16" Cassegrain telescope in a new fibreglass dome.

Arthur published a book in 2008 entitled "Between Victor and Vanquished" covering his time as an Australian interrogator in World War II and a copy is held in the AAQ library.

I met Arthur as a teenager in 1976 at my first AAQ meeting and was somewhat in awe of his achievements but considered that he would have no interest in what I did. This proved far from the truth and my association with Arthur, his family, Mt Tamborine Observatory and like-minded members of the AAQ (Joe Cali, Peter Mitropoulos and Lindsay Ball) cemented an enduring friendship.

In 1992 as President of the AAQ I had the great pleasure of awarding Arthur with an Honorary Membership of the AAQ. Arthur has promised to hold an area of sky in a new development in the Eta Carina complex for those interested.

Arthur Page will be sorely missed as a friend and mentor.





# Society Reports

## Hunt for Green October

I remember when the Hailey's Comet made an appearance in 1986. It was quite impressive but I was more concerned about how late it was and facing the wrath of my then girlfriend's father. I suspected he wouldn't accept my excuse for bringing his daughter home late due to observing this celestial object. Unaware that I would only see this comet once in my lifetime, I thought nothing of this event and allowed the time of the night to tick on by with my girlfriend.

24 years have passed and my involvement with astronomy has been rekindled by my interest in observing and now photographing these majestic celestial objects. I enjoy discovering the night sky and I am constantly amazed by what actually exists amongst the cosmos.

I have plastered photos on the MPAS website like most astrophotographers from the club and use the same photos on my screensaver at work. Needless to say I am proud of the results and with the help of many people I have achieved some good results.

Although I soon realised simply showing up in shorts and a jumper was not warm enough for a night of taking photos.

So here we were, one member's night after work in early October, I wanted to see my first comet through a telescope. This time I wasn't distracted by a girlfriend and her bad-tempered father. I heard about a comet called "10p Tempel" which was situated in Cetus with a high magnitude. I approached Bob Heale and asked to view this comet through his beautiful Meade 10" Lx200. Unfortunately the comet was too dim, and if I couldn't see it through Bob's telescope I doubted I was able to using mine.

As with every new moon Greg and I decided to work the shutters silly until the early hours of the



Paul's image of comet 10p Tempel, back in October last year.

morning. Exhausted photographing objects, I remembered the comet and wondered if it was worth taking a shot. As it turned out, the object was just visible through my 8" F/4 Newtonian. I was able to refocus on a nearby star with the Bahtinov mask and I was set.

Using the Pentax K-x I took 10 subs at 30 second exposures with the ISO of 6400. Stacked with "Deep Sky Stacker" I then processed the photo with "EOS Zoombrower." I was surprised with the result; you can clearly see the coma and the tail flaring behind it. At the time "10p Tempel" had a magnitude of 9.5 and resided in the constellation of Cetus. The photo was taken on the 5 of October 2010 at the Briars Mt Martha around 12am.

We are visited quite often by these Celestial Objects. There are many ways one can obtain times and positions best to view them. There is a Yahoo newsgroup one can subscribe too, the monthly "Sky and Scope" magazine highlights the really good comets to see, and also the Crux newsletter by the ASV.

There seems to be many theories about whether comets are remnants of the "Solar Nebula Hypotheses," a theory of our solar system formation. Comet formation as a result of asteroids smashing into each other, just rouge objects caught by the Sun's Gravitational pull. Some astrobiology theorists have developed a theory that comets and asteroids have been responsible for life on this planet and possibly others.

The "Panspermia" theory suggests that extraterrestrial micro-organisms {bacteria and viruses} have colonised these celestial objects. It has been proven that some micro-organisms can survive the high impacts and extreme temperatures and therefore are able to establish life on earth, (Gilmour & Sephton 2003 p 27-8)

