



# SCORPIUS

THE JOURNAL OF THE  
MORNINGSIDE PENINSULA ASTRONOMICAL SOCIETY INC.

ISSN: 1445-7032

Volume XIX, No. 3 (May/June 2010)

The Morningside 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.

## NACAA 2010: CANBERRA

The recent Easter weekend back in early April saw various astronomers from around the country (including a few from our society) make the trip up to the nation's capital to attend the 2010 N.A.C.A.A.

Parliament House (some 600m away) provided the backdrop to the conference which was held at Rydges Capital Hill hotel. This year's theme was 'Astronomy in the Online Age'. Quite apt as the office buildings across from the hotel had a sign indicating the Department of Broadband. But mention a government department, and you know things won't be straight forward. And so it was for the beginning of the conference for the Friday workshops - the hotel's internet connection went down and interrupted the beginning of a couple of workshops.

Soldiering through though, David Benn from the ASSA and associated with the AAVSO presented his workshop about the Variable Star Data Visualisation & Analysis with VStar. This workshop focused on the VStar program, a Java based, open source program available for observers to log and analyse variable stars. In the other workshop on the Friday afternoon, Anthony Wesley

*(Continued on Page 4)*

ABN:34569548751

Reg No: A268



# Society Calendar

## Upcoming Events in May

**Thursday 6th of May.: Keysborough Secondary College - Coomoora Campus (8pm).**

*(Approx. 100 pupils) on Thursday 6th May. If you live within a bull's roar of Keysborough, please consider coming with telescope, binoculars or just yourself. The evening will start as usual at 8pm. If weather conditions are unfavorable, come early and set up as we may do the viewing first, followed by the talk. Address is 15-39 Coomoora Road, Keysborough, Victoria. 3172. Melways 88/K6.*

**Friday 7th of May.: Public Viewing Night at The Briars (8pm).**

*May'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.*

**Wednesday 19th of May.: May's General Meeting at the Peninsula School (8pm).**

*Session 1 - Adrian Malec from Swinburne University speaking on*

*"Do Fundamental Physical Constants Vary in Space-time?"*

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

**Saturday 22nd of May.: Members Viewing Night at The Briars.**

*This month's members viewing night has been organised for the 20th of May. Intensity of incident light from our Lunar neighbour is slight with a First Quarter Moon. So why not bring your scopes along for a great night's viewing (weather permitting of course). As with all member viewing nights, there will be a free BBQ Sausage-Sizzle prior to viewing.*

**Wednesday 26th of May.: May Committee Meeting at The Briars (8pm).**

## Upcoming Events in June

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

*June'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.*

**Wednesday 16th of Jun.: June's General Meeting at the Peninsula School (8pm).**

*Session 1 - Speaker & Topic: To be Confirmed.*

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

**Saturday 19th of Jun.: Members Viewing Night & Solstice Party at The Briars.**

*This month's members viewing night has been organised for the 19th of June. Intensity of incident light from our Lunar neighbour is slight with a First Quarter Moon. So why not bring your scopes along for a great night's viewing (weather permitting of course). As with all member viewing nights, there will be a free BBQ Sausage-Sizzle prior to viewing.*

**Wednesday 23rd of Jun.: June Committee Meeting at The Briars (8pm).**

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.



### 2010 Astronomy Australia

Once again, the society is fortunate enough to secure your guide to the astronomical year ahead with the 2010 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 \$27 to the public, though society members can get it at the discounted rate of \$24.

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.

### Public Night Thank-You

Recent public viewing nights and school viewing nights have continue to be very well received by the attendees. It is no coincidence that this is due to the efforts put in by the members that help out at these events.

To everyone that has helped out over the past few months, a very big thank-you goes to you all. Your efforts are very much appreciated, and are being very well received.



# Society News



The Committee and Society welcome the following new member.

Walter Luis Hernandez

Wishing you clear skies.



## Briars Site Access Update

April saw the beginning of works around the Briars Observing site, with the first concrete slab now down. This concrete slab now extends the main shed area. We plan to pour the lower slab in the early weeks of May

Unfortunately with these works, some disruptions to the normal viewing practices may occur. Rest assured, the site can be used for observing but please be careful when driving or walking around the site. We thank members for their understanding during these works. We would also like to thank everyone who has helped out over the past couple of weeks with the concreting or recent working bee. Your efforts are greatly appreciated

Here are some photos showing some of concrete being laid.



### BORDER STARGAZE



### REGISTRATIONS for Border Stargaze 2010 (1st – 5th Sept. 2010) are NOW OPEN.

ASAW is proud to announce that Border Stargaze 2010 will again be held at The Wymah Valley Retreat, located in the Greater Hume Shire. The Retreat boasts a 300 acre property with a 2 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 the major cities. Event highlights include:

- Guest Speakers • Astro/Science Activities • Astrophotography • Astro (general) Trivia and more.... • Cosmodome (Mobile Planetarium).
- Free Registration for children 13 and under - (Standard accommodation rates will still apply) • Vendors
- Free Breakfast to registered guests on the Sunday will be returning courtesy of ASAW • Giveaways and door prizes, and so much more.....

Check out our website - [www.asaw.org.au](http://www.asaw.org.au) for the most current information. As always we welcome your feedback on the registration process or questions about the event itself. Importantly, we would like to express our thanks to the many volunteers from around Australia that supported us in 2009 and invite you to be a part of the 2010 team.

Clear skies, Petra de Ruyter

Secretary - Astronomical Society of Albury - Wodonga, Secretary - Border Stargaze 2010 Committee Mobile: 0431 535 417 Email: [borderstargaze@iprimus.com.au](mailto:borderstargaze@iprimus.com.au)





# Society News

## NACAA 2010: Canberra

(Continuing from Page 1)

Anthony Wesley presented his workshop about Processing Techniques for Planetary Imaging. After these afternoon workshops, the traditional welcoming function was held.

Saturday Morning saw the official opening of NACAA for 2010 with welcoming addresses by convener Albert Brakel and NACAA General Secretary Stephen Russell. Stephen introduced the inaugural John Perdix address - Dr. Thomas Richards presented his "Opportunities and Plans: The directions of Southern Hemisphere Variable Star Research" presentation. Dr. Richards looked at developments in the area of variable stars and drew conclusions about the future of southern hemisphere amateur based variable star research.

After Dr Richard's address, the conference split into 2 streams of presentations. This meant some careful navigating by conference attendees, however with a bit of planning (thanks to the program schedule) you could pick your way through the presentations that held your interest. Continuing on during Saturday morning presentations

was MPAS member Dr. Peter Norman. Peter's presentation was entitled "Nucleosynthesis In Supergiant Stars". His presentation follows up and expands upon talks he has previously given at other astronomical conferences.

Along with Peter's presentation, other Saturday morning presentations included Alan Plummer's "Variable Stars: Observing Stellar Evolution"; Chris Morley's "Designing and Building a Geodesic-domed Observatory"; David O'Driscoll's "Robotic Research for Amateur Astronomer"; Anthony Wesley's "High Resolution Planetary Imaging"; and the NACAA Conference posters "Take 5's" - a brief 5 minute discussion by the poster presenters.

After lunchtime on the Saturday, all the attendees gathered together again for another keynote address, this time by Dr Simon O'Toole. Simon's presentation was on "The Ubiquity of Exoplanets". His talk centred on the advancement of exoplanet research from fringe to mainstream, and the opportunities that exist for amateurs to get involved. Simon's talk was followed by Stephen Russell's presentation of "NACAA in the On-line Age", and



Ray Johnston's "Cosmic Capers" presentation could be NACAA's first 'R-Rated' paper given.

David O'Driscoll's "Online Solutions for Photometry and Astronometry research"

Following afternoon tea, Ray Johnston kept us entertained with his (sometimes adult rated) "Cosmic Capers" presentation. Andrew James presented "Antipodean History of Southern Double Stars (1800-1900)", and Ian Maclean presented "Aboriginal Astronomy - The Dreaming Picture". The NACAA Inc Annual General Meeting closed out the events for the afternoon.

For the NACAA dinner, we were very lucky to have Arthur Page in attendance to give us some background about the award, and also to present the 2010 Berenice Page Award (see next pg. 5) to David Gault of his work in Occultation  
(Continued next page)



Arthur Page (middle with suit and tie) with past and present Berenice Page recipients, pose for a group shot. Some of the group members in this photo were members of the Reynolds Amateur Photometry Team, who were the recipients of the Berenice Page Medal back in 2002.



# Society Reports



The Berenice Page Medal came about as a result of a bequest to the Astronomical Society of Australia (A.S.A.) from the Estate of the late Mrs Berenice Page of Brisbane.

Berenice and her husband, Arthur, were foundation members of the A.S.A. and although amateurs, Berenice and Arthur contributed a great deal to the Flare Star Programme, and to astronomy in general, throughout the 1960's.

