



# SCORPIUS



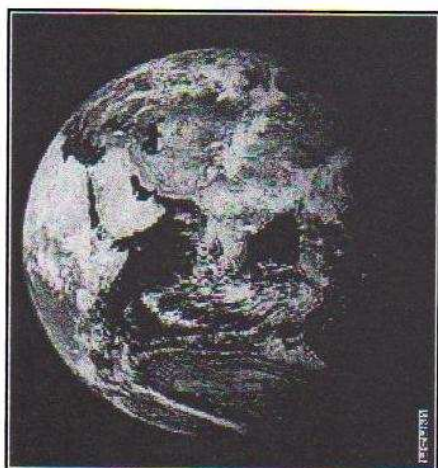
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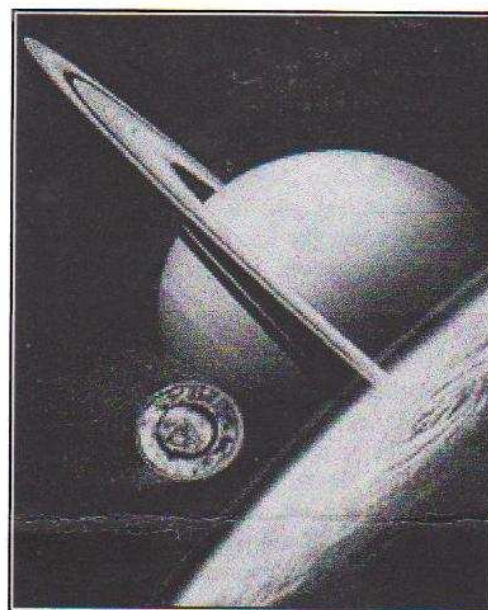
Volume XIV, No. 1 (Jan 2005)

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

## Quake may have changed the tilt of the Earth



## Hygens touches down on Titan



Plus :

**Asteroid impact ruled out.**  
**Deep impact set for July 4<sup>th</sup>.**  
**Quake may have made the Earth wobble.**  
**Three largest red supergiants discovered.**  
**Rovers complete a year on Mars – doing well.**  
**Comet C/2004 Q2 Machholz naked eye visible.**

## January / February field nights and events

19<sup>th</sup> January – Monthly General Meeting  
 21<sup>st</sup> January – Public viewing night at Briars  
 22<sup>nd</sup> January – Astronomy Classes  
 27<sup>th</sup> January – Public viewing night at Briar

4<sup>th</sup> February – Public viewing night at Briars  
 16<sup>th</sup> February – Annual General Meeting  
 19<sup>th</sup> February – Solar & Scope Learning Day

# Society News

## President's Report 2004

2004 is as our 35<sup>th</sup> anniversary year or perhaps I should say our 35<sup>th</sup> orbit. It has been a full year. Generally planned activities have gone well although the weather has not been kind this year and has interfered with a lot our viewing activities and general meetings.

Astronomically, there have been some momentous events. The first Transit of Venus since the 19<sup>th</sup> century was well observed and members pictures, movies and presentations abounded. Aurora has been quite plentiful and the auroral alert network has been kept busy. On the planetary side, an armada of craft reached Mars with three landings, two soft and one hard. The orbiting Mars Express is currently completing an planetary survey and returning spectacular pictures and data. NASA's surface rovers "Spirit" and "Opportunity" have revealed the Martian surface in wonderful details and continue to operate with minimal problems. We now know that Mars at one time held considerable reserves of water and that active water-based processes played a part in the planet's development. These rovers have transformed our view of Mars from a distant planet to a familiar place. Further out at Saturn, the Cassini-Huygens probe passed through Saturn's rings and successfully entered orbit and has now released the Huygens probe on the way to Titan. Discoveries have been pouring in. New moons are being discovered almost weekly. The detailed pictures of the rings and their attendant moons means astronomers can now start to model some of the dynamic processes in the ring structures. This mission is planned to continue for several years and the results can only get better. Towards the end of the year the Genesis probe rather spectacularly returned to Earth samples of the solar wind. Despite the crash landing, useful samples are being recovered. Finally the Messenger probe was launched toward the planet, Mercury.

General meetings this year have featured a number of invited speakers to complement the various astronomical events occurring through the year. Topics included "Volcanism in the Solar System", "Data mining the 2Df photographic survey", "The proposed square kilometre Radio Telescope", "The Cassini-Huygens Mission" and the "Search for Extra-Solar Planets". Of course our member speakers also contributed with David Girling's "The Classics", Ian Sullivan "The Transit of Venus" and "Stone Observatories of India" and my own contribution on "The Earth's Upper Atmosphere". Outreach activities continue to be successful. The first Friday public viewing nights have attracted good crowds even during poor weather. This year we replaced our old slide shows with multimedia shows. This allows us to tailor our presentations to give up-to-date pictures and information. Richard Pollard has been generating suitable presentations and these have gone down very well. There have been eleven school viewing nights this year and all have been popular. Public and school viewing nights are a major component of our outreach activities and I would like to thank those members who have contributed their time and effort to making these a success.