*Paul Albers*  
October '10

*Reference: An introduction to Astrobiology, Cambridge 2003.*



# Rise & Shine Times

## FEBRUARY

Date	Civil Twilight Begins	☉ Sun			Phase	☾ Moon			♿ Mercury		♀ Venus		♂ Mars	
		Sunrise	Sunset	Civil Twilight Ends		Rise	Sets	Rise	Sets	Rise	Sets	Rise	Sets	
Feb 1 (Tue)	06:03	06:32	20:34	21:03	☾	04:28	19:15	05:08	19:47	03:08	17:34	06:35	20:40	
Feb 2 (Wed)	06:04	06:33	20:33	21:02	☾	05:29	19:50	05:11	19:49	03:08	17:35	06:35	20:39	
Feb 3 (Thu)	06:05	06:34	20:33	21:01	New ☾	06:30	20:20	05:15	19:50	03:09	17:36	06:35	20:37	
Feb 4 (Fri)	06:06	06:35	20:32	21:00	☾	07:30	20:47	05:18	19:52	03:10	17:37	06:35	20:35	
Feb 5 (Sat)	06:08	06:36	20:31	20:59	☾	08:28	21:13	05:22	19:54	03:10	17:38	06:35	20:34	
Feb 6 (Sun)	06:09	06:38	20:30	20:58	☾	09:25	21:37	05:26	19:55	03:11	17:39	06:35	20:32	
Feb 7 (Mon)	06:10	06:39	20:29	20:57	☾	10:21*	22:02	05:30	19:57	03:12	17:41	06:36	20:30	
Feb 8 (Tue)	06:11	06:40	20:27	20:56	☾	11:18	22:28	05:34	19:58	03:13	17:42	06:36	20:29	
Feb 9 (Wed)	06:13	06:41	20:26	20:55	☾	12:16	22:57	05:38	19:59	03:14	17:43	06:36	20:27	
Feb 10 (Thu)	06:14	06:42	20:25	20:54	F.Q. ☾	13:15	23:30	05:42	20:01	03:14	17:44	06:36	20:25	
Feb 11 (Fri)	06:15	06:43	20:24	20:52	☾	14:15	D.N.S.	05:46	20:02	03:15	17:45	06:36	20:24	
Feb 12 (Sat)	06:16	06:44	20:23	20:51	☾	15:14	00:08	05:51	20:03	03:16	17:46	6:36	20:22	
Feb 13 (Sun)	06:18	06:46	20:22	20:50	☾	16:12	00:54	05:55	20:04	03:18	17:47	06:36	20:20	
Feb 14 (Mon)	06:19	06:47	20:21	20:49	☾	17:06	01:47	06:00	20:05	03:19	17:47	06:36	20:18	
Feb 15 (Tue)	06:20	06:48	20:20	20:47	☾	17:55	02:48	06:04	20:06	03:20	17:48	06:36	20:17	
Feb 16 (Wed)	06:21	06:49	20:18	20:46	☾	18:39	03:56	06:09	20:07	03:21	17:49	06:36	20:15	
Feb 17 (Thu)	06:22	06:50	20:17	20:45	☾	19:18	05:09	06:14	20:08	03:22	17:50	06:36	20:13	
Feb 18 (Fri)	06:23	06:51	20:16	20:43	Full ☾	19:53	06:23	06:19	20:09	03:23	17:51	06:36	20:11	
Feb 19 (Sat)	06:25	06:52	20:15	20:42	☾	20:27	07:38*	06:24	20:10	03:25	17:51	06:36	20:09	
Feb 20 (Sun)	06:26	06:53	20:13	20:41	☾	20:59	08:53	06:29	20:11	03:26	17:52	06:36	20:08	
Feb 21 (Mon)	06:27	06:55	20:12	20:39	☾	21:33	10:07	06:34	20:11	03:27	17:53	06:36	20:06	
Feb 22 (Tue)	06:28	06:56	20:11	20:38	☾	22:10	11:21	06:39	20:12	03:29	17:53	06:36	20:04	
Feb 23 (Wed)	06:29	06:57	20:09	20:37	☾	22:50	12:33	06:44	20:13	03:30	17:54	06:36	20:02	
Feb 24 (Thu)	06:30	06:58	20:08	20:35	☾	23:36	13:42	06:50	20:13	03:32	17:55	06:36	20:00	
Feb 25 (Fri)	06:32	06:59	20:07	20:34	L.Q. ☾	D.N.R.	14:46	06:55	20:14	03:33	17:55	06:36	19:58	
Feb 26 (Sat)	06:33	07:00	20:05	20:32	☾	00:27	15:44	07:00	20:14	03:35	17:56	06:36	19:56	
Feb 27 (Sun)	06:34	07:01	20:04	20:31	☾	01:23	16:33	07:06	20:15	03:37	17:56	06:36	19:54	
Feb 28 (Mon)	06:35	07:02	20:02	20:29	☾	02:22	17:16	07:12	20:15	03:38	17:56	06:36	19:53	