Unfortunately in July of 1970, Berenice suffered a cerebral haemorrhage and died at 40 years of age. The A.S.A. used this bequest to establish the Berenice Page Medal for excellence in amateur astronomy in Australia and its territories, judged on the basis of scientific contributions which have served to advance astronomy. This award has been presented at each N.A.C.A.A. since 1973.

In 2010, the Berenice Page Medal was awarded to 2008 Mr David Gault for his involvement with Occultations. We congratulate David on his achievement.



The Berenice Page recipient for 2010, David Gault.

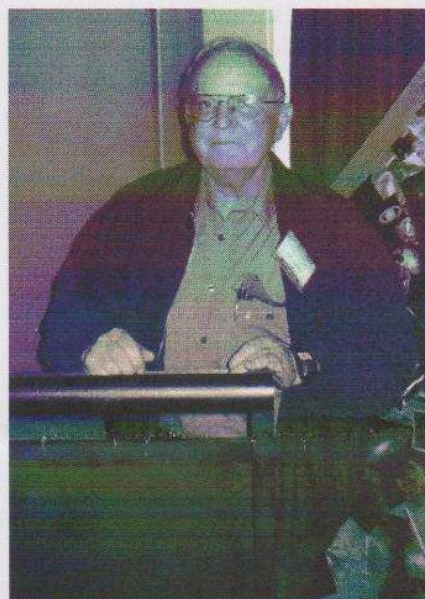
## NACAA 2010: Canberra (Cont.)

timing. After the presentation we had Dr. Charles Lineweaver as our invited dinner speaker. His talk entitled "Are We Alone? Is Who Alone? Are they Alone?" raised questions regarding the theories of life in the universe, and where are they. This concluded Saturday's activities.

After an extra hour of sleeping due to the end of daylight savings change back, Sunday started with split streams once more. In one stream Dr. Thomas Richards hosted a round-table discussion about "Variable Stars Planning". This was a non technical look at how variable star observers in Australia and New Zealand can present their data together. In the other stream, Vince Ford presented "A Personal History of Mt Stromlo and Siding Spring Observatories", Stephen Russell presented "A Tale of Two Chinese Cities", and Terry Cuttle presentation looked ahead to the "Total Solar Eclipse, North Queensland, 2012"

After breaking for morning tea, we returned for Sunday's keynote address by Dr. Daniel Shaddock, "Listening to the Universe with Gravitational Waves". Dr. Shaddock from the Jet Propulsion Laboratory, Cal Tech. With a triangular space array of just over 5 million kilometres, this technology will be our best chance yet of discovering gravitational waves around us. This talk took us to lunch, where afterwards we went back to our split stream sessions.

In Stream 1, the rest of Sunday afternoon took on a occultation theme (as a precursor to Monday's workshop) with the following presentations. Jonathan Bradshaw, from the AAQ kicking the afternoon off with his presentation with "Waiting for Nothing to Happen". Dave Gault continued on with his presentation on the "Pluto and Charon Occultation of 2008", and



Ian Sullivan at NACAA presented his paper on Jeremiah Horrocks.

was followed by dual presenters Dave Herald and Hristo Pavlov with their talk on "Astrometry of Fast-moving Objects using Video"

After a short afternoon tea break, the occultation theme stream concluded with a David Gault retrospect entitled "Another Two Years of Success: Grazing with Team Occultation" and the occultation concluded the afternoon with Dave Herald and Roger Sinnot presenting "A Catalogue of Crater Timings"

In Stream 2 on Sunday afternoon, Ray Johnston brought another presentation called "Dusty Telescopes, Mouldy Books and Boring Old Gentlemen" - a look back at a tour based on Dr Fred Watson's book entitled 'Stargazer, life and times of the telescope'. This was followed by Sharon Harnett presentation entitled "The Two Thomas' Contribution to 17th Century Astronomy". The two Thomas' being Thomas Digges and Thomas Harriot.

This lead into Ian Sullivan's presentation of "Jeremiah Horrocks: Father of British Astronomy?" This was the same presentation that Ian gave at our March General Meeting.



# Society Reports

## NACAA 2010: Canberra (Cont.)

It looked at Horrocks achievements in their historical and pre-Newtonian context.

Stream 2, took a short afternoon tea break, and returned with Neville Fraser's presentation entitled "The New Generation of School-based Planetaria: their Impact on Student Astronomical Concepts" and Sharon Rutledge from the University of New South Wales, presented her talk on "Parramatta Observatory: Separating some Facts from the Fiction". This concluded the presentations for NACAA in 2010.

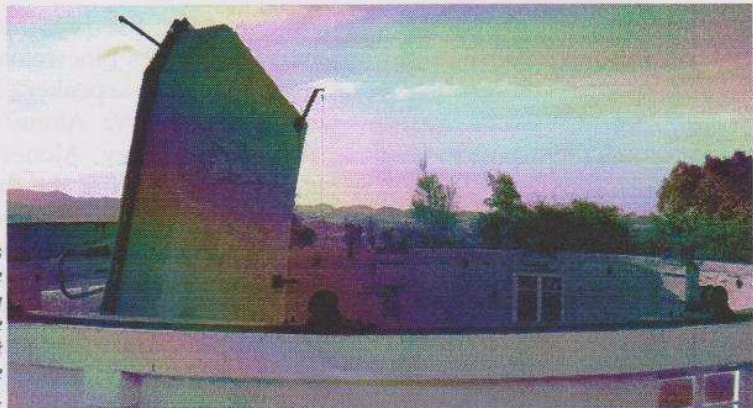
With the presentations completed, the late afternoon of Sunday, saw the NACAA attendees drive out (or bussed it out) of central Canberra to visit the Mt. Stromlo Observatory, site of the NACAA BBQ for this convention.

This was a opportunity for attendees to see how the site has recovered from the 2003 bush fires. Prior to the BBQ, the attendees enjoyed a tour of the Mt. Stromlo site by one of the Local Organising Committee members. While the recovery has been ongoing, the haunting loss of equipment and 'what-was' was plain to see.

After the tour, an informal catered BBQ was provided with dining and drinks in the courtyard and Common Room the old Commonwealth Solar Observatory building.

Once everyone had dined, Stephen Russell introduced Arthur

*The remains of the observatory that house the Great Melbourne Telescope.*



Page again to allow Arthur too, present the Mt. Stromlo Observatory with an old astronomy book, as a token of appreciation for the observatory's previous support of him and his wife, and for rebuilding their library, destroyed in the 2003 Bush fires.

Stephen Russell followed up with his thank you for those involved in the 2010 NACAA. The Astral Award for best convention presentation was presented to David O'Driscoll, and the NACAA shield transferred to Astronomical Association of Queensland as the next NACAA hosts.

This concluded the evening and official part of the conference, however for those staying around on Monday, the "Fourth Trans-Tasman Symposium on Occultations" workshop was available for those wanting to know more about the organised occultation timing.

Also available on Monday was an excursion to visit Canberra Deep Space Communication Complex at

Tidbinbilla. CSIRO staff conducted a tour around the facilities followed by lunch.

On behalf of the MPAS members that travelled to Canberra, we would like to thank the members of the NACAA Inc. Secretariat and the members of the Canberra Astronomical Society for putting on a wonderful convention, and making us all feel welcome. Thank you all very much.

The Easter weekend in 2012 will see NACAA being held in Brisbane, by the Astronomical Association of Queensland. We wish them all the very best.



*Brett, Ian, and Peter standing outside the old Commonwealth Solar Observatory building at Mt. Stromlo.*





# Society News

## VASTROC 2011

With the closing of the 2010 NACAA in Canberra, our eyes now look towards our society's hosting of VASTROC for 2011.

VASTROC (short for Victorian Astronomical Conference) is held once every 2 years, in the opposite years to NACAA. Initially conceived as an opportunity for the various Victorian societies to get together discuss different projects and studies, VASTROC has grown beyond this to now include interstate societies and individuals from various astronomical studies and institutions.

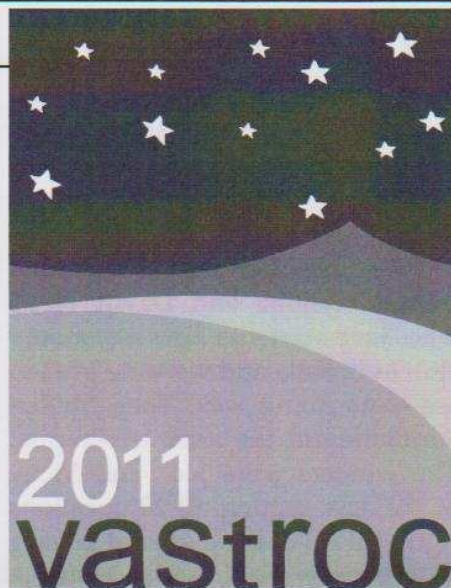
Unlike a Star Party, VASTROC is a conference of presentations. These presentations bring awareness to projects and interests that like minded astronomers are undertaking. In essence a smaller version of NACAA, but not as formal.