Special events remain a major part of our activities. We have continued Telescope Learning Days and Astronomy Classes where members can learn both the practical and theoretical parts of the hobby. One special event this year was "The Ken Bryant Telescope Day" commemorating the contributions of past member Ken Bryant. Solar Day presented some of the daytime astronomical activities. Social events were a bit down this year but we did manage to get in a Dava Dinner and a bowling night. Over the Easter weekend a small contingent of members travelled to the NACAA conference in Hobart and presented several papers. Finally one significant event this year was our contribution to the National Science Week. We mounted a major display in Melbourne at the Centre for Innovation in addition to several public viewing nights. This contribution earned us considerable recognition as a activity community organization.

From a society viewpoint, there have been a number of significant changes. We started the year by changing the society name from the Astronomical Society of Frankston, Inc to the Morningson Peninsula Astronomical Society, Inc. It was felt that a more regionally associated name would be beneficial and so after 34 years as the ASF we changed to the MPAS. Nearly all the work entailed in this name change has now been completed.

After a review of the society finances it was evident that fixed running costs were exceeding our subscription income and we were becoming significantly reliant upon money-making activities. Committee agreed that our financial policy should be based upon the principle of controlling fixed costs and ensuring our subscriptions were capable of keeping the society viable. Any developmental monies should be generated by other revenue producing means. Unfortunately this policy adjustment required a change in the subscription rates. Increasing subscriptions was a big move for us and generated a lot of active committee discussion. Members agreed at the February general meeting to change the subscription structure to a base \$50 per annum structure. This was our first subscription rate change in several decades. While it is still too early to tell, it appears the changed subscriptions has not significantly affected our membership numbers and our financial cash flows are still balanced at year's end.

Committee decided our capital reserves were such that we could start the next stage in the Briars development plan, namely building the "All Weather Facility" (AWF) or as it has become known, Don's Shed. The AWF will greatly increase our storage facilities and release the existing shed on the lower observing platform by providing storage for the 18" scope until we can build an appropriate observatory. The AWF will also provide shelter for members and observers during cold weather. It is further expected to expand the observation platforms so more telescopes can be accommodated during viewing events. Overall our 35<sup>th</sup> orbit has been a busy, enjoyable and productive year and I hope has set us on a path for bigger and brighter things in the future. I would like to thank the outgoing committee and especially all our volunteers who have attended the various viewing nights and events. Without their efforts the society just could not function. The weather this year has been a bit of a strain on our volunteers but I know kinder skies are just around the corner. I wish everyone has a pleasant Christmas and New Year and hope to see you on our 36<sup>th</sup> orbit.

Peter Lowe

## School and Public Nights

The public viewing night at The Briars on 5<sup>th</sup> November was cancelled due to atrocious weather.

The public evening on 3<sup>rd</sup> December at The Briars was attended by 25. The multimedia presentations were inspiringly hosted by Richard Pollard and Peter Lowe. Soupy cloud provided very ordinary viewing of only the brightest of stars and 47 Tucanae after the talk. Helping in the field were Bruce Tregaskis, John Cleverdon, Bob Heale, Greg Walton, Peter Skilton and a regular visitor (and hopefully soon member) with an impressive computer-aided instrument.

## Astronomy 2005

It's that time of year again when the excellent annual Australian publication, **Astronomy 2005**, is being published. The book shows what's in the night sky throughout 2005, and is aimed at all levels of amateur astronomer, from newcomer to expert.

RRP is \$22 to the public, though society members can get it at the discounted rate of \$20.

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

These sky almanacs will be available at any society gathering.

Hurry.

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

## Mornington Peninsula Shire Community Grant Scheme 2004/05

Recently, Peter Skilton, on behalf of the MPAS, applied for the Mornington Peninsula Shire Community Grant Scheme – 2004/05, under the project name of 'Reaching for the Skies'.

The MPAS was successful in the application and has been allocated an amount of money to purchase a laptop computer, which will be dedicated to presentations at public and school viewing nights, as well as green laser pointers which will allow astronomical objects to be pointed out in the night sky.

Over recent years such grants have made up a large portion of the MPAS's annual income and have helped provide the necessary equipment for better public and school presentations as well as the overall continuing success of the society.

Let's hope for more success in the future.

## Committee Elections

Have you considered joining the society committee?