Date	♃ Jupiter		♄ Saturn		♅ Uranus		♆ Neptune	
	Rise	Sets	Rise	Sets	Rise	Sets	Rise	Sets
Feb 1 (Tue)	10:41	22:47	23:25	12:00	10:23	22:36	07:53	21:19
Feb 2 (Wed)	10:38	22:44	23:21	11:56	10:19	22:32	07:50	21:15
Feb 3 (Thu)	10:35	22:40	23:17	11:52	10:15	22:28	07:46	21:12
Feb 4 (Fri)	10:32	22:37	23:13	11:48	10:12	22:24	07:42	21:08
Feb 5 (Sat)	10:29	22:33	23:09	11:44	10:08	22:21	07:38	21:04
Feb 6 (Sun)	10:26	22:30	23:05	11:40	10:04	22:17	07:35	21:00
Feb 7 (Mon)	10:23	22:26	23:01	11:36	10:01	22:13	07:31	20:56
Feb 8 (Tue)	10:20	22:23	22:57	11:32	09:57	22:09	07:27	20:52
Feb 9 (Wed)	10:17	22:19	22:53	11:28	09:53	22:05	07:23	20:49
Feb 10 (Thu)	10:14	22:16	22:49	11:24	09:49	22:01	07:20	20:45
Feb 11 (Fri)	10:11	22:13	22:45	11:20	09:46	21:58	07:16	20:41
Feb 12 (Sat)	10:08	22:09	22:41	11:16	09:42	21:54	07:12	20:37
Feb 13 (Sun)	10:06	22:06	22:37	11:12	09:38	21:50	07:08	20:33
Feb 14 (Mon)	10:03	22:02	22:33	11:08	09:35	21:46	07:05	20:29
Feb 15 (Tue)	10:00	21:59	22:29	11:04	09:31	21:42	07:01	20:26
Feb 16 (Wed)	09:57	21:55	22:25	11:00	09:27	21:39	06:57	20:22
Feb 17 (Thu)	09:54	21:52	22:21	10:56	09:24	21:35	06:54	20:18
Feb 18 (Fri)	09:51	21:49	22:17	10:51	09:20	21:31	06:50	20:14
Feb 19 (Sat)	09:48	21:45	22:13	10:47	09:16	21:27	06:46	20:10
Feb 20 (Sun)	09:46	21:42	22:09	10:43	09:13	21:23	06:42	20:06
Feb 21 (Mon)	09:43	21:38	22:05	10:39	09:09	21:19	06:39	20:03
Feb 22 (Tue)	09:40	21:35	22:01	10:35	09:05	21:16	06:35	19:59
Feb 23 (Wed)	09:37	21:32	21:57	10:31	09:02	21:12	06:31	19:55
Feb 24 (Thu)	09:34	21:28	21:53	10:26	08:58	21:08	06:27	19:51
Feb 25 (Fri)	09:31	21:25	21:49	10:22	08:54	21:04	06:24	19:47
Feb 26 (Sat)	09:29	21:21	21:45	10:18	08:51	21:00	06:20	19:43
Feb 27 (Sun)	09:26	21:18	21:41	10:14	08:47	20:57	06:16	19:40
Feb 28 (Mon)	09:23	21:15	21:37	10:10	08:43	20:53	06:12	19:36

**Notes on using these tables**

The following times are calculated for Local Time at The Briars Observing Facility:  
 Latitude 38° 16' South,  
 Longitude 145° 02' East.

These times can be used throughout the Mornington Peninsula and surrounding areas, to within +/- 1 minute.

L.Q. - Last Quarter Moon  
 New - New Moon  
 F.Q. - First Quarter Moon  
 Full. - Full Moon  
 D.N.R. - Moon Does Not Rise  
 D.N.S. - Moon Does Not Set

\* Moon Apogee: Monday, 7th February @ 10:14 (approx.) 405923 km.  
 \* Moon Perigee: Saturday 19th February @ 06:28 (approx.) 358246 km.

Civil Twilight is calculated when the Sun is 6° below the horizon, and is practically marked as the beginning or end of the day's useable light. The first of the evening stars are visible at this time.