We are pleased to announce

that we have secured the Briars Camp, at the Briars Historical Park on the Mornington Peninsula, as our conference location. The camp is right next door to our Briars viewing facility. Having a function area, dining and cooking facilities, and some limited bunkhouse style accommodation, the Briar's Camp is well suited and located to allow us to host this event.

And the all important date of next year's conference? VASTROC will commence Friday evening, the 29th of April through to Sunday lunchtime on the 1st of May. This is the weekend right after the Easter long weekend.

Throughout the coming year we will keep you informed on the progress of the conference planning, and release details as they come to hand. It is hoped that prior Christmas we will have the all important registration details for those wishing



wishing to attend the conference.

For society members, if you have a project or interest that you may want to make a presentation about, please consider this opportunity. If you feel unsure about your presenting abilities, please see some of us on the committee if you require any assistance or guidance. We are more than willing to offer support.

# Society Reports

## ASV Messier Party.

MPAS made their yearly pilgrimage to the Messier star party at ASV's Leon Mow dark sky site 12 minutes north of Heathcote on the 13 March 2010. Steve Mohr and I arrived on the Friday, the day before so we could get a good spot away from any trees that would block our view of the sky. Phil Hart (a leading ASV astrophotographer) was already setup, so we setup next to him. But first we sat under a tree out of the sun to cool off and waited for the sun to get closer to the horizon.

We were feeling sorry for Big Dave as his good wife Leanne had delivered their new baby at 3pm on Sunday named Landon Hayden Rolfe. We thought he was grounded for a while, until we saw a white Ford Territory approaching. Steve said no way, as Big Dave pulled

up with Kevin Rossiter and Morris Valimberti close behind. Then it was time to setup, amazingly Steve setup 2 scopes without bracing any wires. Kevin used a new wireless device to control his Meade 12 inch LX200, to eliminate wires being ripped out in the night.

Once Big Dave got his astrophotography scope running automatically, he went off to sleep in his car (Dave saying he had not got much sleep at home with the new baby). I got my Pentax K-x working with a 400mm lens piggy backed on the 6 inch Mac mounted on the club's EQ5H, and then I did some viewing with Sky Dancer, my 21 inch Dobsonian.

On the Saturday, the main event, Fiona & Pearl Murray, Rowan Smith, Domenic, David Stock, Trevor and Katherine Hand, Rod Brackenridge

with his family, Mr & Mrs Barry and about 100 ASV members arrived, also about 60 members of the public turn up. We all went for a walk around both viewing fields to kick a few tyres. Then the food wagon arrived, which is run by the local Lions club, we grabbed our hamburgers, sausages and ice creams. We sat back in our chairs and listened to

*(Continued next page)*



Dave and Steve (Steve somewhere in the observing tent) equipment getting set up for the night ahead.



# Society Reports

## ASV Messier Party (cont.)

Ken Le Marquaud (who runs NAG) give a talk on Charles Messier, and latter did the sky tour for the public. Some local wineries turn up as usual.

We met up with long time friends Cynthia and David Webb who have started a new astronomy club in Benalla and we were glad to see them doing well. Then Mr Ian Sumiville did the astro trivia quiz. The winners were Jack and Vicky of the ASV getting all 20 questions right, MPAS coming second getting 18 questions right, and winning a nice book for our library. Then the door prize raffle was drawn with Shirley Barry picking up a software package.

Now it was time to crank up the scope. Kevin, Rod, Rowan and David Stock entertained members of the public, while Domenic strictly stuck to looking at only messier objects through his 11inch Celestron. Steve merged with his equipment like he was piloting the Enterprise in Star Trek. Big Dave casually seemed to



Manning the scopes for the night's imaging.

push one button to make everything work. I jumped between taking sky shots and the 100mm Bino-chair. It was a very busy and rewarding night for everyone.

On the Sunday morning we slowly arose to find everyone packing up and leaving for home. Only Steve and I stayed on from MPAS with Jack and Vicky from ASV. We reviewed the photos we had taken, had a shower and tried to stay cool. Fiona and Pearl stayed the day till the sun went down; Pearl spent the day playing with a young local magpie.

We had clear skies on the Friday



Greg picks up a hitch-hiker for the journey home.

and Saturday nights, with some light cloud on the Sunday night which eventual shut us down at 1:30am. Steve covered his scopes with toilet tents, which worked very well in keeping them cool through the day.

Monday morning came and we slowly packed up and headed home, but we are already planning our next trip across the universe.

Clear skies,

*Greg Walton*

15th March, 2010.

## A scale model of Our Solar System.

An article by Trevor Hand showing us the complexities of modelling the Solar System.

Some time ago I was able to find a company in America that sold Earth and Moon globes that were in proportion to each other, the Earthball is about 16 inches in diameter and the Moon about 4 inches. The Moon is particularly interesting in that it is mounted on a base but is able to spin in two directions, at the same time!

An interesting engineering solution it its own right and most people are fascinated by the solution. Many of the main features are labelled and the landing sites of all the Apollo missions and other unmanned probes are also indicated. Unlike other world globes I have seen, the Earthball is made up of satellite photos and contains no political borders. All of

the major cities are indicated with luminescent paint. If you "charge it up" in bright sunlight and take it into a dark room, you can clearly see what the Earth looks like from space. At this same scale, the Moon is actually some 12 metres away from the Earth. Over the following 5 months I constructed more than thirty scale planets, moons, asteroids and other objects.

The Moon is on a scale of 30 million to one, which makes Jupiter 4.5 metres in diameter, even Neptune would be almost 2 metres in diameter, so clearly I had to restrict myself to everything other than the four giant planets and of course the Sun. Several hours on the calculator created a table of sizes for each object and their distances so I headed to a sports store with a tape measure in hand and searched for



Making sure each of the balls are the correct proportioned size

various balls of a suitable size. Each object would be built up with layers of paper Mache and then painted a suitable colour, or in the case of Jupiter's moons, covered in images downloaded from a NASA site.

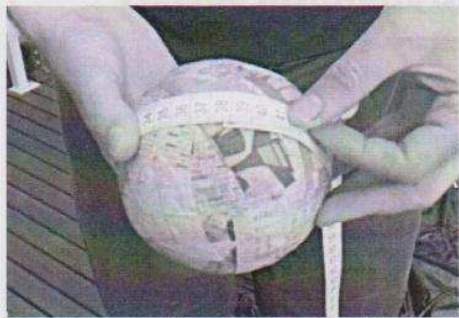
Building each ball was a relaxing but laborious task, two hours of pasting will create one of Jupiter's smaller moons. After a while of pasting, check the circumference with a tape measure to ensure you don't go oversize and have to tear some of the paper off again.

(Continued next page)



# Society Reports

## A scale model of Our Solar System (cont.)



*Covering and still measuring the balls, sorry future planets.*

When the ball is at its final size I carefully placed two or three layers of clean white paper. After the white layer has had at least two days to dry, I gently sanded any obvious high spots from the surface using some 80-grit sandpaper. The white paper will easily show where the valleys between high spots remain. Painted models were then covered in several layers of tissue to cover the underlying strips of paper.

To make the models of Jupiter's moons I scaled image files I had downloaded from NASA to make them a good fit over each of the finished balls. Getting the correct size will take a few attempts so you may want to do a couple of proofs in black and white first until you are happy with the size. Carefully

cut each gore out, I used a single sided razor blade, and glue the first one to it's ball and proceed to stick each leaf down to the surface, being careful to minimise any creases in the paper. The next day, carefully align the other half, making sure the points of the same latitude line up. I finished off all of the surfaces with several layers of a water based clear varnish.

In order to fit the planets and their moons into a suitable distance, I divided the scale by a further one hundred fold, giving a scale of 3 billion to one. The distance from the Earth to the Moon changes from 12 metres to just 120mm, even Callisto comes from 62 metres down to just 620mm, quite a reasonable distance. To accommodate the distances between planets, I reduced the scale a further thousand fold, resulting in an Earth to Sun distance of just 49mm and even Pluto is only 2.5 metres away. So my scale was set, moon distances are 3 billion to one and the distances between the planets become 3 trillion to one. Only a small number of objects on the model are at such a large distance

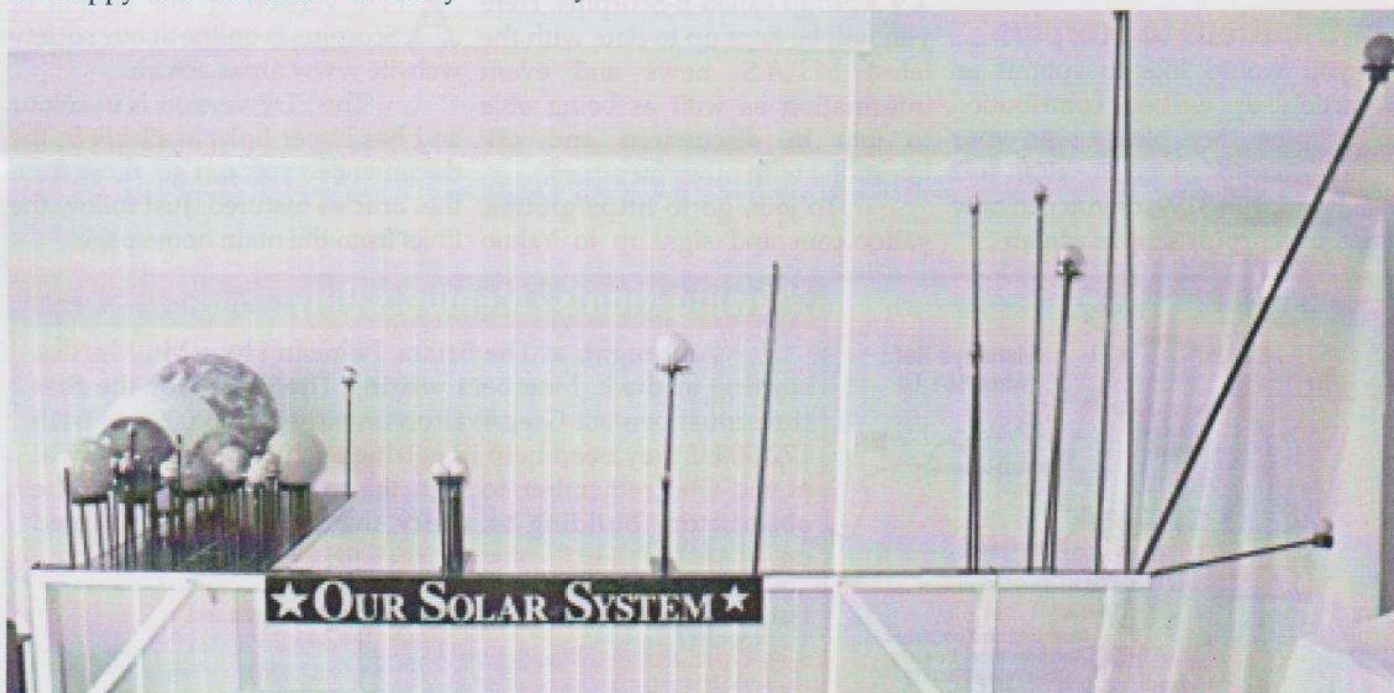
even at the reduced sizes. Sedna is situated more than forty metres past the end of the finished model.

A number of stands were made to hold each object, any objects with a large inclination to the ecliptic were corrected for this and were made higher to give the correct position.

Finally I created a two metre timber frame that folds into quarters and easily fits into the back of my car. A separate table area holds the larger planets and moons whilst short "outriggers" hold the moons of Uranus and Neptune. The base has lines marked for each planet's distance from the Sun and the distance to their major moons. The whole model breaks down to a few large parts that can be placed on top of each other and a couple of boxes carry most of the planets and other objects. A couple of bags hold the stands and keep them from becoming dusty or mislaid. It is amazing what you can do with a spare 500 hours or so.

*Trevor Hand*

March '10



*The completed solar system*



# General Society Information

## Office bearers of the Mornington Peninsula Astronomical Society

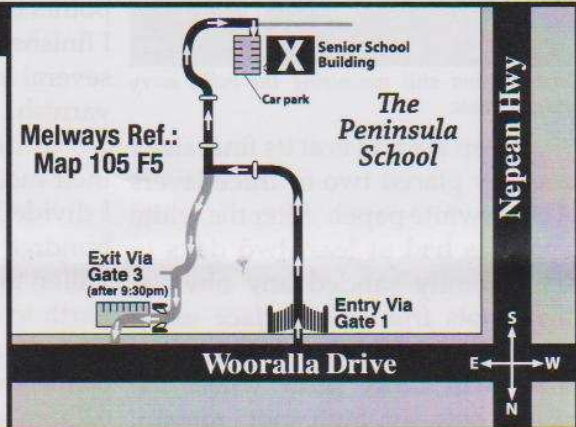
**President:** Peter Lowe  
**Vice President:** Brett Bajada  
**Committee:** Ian Sullivan, Trevor Hand, David Rolfe,  
 Bob Heale, Fiona Murray, Greg Walton.  
**Phone Contact:** Peter Skilton - 0419 253 252

**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> and sign up to Yahoo

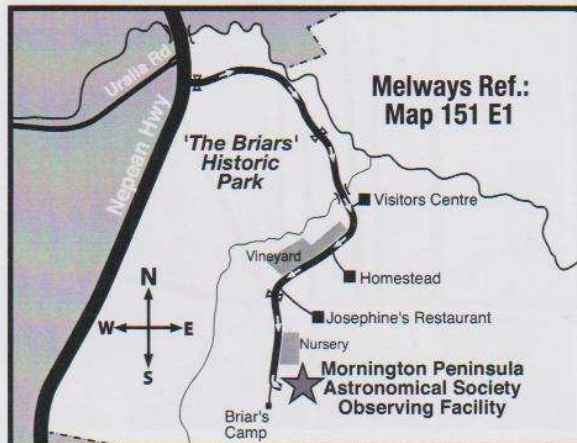
groups. You require to sign up to Yahoo groups to join E-Scorpius.

Once you have signed up at Yahoo groups, email [skywatch@iprimus.com.au](mailto:skywatch@iprimus.com.au) saying that you want to join E-Scorpius and you will be added to the E-Scorpius list. Come on, join up. The more people in the group the better.

## Scorpius as PDF

A PDF version of this edition of Scorpius is online at our society website [www.mpas.asn.au](http://www.mpas.asn.au)

The PDF version is in colour and has hyper links available in the document so you can get more from the articles featured. Just follow the links from the main home page.



## 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>



# Skywatcher: May's Rise & Shine Times

The following times are calculated for the 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.

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

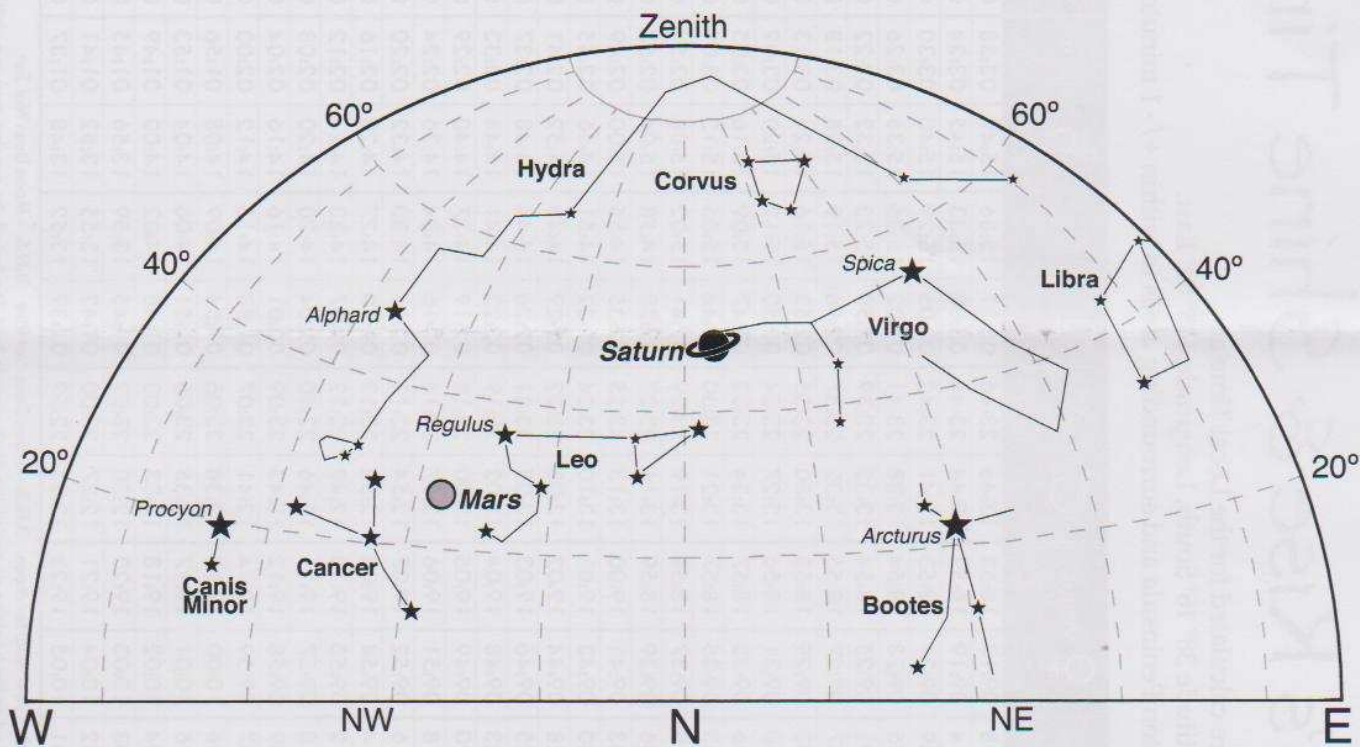
Full - Full Moon L.Q. - Last Quarter Moon New - New Moon F.Q. - First Quarter Moon D.N.R. - Moon Does Not Rise D.N.S. - Moon Does Not Set  
 Civil Twilight is calculated when the Sun is 6° below the horizon, and is practically marked as the beginning or end of the day's useable light. The first of the evening stars are visible at this time.