# Rise & Shine Times

## MARCH

Date	☉ Sun				Phase	☾ Moon		♿ Mercury		♀ Venus		♂ Mars	
	Civil Twilight Begins	Sunrise	Sunset	Civil Twilight Ends		Rise	Sets	Rise	Sets	Rise	Sets	Rise	Sets
Mar 1 (Tue)	06:36	07:03	20:01	20:28	☾	03:23	17:52	07:17	20:15	03:40	17:57	06:36	19:51
Mar 2 (Wed)	06:37	07:04	20:00	20:26	☾	04:23	18:23	07:23	20:16	03:41	17:57	06:36	19:49
Mar 3 (Thu)	06:38	07:05	19:58	20:25	☾	05:22	18:51	07:29	20:16	03:43	17:57	06:36	19:47
Mar 4 (Fri)	06:39	07:06	19:57	20:23	☾	06:20	19:17	07:34	20:16	03:45	17:58	06:36	19:45
Mar 5 (Sat)	06:40	07:07	19:55	20:22	New	07:18	19:42	07:40	20:16	03:47	17:58	06:36	19:43
Mar 6 (Sun)	06:41	07:08	19:54	20:20	☾	08:14*	20:07	07:46	20:16	03:48	17:58	06:36	19:41
Mar 7 (Mon)	06:43	07:09	19:52	20:19	☾	09:11	20:32	07:52	20:16	03:50	17:58	06:36	19:39
Mar 8 (Tue)	06:44	07:10	19:51	20:17	☾	10:08	21:00	07:58	20:16	03:52	17:58	06:36	19:37
Mar 9 (Wed)	06:45	07:11	19:49	20:16	☾	11:06	21:32	08:03	20:16	03:54	17:58	06:36	19:35
Mar 10 (Thu)	06:46	07:12	19:48	20:14	☾	12:05	22:07	08:09	20:16	03:56	17:58	06:36	19:33
Mar 11 (Fri)	06:47	07:13	19:46	20:13	☾	13:04	22:49	08:15	20:16	03:58	17:58	06:36	19:31
Mar 12 (Sat)	06:48	07:14	19:45	20:11	F.Q.	14:01	23:38	08:20	20:15	03:59	17:58	06:36	19:29
Mar 13 (Sun)	06:49	07:15	19:43	20:10	☾	14:55	D.N.S.	08:25	20:15	04:01	17:58	06:36	19:27
Mar 14 (Mon)	06:50	07:16	19:42	20:08	☾	15:45	00:34	08:30	20:14	04:03	17:58	06:36	19:25
Mar 15 (Tue)	06:51	07:17	19:40	20:07	☾	16:29	01:37	08:35	20:13	04:05	17:58	06:36	19:23
Mar 16 (Wed)	06:52	07:18	19:39	20:05	☾	17:10	02:45	08:40	20:13	04:07	17:58	06:36	19:21
Mar 17 (Thu)	06:53	07:19	19:37	20:03	☾	17:46	03:56	08:44	20:11	04:09	17:58	06:36	19:19
Mar 18 (Fri)	06:54	07:20	19:36	20:02	☾	18:20	05:09	08:48	20:10	04:11	17:57	06:36	19:17
Mar 19 (Sat)	06:55	07:21	19:34	20:00	Full	18:54	06:24	08:52	20:09	04:13	17:57	06:36	19:15
Mar 20 (Sun)	06:56	07:22	19:32	19:59	☾	19:28	07:39+	08:55	20:07	04:15	17:57	06:36	19:13
Mar 21 (Mon)	06:57	07:23	19:31	19:57	☾	20:04	08:55	08:57	20:05	04:17	17:56	06:36	19:11
Mar 22 (Tue)	06:58	07:24	19:29	19:56	☾	20:44	10:10	08:59	20:03	04:19	17:56	06:36	19:09
Mar 23 (Wed)	06:58	07:25	19:28	19:54	☾	21:30	11:24	09:01	20:01	04:21	17:56	06:36	19:07
Mar 24 (Thu)	06:59	07:26	19:26	19:53	☾	22:21	12:33	09:02	19:58	04:23	17:55	06:36	19:05
Mar 25 (Fri)	07:00	07:27	19:25	19:51	☾	23:17	13:35	09:02	19:56	04:25	17:55	06:36	19:02
Mar 26 (Sat)	07:01	07:28	19:23	19:50	L.Q.	D.N.R.	14:29	09:02	19:53	04:27	17:54	06:36	19:00
Mar 27 (Sun)	07:02	07:29	19:22	19:48	☾	00:16	15:14	09:01	19:49	04:29	17:54	06:36	18:58
Mar 28 (Mon)	07:03	07:30	19:20	19:46	☾	01:17	15:52	08:59	19:46	04:31	17:53	06:35	18:56
Mar 29 (Tue)	07:04	07:30	19:19	19:45	☾	02:17	16:25	08:57	19:42	04:33	17:52	06:35	18:54
Mar 30 (Wed)	07:05	07:31	19:17	19:43	☾	03:17	16:54	08:54	19:38	04:35	17:52	06:35	18:52
Mar 31 (Thu)	07:06	07:32	19:16	19:42	☾	04:15	17:21	08:51	19:34	04:37	17:51	06:35	18:50