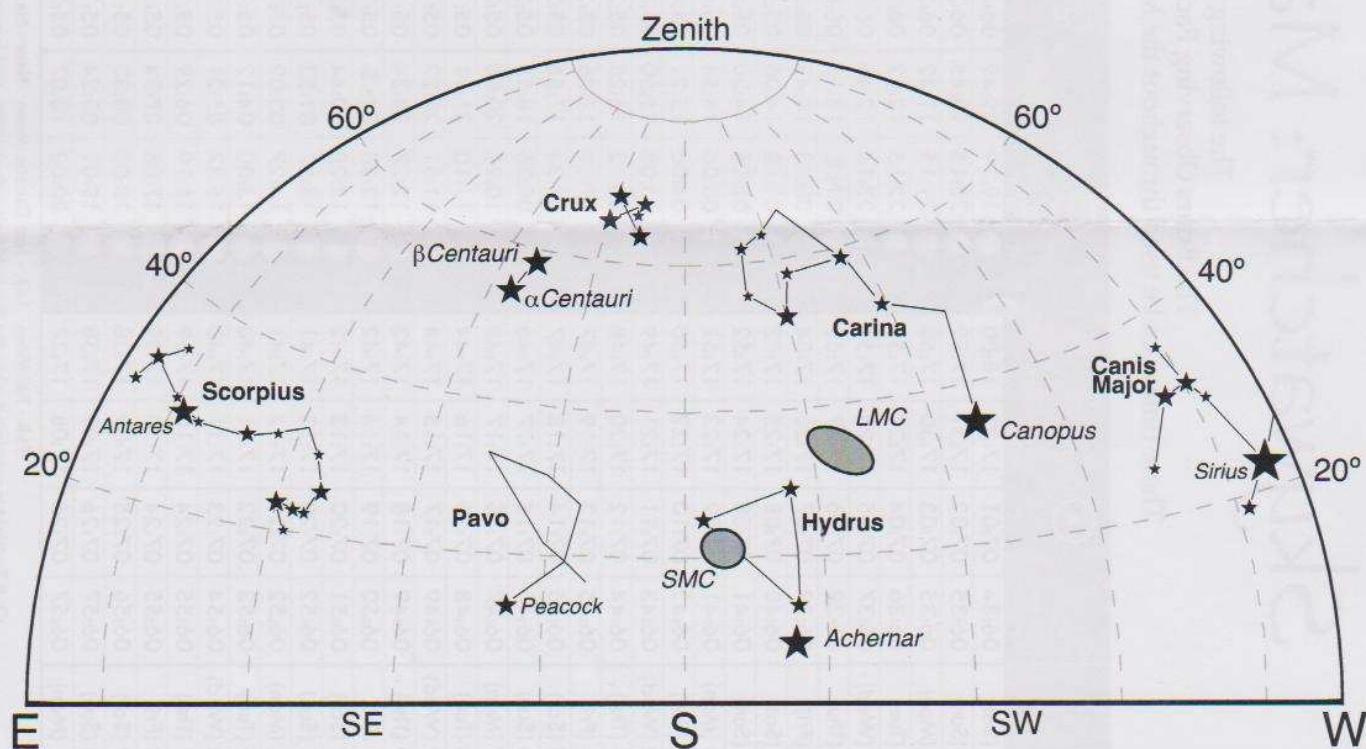
# Skywatcher: In the May Sky

The following hemispherical positionals for May is calculated for The Briars Observing Facility, at approximately 8:30pm Eastern Daylight Time. This can be used throughout April along the Mornington Peninsula and surrounding areas.

## Looking North



## Looking South





# Skywatcher: June's Rise & Shine Times

The following times are calculated for the 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.

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

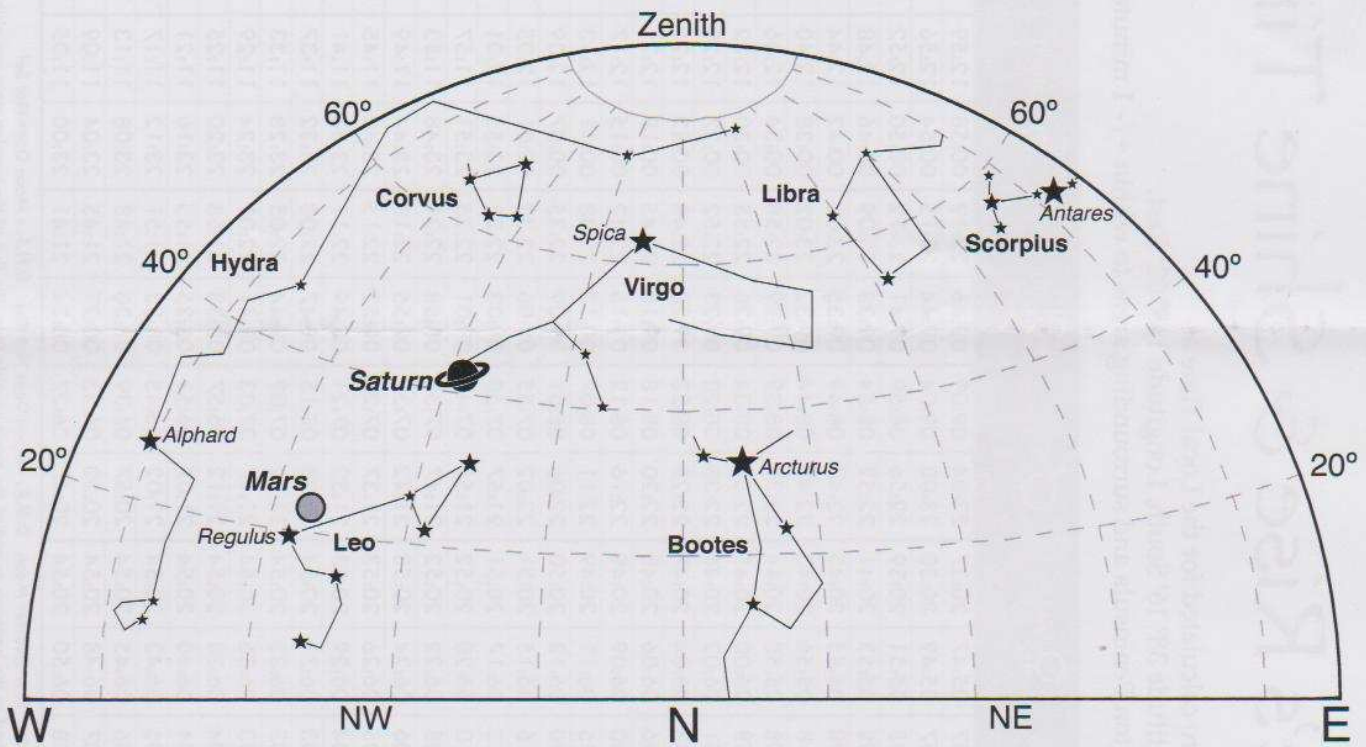
Full - Full Moon L.Q. - Last Quarter Moon New - New Moon F.Q. - First Quarter Moon D.N.R. - Moon Does Not Rise D.N.S. - Moon Does Not Set  
 Civil Twilight is calculated when the Sun is 6° below the horizon, and is practically marked as the beginning or end of the day's useable light. The first of the evening stars are visible at this time.



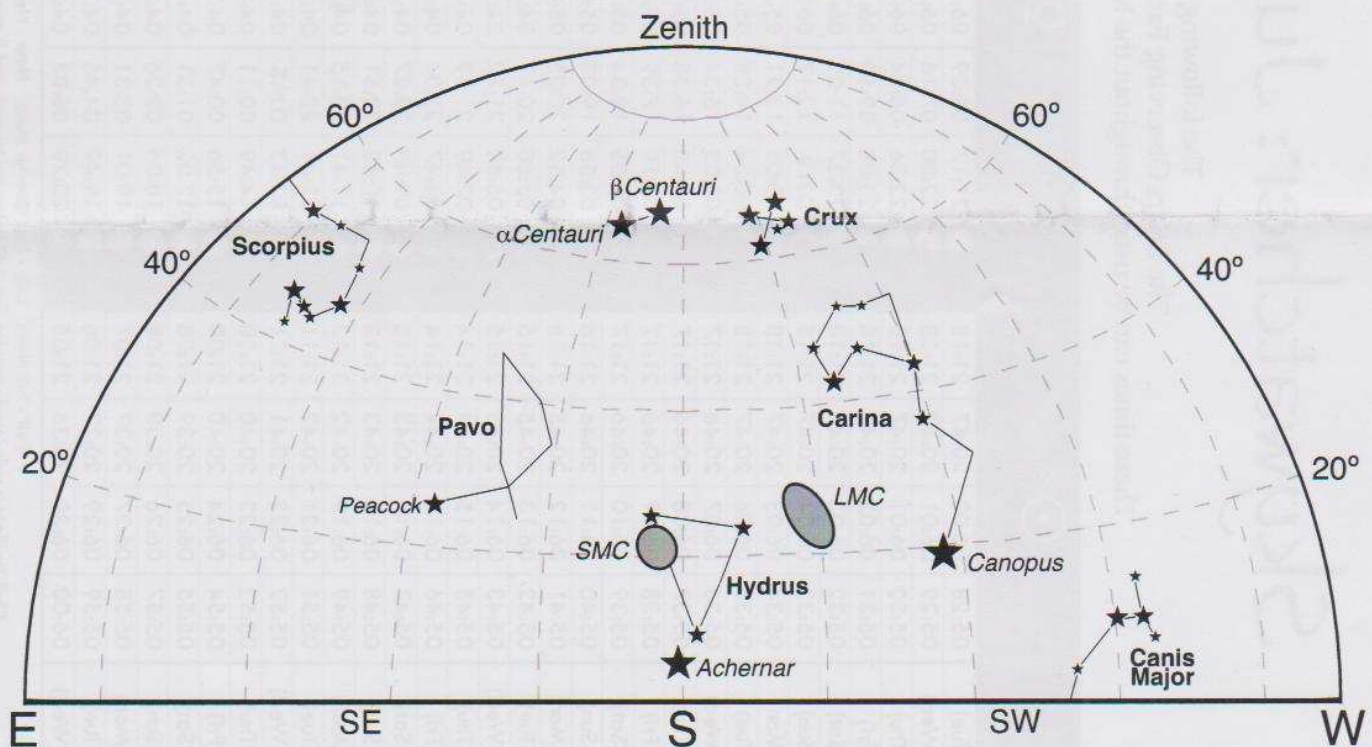
# Skywatcher: In the June Sky

The following hemispherical positionals for June is calculated for The Briars Observing Facility, at approximately 8:30pm Eastern Daylight Time. This can be used throughout April along the Mornington Peninsula and surrounding areas.

## Looking North



## Looking South





# Skywatcher: Saturn

## Saturn: Jewel of our Solar System

Article by

*Therese Albers*

**S**pectacular Saturn is one of the giant Jovian or Jupiter-like gas planets in our outer Solar System. This ethereal world hosts gleaming rings, polar aurora, mysterious moons, lakes, and geysers. Saturn is the second largest planet and number six from our Sun. Nine Earths could fit around Saturn's girth. The English word Saturday owes its origins to the name Saturn. Roman mythology describes Saturn as the god of agriculture and farming.

The other Jovian planets: Jupiter, Neptune and Uranus are also surrounded by ring systems. Saturn's rings appear the most awesome and are the only ones visible from Earth with a small telescope. These gems are created by particles of rock, ice and dust. Some as tiny as the sand on our beaches and others are taller than city skyscrapers.

The thin rings are enormous, with some major rings almost able to stretch from the Earth to the Moon. They are formed from lots of tiny flat ringlets of shiny travelling ice. The largest ring was discovered by the infrared Spitzer Space Telescope in mid 2009.

This mysterious planetary system has around 60 known moons, some with fire and ice. The Enceladus moon hosts fantastic geysers that spout icy dust and possible water vapour. NASA'S Cassini Spacecraft will fly by on future missions to research these massive plumes. Researchers wonder if the interior of icy Enceladus may be hospitable to alien life forms.

Titan is the largest moon and one of the few satellites in the Solar System to have an atmosphere. Titan has a dense nitrogen atmosphere. Hydrocarbon compounds form an aerosol layer, and Methane mists rain gently onto the moon. Liquid ethane lakes may exist on Titan's terrestrial surface.

In February 2010, NASA's Cassini spacecraft made a close approach to Saturn's eyeball shaped moon called Mimas. Its appearance has been compared to the Death Star in "Star Wars". Mimas's wide eyeball is the giant 140km Herschel Crater. It was created in ancient times by a great object that hit the moon from space. The interior of Saturn is covered by a dense cloud layer. Coloured belts and regions demarcate the thick cloud tops. The temperature here is around minus 175 degrees celcius, and the zone is inhospitable to Earth's animals and plants.

*(Continued next page)*



Earth winds reach up to 400 kilometers per hour. On Saturn's equator they can rage at 1,800 kilometers per hour. Saturn orbits the Sun more slowly as it's further out in the Solar System. One Saturn year equals around 29.4 Earth years. Yet Saturn spins more quickly on its axis and one Saturn day is around 10 Earth hours and 39 minutes. Saturn has the lowest density of the planets, with a specific gravity less than water at 0.7%. Incredibly if you could fill an astronomical size bath tub and pop Saturn in; the planet could float in the water as it consists mostly of gas. This giant ball has no solid hard surface to land on. It's around 75% hydrogen and 25% helium with traces of methane, ammonia and rock. Our Earth may sink in the same tub as it is a terrestrial rocky planet.

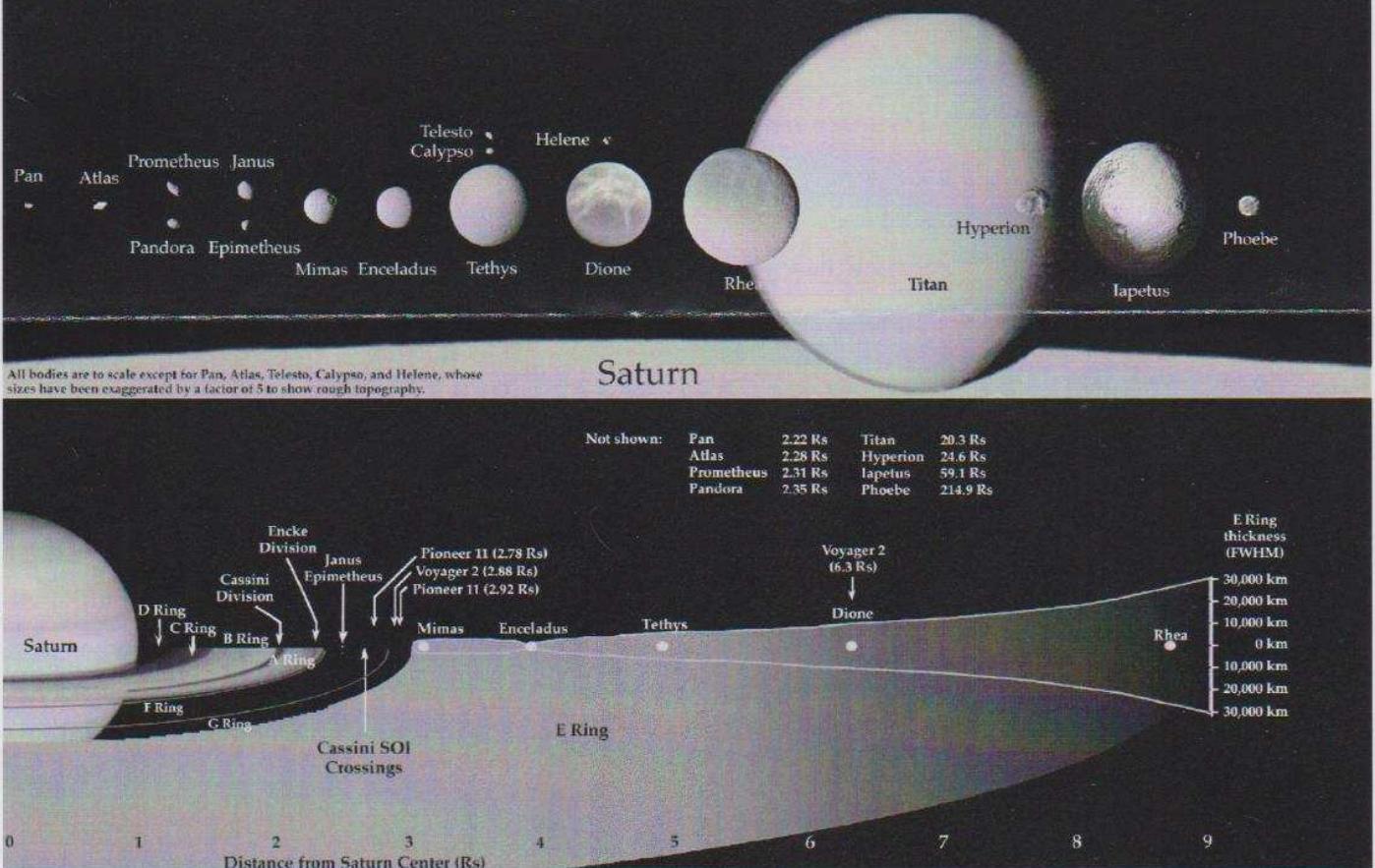
Auroras dance near Saturn's planetary poles, like the Southern and Northern lights seen on Earth. Our Aurora Australis appears in the sky as a shimmering curtain of light. The beautiful phenomena is caused by the Sun interacting with charged particles in the atmosphere.