Date	♃ Jupiter		♄ Saturn		♅ Uranus		♆ Neptune	
	Rise	Sets	Rise	Sets	Rise	Sets	Rise	Sets
Mar 1 (Tue)	09:20	21:11	21:33	10:06	08:40	20:49	06:09	19:32
Mar 2 (Wed)	09:17	21:08	21:29	10:01	08:36	20:45	06:05	19:28
Mar 3 (Thu)	09:14	21:04	21:25	09:57	08:32	20:41	06:01	19:24
Mar 4 (Fri)	09:12	21:01	21:21	09:53	08:29	20:38	05:57	19:20
Mar 5 (Sat)	09:09	20:58	21:17	09:49	08:25	20:34	05:54	19:17
Mar 6 (Sun)	09:06	20:54	21:13	09:44	08:21	20:30	05:50	19:13
Mar 7 (Mon)	09:03	20:51	21:09	09:40	08:18	20:26	05:46	19:09
Mar 8 (Tue)	09:00	20:48	21:04	09:36	08:14	20:22	05:42	19:05
Mar 9 (Wed)	08:58	20:44	21:00	09:32	08:10	20:19	05:39	19:01
Mar 10 (Thu)	08:55	20:41	20:56	09:27	08:07	20:15	05:35	18:57
Mar 11 (Fri)	08:52	20:38	20:52	09:23	08:03	20:11	05:31	18:54
Mar 12 (Sat)	08:49	20:34	20:48	09:19	07:59	20:07	05:27	18:50
Mar 13 (Sun)	08:47	20:31	20:44	09:15	07:56	20:03	05:24	18:46
Mar 14 (Mon)	08:44	20:27	20:40	09:10	07:52	20:00	05:20	18:42
Mar 15 (Tue)	08:41	20:24	20:36	09:06	07:48	19:56	05:16	18:38
Mar 16 (Wed)	08:38	20:21	20:32	09:02	07:45	19:52	05:12	18:34
Mar 17 (Thu)	08:36	20:17	20:28	08:58	07:41	19:48	05:09	18:31
Mar 18 (Fri)	08:33	20:14	20:24	08:53	07:37	19:45	05:05	18:27
Mar 19 (Sat)	08:30	20:11	20:20	08:49	07:34	19:41	05:01	18:23
Mar 20 (Sun)	08:27	20:07	20:15	08:45	07:30	19:37	04:57	18:19
Mar 21 (Mon)	08:24	20:04	20:11	08:40	07:26	19:33	04:54	18:15
Mar 22 (Tue)	08:22	20:01	20:07	08:36	07:23	19:29	04:50	18:11
Mar 23 (Wed)	08:19	19:57	20:03	08:32	07:19	19:26	04:46	18:08
Mar 24 (Thu)	08:16	19:54	19:59	08:28	07:15	19:22	04:42	18:04
Mar 25 (Fri)	08:13	19:51	19:55	08:23	07:12	19:18	04:38	18:00
Mar 26 (Sat)	08:11	19:47	19:51	08:19	07:08	19:14	04:35	17:56
Mar 27 (Sun)	08:08	19:44	19:47	08:15	07:05	19:10	04:31	17:52
Mar 28 (Mon)	08:05	19:41	19:43	08:10	07:01	19:07	04:27	17:48
Mar 29 (Tue)	08:02	19:37	19:38	08:06	06:57	19:03	04:23	17:45
Mar 30 (Wed)	08:00	19:34	19:34	08:02	06:54	18:59	04:20	17:41
Mar 31 (Thu)	07:57	19:31	19:30	07:57	06:50	18:55	04:16	17:37

**Notes on using these tables**

The following times are calculated for Local Time at The Briars Observing Facility:  
 Latitude 38° 16' South,  
 Longitude 145° 02' East.

These times can be used throughout the Mornington Peninsula and surrounding areas, to within +/- 1 minute.

L.Q. - Last Quarter Moon  
 New - New Moon  
 F.Q. - First Quarter Moon  
 Full. - Full Moon  
 D.N.R. - Moon Does Not Rise  
 D.N.S. - Moon Does Not Set

\* Moon Apogee: Sunday 6th March @ 18:51 (approx.) 406582 km.  
 \* Moon Perigee: Sunday 20th March @ 06:10 (approx.) 356577 km.