Gleaming rings race around Saturn faster than a speeding bullet. The elaborate ring system contains incredible numbers of icy particles orbiting in the plane of Saturn's equator. The complex rings are sculptured by the gravitational effects of Saturn's harem of moons. The ring bands may become visible with a small telescope in the nightly sky. The first viewing may be unforgettable and many are amazed at the spectacle of this natural wonder. The ringed planet can be seen with the unaided eye. The seven striking rings and several moons can be seen with a small telescope.

Saturn's distinctive image will show that the rings have closed slightly. They will continue to narrow until June. This is a great opportunity to spot some Saturnian moons: Tethys, Dione, Rhea, Iapetus, and especially Titan. As the rings widen towards their best showing in December, glare will make the scattering moons harder to find.

Web sites, star charts, planispheres, and planetarium programs may indicate Saturn's nightly location. Daily newspapers like 'The Age' print the rising and setting times of the five observable planets. More wonderful discoveries lie ahead in this sophisticated system. In February 2010 NASA announced the extension of the unmanned Cassini-Huygens spacecraft mission to 2017, to further explore Saturn and her mysterious moons and rings.

Wow! The Lord of the Rings may take your breath away. The first tantalising images of Saturn each season is memorable for both the amateur astronomer and the astrophotographer. It's often a show-stopper for the general public viewing through the club members' telescopes. The experience may leave everyone marvelling at the beauty of this exquisitely ringed jewel of the Solar System.











Eta Carina ED80 EQ5H Pentax ist 7x30sec 3200iso

By Fiona Murray MPAS 22may10 edit



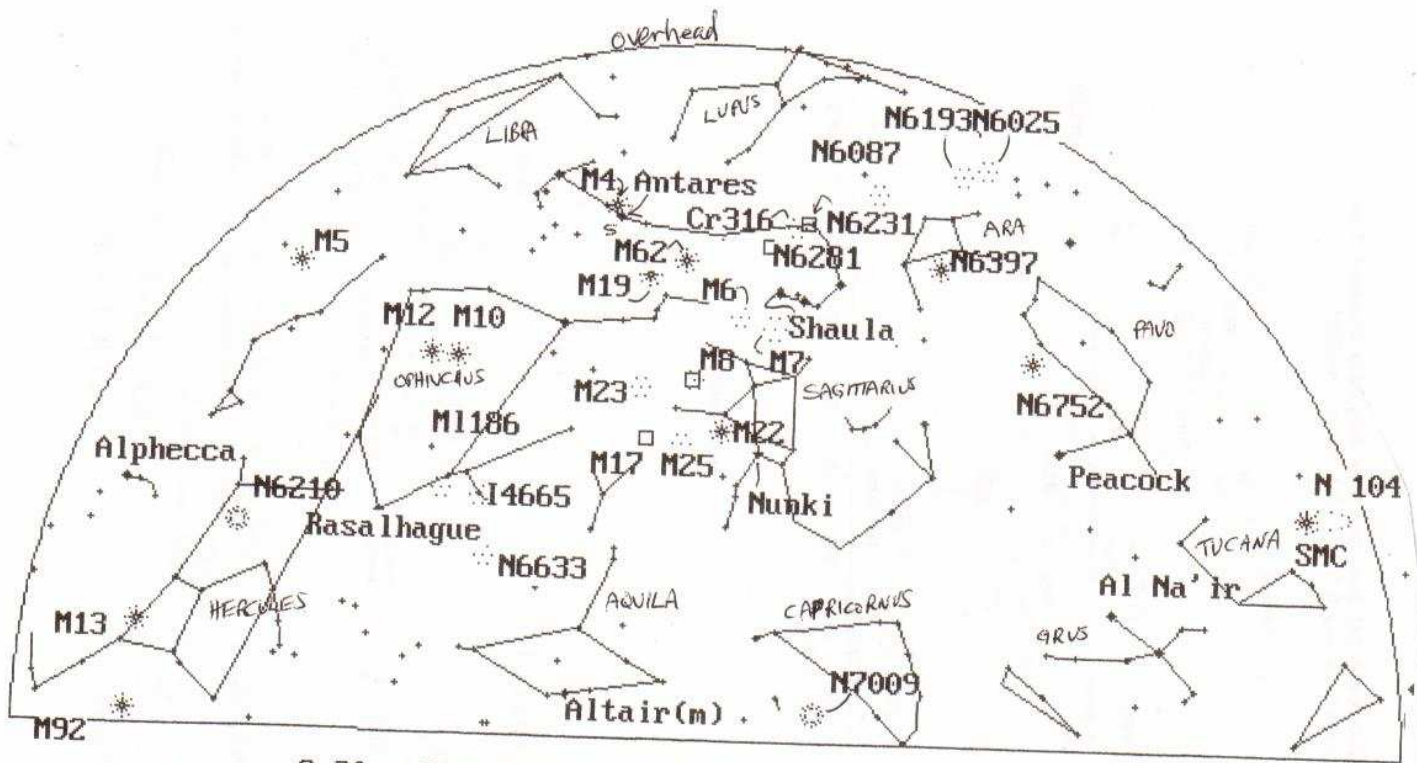
Rays at sunset looking ENE with sun setting in WNW  
Taken at The Briars MPAS site on 22Jan2010 Pentax ist 18Lens

By Greg Walton





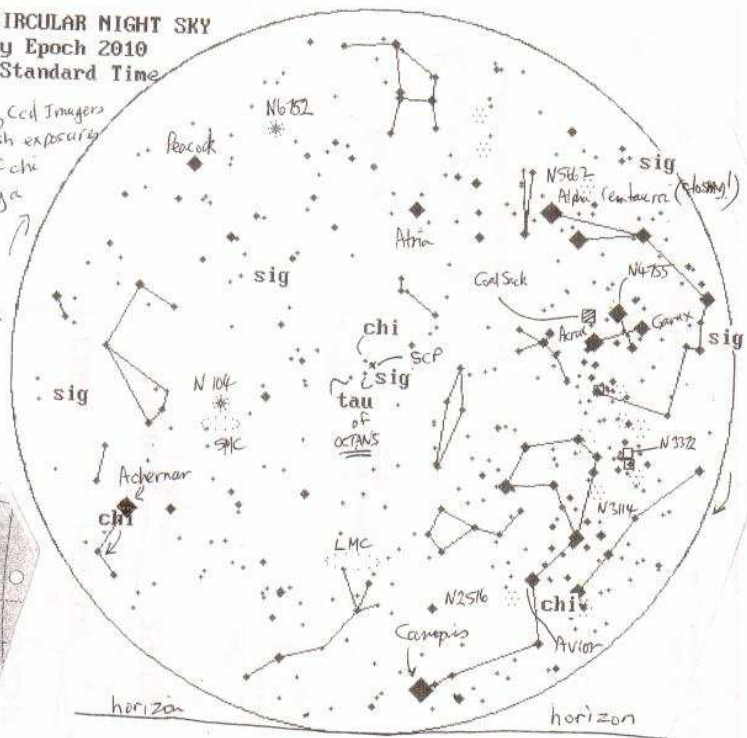




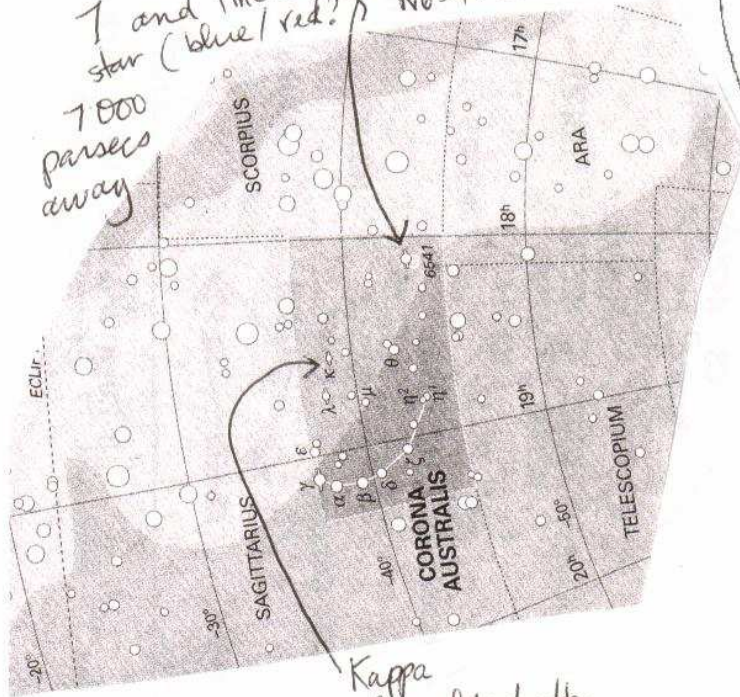
June 19th 2010 and 8 20pm 3rd July East Dark Sky 2010 Standard Time, also 9 20pm  
 and 7 20pm 17 July 2010