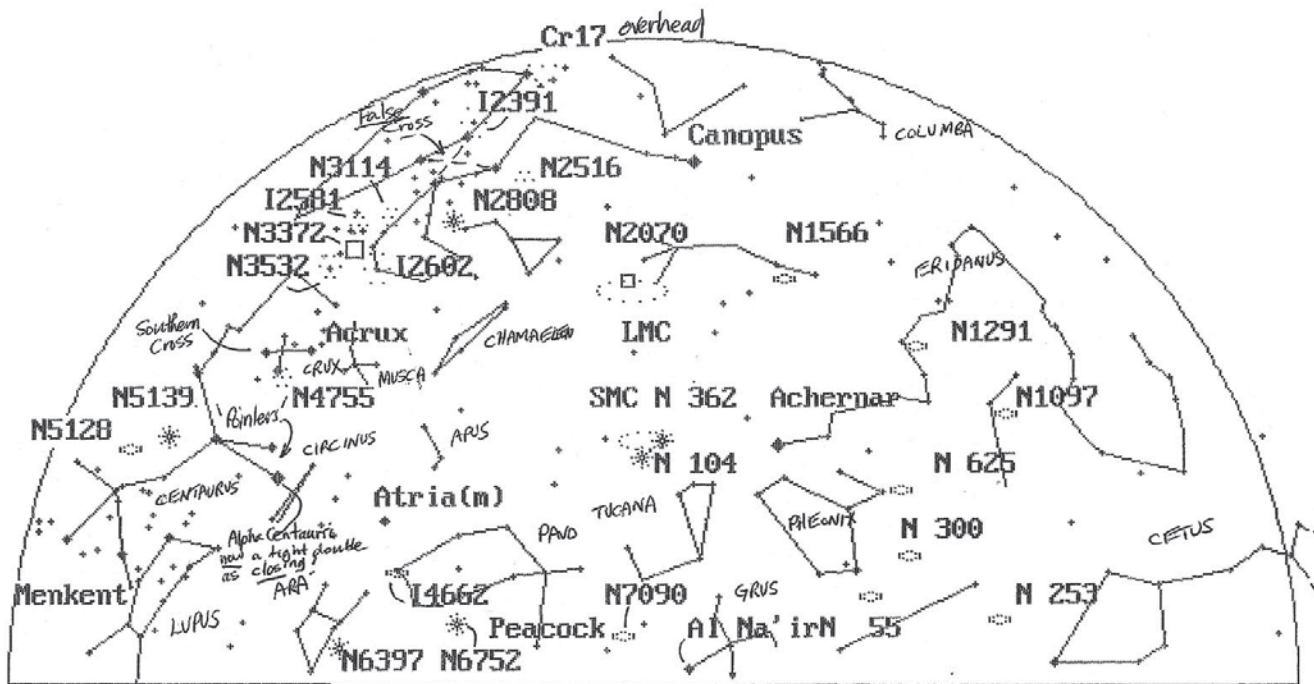
Civil Twilight is calculated when the Sun is 6° below the horizon, and is practically marked as the beginning or end of the day's useable light. The first of the evening stars are visible at this time.



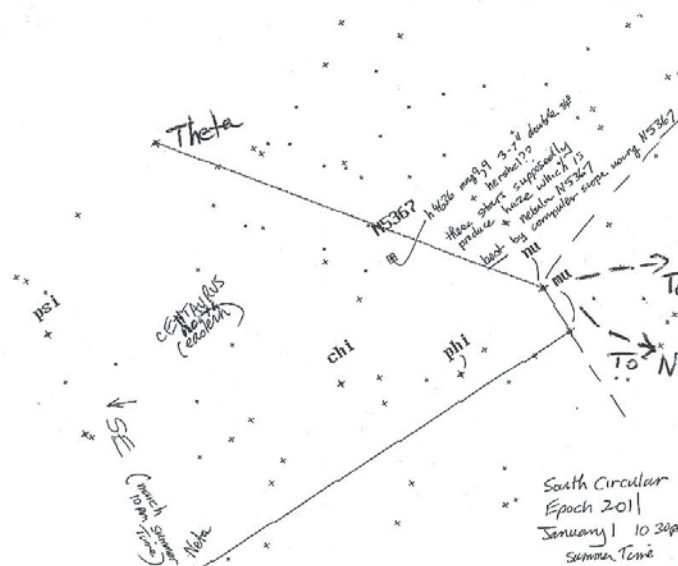
# Bob's Sky for the Month

16th February to 15th March 2011, for the Mornington Peninsula

Latitude 38° 16' South,  
Longitude 145° 02' East.

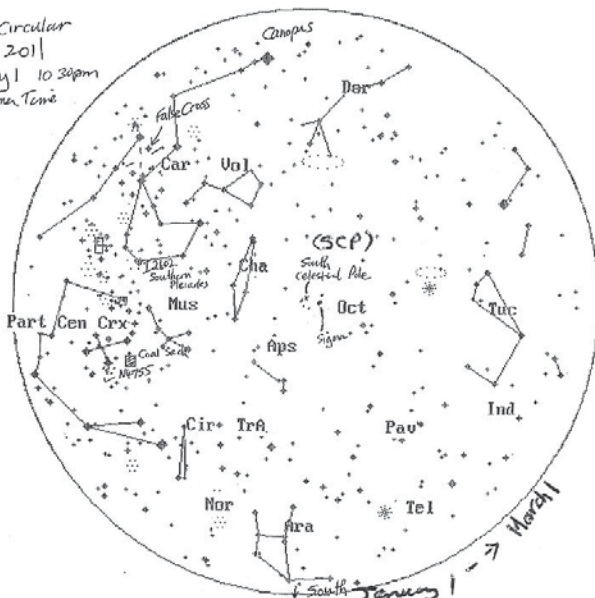


11 10 pm and 9 10 pm 15<sup>th</sup> March SSW Dark Sky 2011 Summer Times, also 16<sup>th</sup> February  
No visible planets for 1<sup>st</sup> March time



CCD'ers, photographers!  
whoever's, not changing  
position of Sigma Octans  
with respect to SCP

South Circular  
Epoch 2011  
January 1 10 30pm  
Summer Time

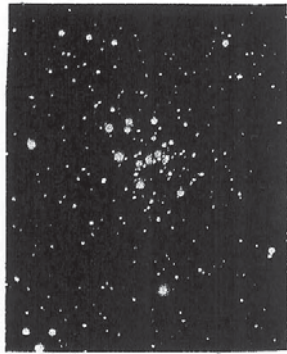
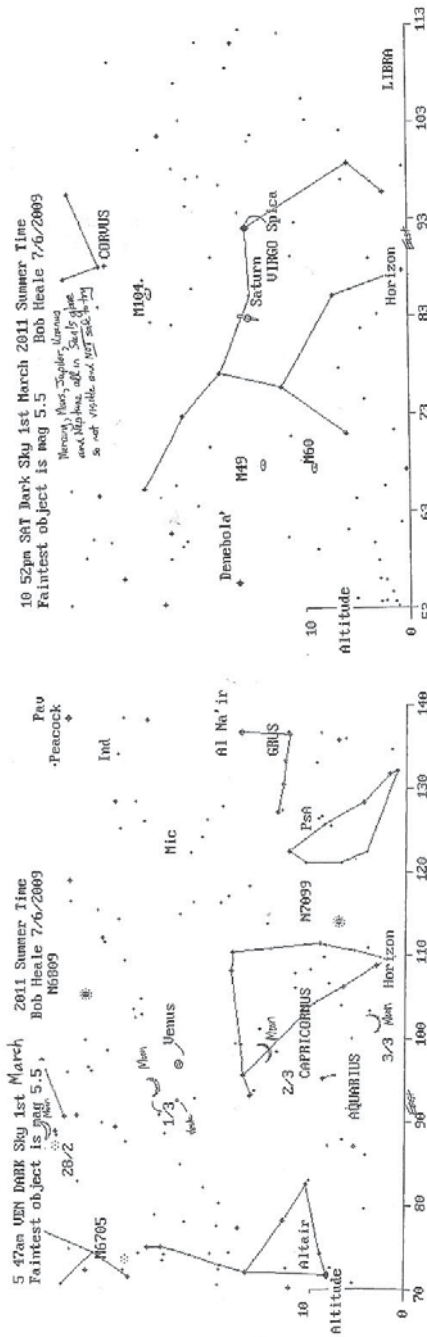


Bob Heale  
MPAS 13/2/2011

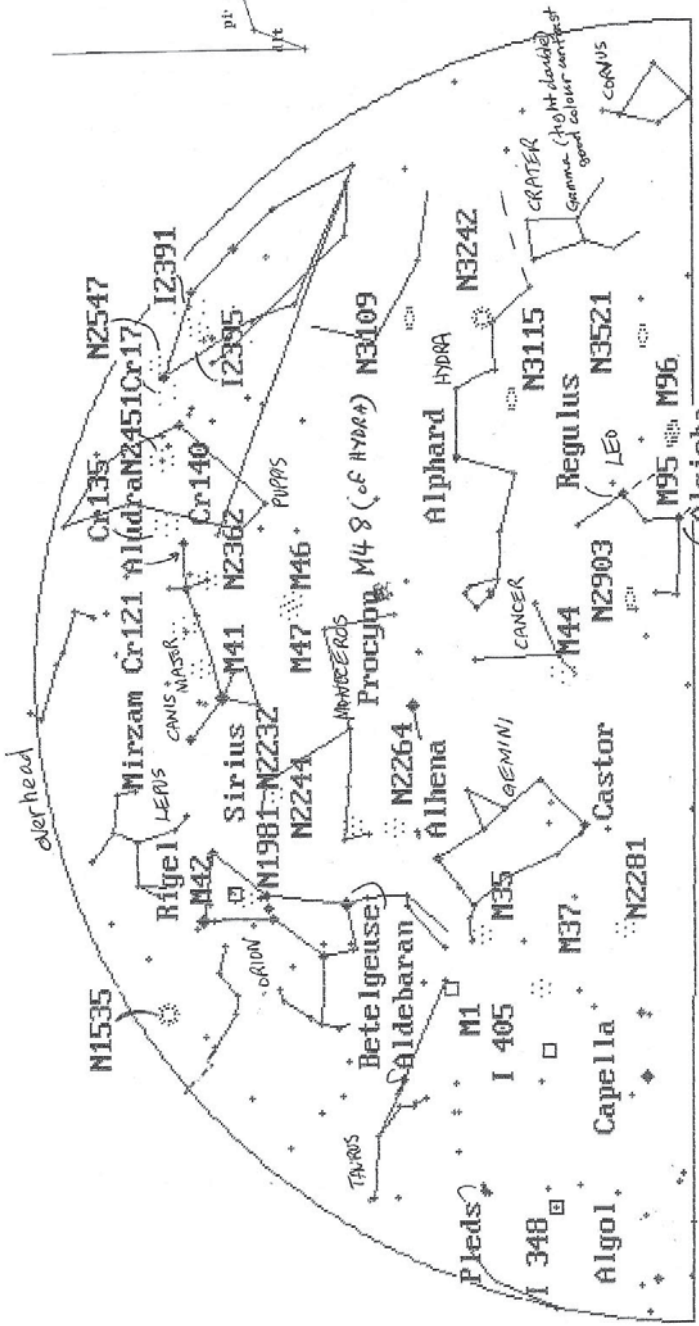
# Bob's Sky for the Month

Latitude 38° 16' South,  
Longitude 145° 02' East.