SOUTH CIRCULAR NIGHT SKY  
 2nd July Epoch 2010  
 10.30pm Standard Time

Photographers, CCD Imagers  
 doing longish exposures  
 take note of chi  
 octans being a  
 little away  
 from South  
 Celestial  
 Pole S.C.P.x



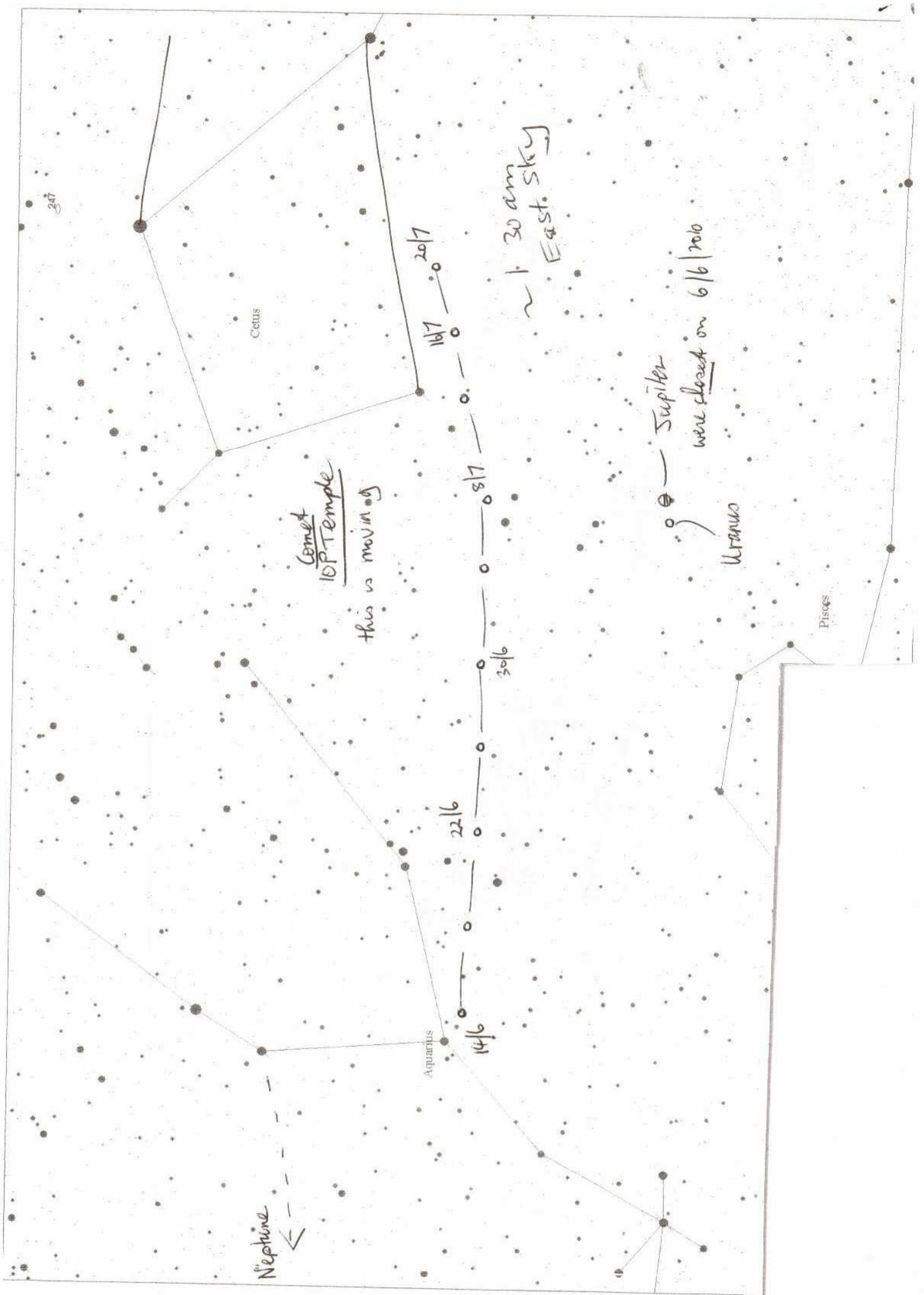
easy field of  
 globular cluster N6541 may  
 7 and line of sight? double  
 star (blue/red?) N6541 is  
 7000  
 parsecs  
 away



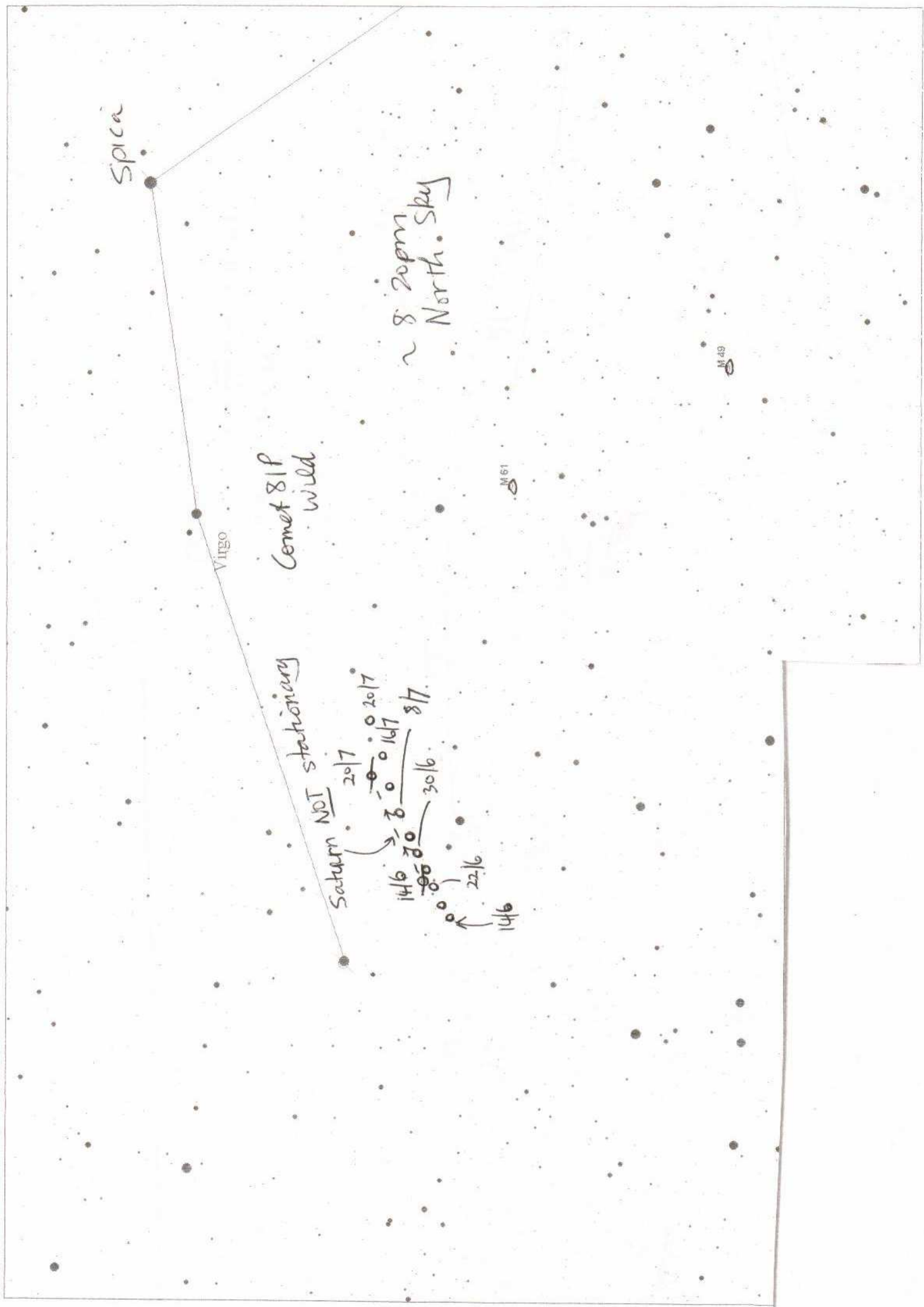
Kappa  
 easy blue white double  
 small supe

Bob Hale MPA-S  
 15/6/2010









Spica

Virgo

Comet 81P Wild

Saturn NOT stationary

Saturn 2017  
 14/6 →  
 22/6  
 30/6  
 14/7  
 20/7  
 87

~ 8 20pm North Sky

M 51

M 49