## 16th February to 15th March 2011, for the Mornington Peninsula



M15 or N2548 open cluster mag 5.5 HYDRA  
42' diam 700 parsecs away (east of Procyon)



Bob Heale MPA  
13/2/2011

11:10 pm and 9:10 pm 1st March NE Dark Sky 2011 Summer Times, also 16th February  
No visible planets for 1st March time



# Society Pictures



*David Rolfe's M42 (29/1/2011)*

Paul Alber's image of M45 The Pleiades or Seven Sisters in Taurus. Date: 15/02/11.  
Paul's image was take using a Bintel 8" Newtonian Astrograph, with a Pentax K-x Camera.



*David Girling and the 8 Inch refractor (12/2/2011)*

If you have any pictures that you have taken, which may be of interest to other members in the society, then don't keep them to yourself. Send an email to: [scorpius@mpas.asn.au](mailto:scorpius@mpas.asn.au) for displaying in Society Pictures

# General Society Information

## Office bearers of the Mornington Peninsula Astronomical Society

**President:** Peter Lowe  
**Vice President:** Brett Bajada  
**Committee:** Ian Sullivan, Trevor Hand, David Rolfe,  
Bob Heale, Fiona Murray, Greg Walton.  
**Phone Contact:** Peter Skilton - 0419 253 252

**Secretary:** Peter Skilton  
**Treasurer:** Marty Rudd  
**Public Officer:** Rhonda Sawosz  
**Web Master:** Steven Mohr  
**Scorpius Editor:** Brett Bajada

## General Meetings

Meeting Venue: *The 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. Entry is via the main gates or Gate 3, off Wooralla Drive. Exit is via Gate 3 Only after 9:30pm (see map).

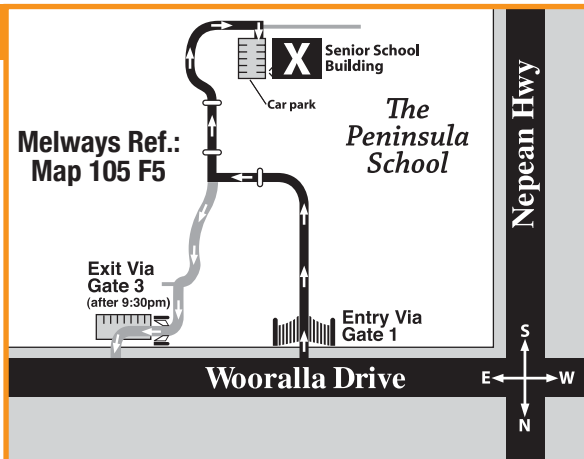
For additional details:

Phone: 0419 253 252

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

Internet: <http://www.mpas.asn.au>

email: [welcome@mpas.asn.au](mailto:welcome@mpas.asn.au)



## Loan Equipment

The Society has a variety of telescopes including an 8-inch reflector, 80mm refractor and binoculars, all available for loan.

Contact 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 you can now email to [scorpius@mpas.asn.au](mailto: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. All contributions and any feedback you wish to make about the newsletter are welcome.

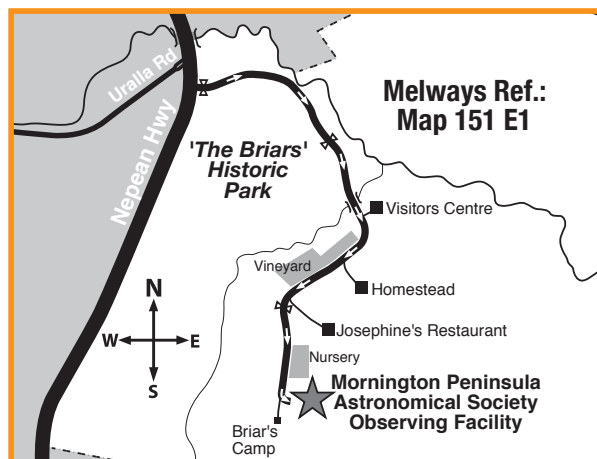
## E-Scorpius Newsgroup

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/group/e-scorpius> 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 [welcome@mpas.asn.au](mailto:welcome@mpas.asn.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. 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.

For additional details: <http://www.mpas.asn.au>