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

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

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

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

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

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

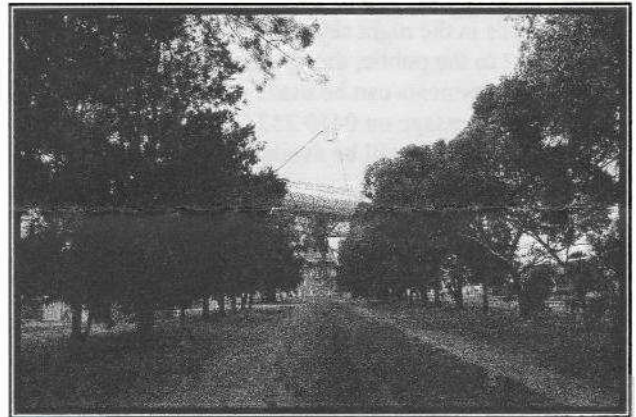
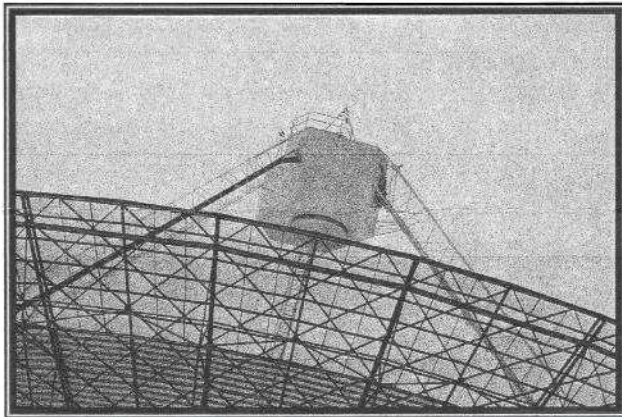
## Visit to the 'Dish'

For those who have not visited **The Dish**, it is approx. 25km north of Parkes on the Newell Hwy. situated 6km in on a turnoff from the highway. From the car park there is a short walk to an impressive visitors centre, also a walk across the car park takes you to the famous Avenue leading to the dish.

The visitor's centre is very well set up with a lot of interesting scientific information as well as instructive items for children of all ages. There are two theatres which give extremely interesting videos on call. One runs the Swinbourne 3D video for children the other one runs a very good 20 min. show for those who want the facts.

At the back of the centre there is an open area in front of the telescope, unfortunately I had not made prior arrangements to tour the Dish itself and had to make do with views from the outside. To the left of the open area is a pleasant café for those who want a beverage or a bite to eat. Items for sale include a good selection of books and magazines, a lot of astronomical information and of course the usual children's nick-knacks.

The 'Dish' gets a wide range of visitor's, one comment I overheard while I was there was "Would it be possible to look through the telescope" this person was politely put straight by a staff member.



I would certainly recommend a visit to the 'Dish' if you are in the area or making a round trip to Sydney or further north.

### Some facts of the telescope:-

Diameter of dish	-	64m	Collecting area of dish	-	3,216m <sup>2</sup>
Focal length	-	27.4m	Weight of dish	-	300 tonnes
Maximum tilt	-	60 <sup>o</sup>	Pointing accuracy	-	11 arcseconds rms in wind
Dish surface accuracy	-	1-2mm difference from best fit parabola			
Max. wind speed	-	35km/hr (it automatically swings to the zenith)			

### Some of the Discoveries made by 'The Dish'

One of the first pulsars and most of the known 1400 pulsars now known

In 1962 discovered the first Quasar (Quasi Stellar Object)

Found the magnetic field for our galaxy

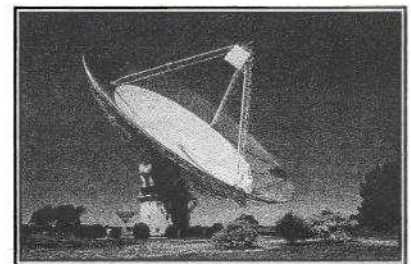
Has found many thousand faint and obscured galaxies.

The telescope has also tracked a lot of NASA's probes including Mariner 2 in 1962,

It shared the 2003/4 Mars missions and none of us will forget the Apollo 11 pictures (those of us who were around then).

It also connects to the Australia Telescope Compact Array at Narrabri and the Mopra radio telescope at Coonabarabran to increase its definition for distant objects.

One interesting fact is that the energy received by the Dish in a year would light a 10Watt globe for 0.000001 seconds, so is the distance of our Universe



Roger Chandler

## Bruce Tregaskis and Nova Puppis 2004 = V574 Pup

Nova Puppis 2004 was discovered independently by two observers in Japan. Akihiko Tago, at Tsuyama, Oka yama-ken, photographed it at mag. 7.6 on two T-Max 400 films taken with a Pentax 67 camera on Nov. 20.672 UT, and Yukio Sakurai, at Mito, Ibaragi-ken, took two CCD frames on Nov. 20.812 UT on a Fuji "Fine Pix S2" camera with a Nikon 180 mm f/2.8 lens, with the nova at mag. 7.4.

The nova, later given the designation V574 Puppis, is at a 2000.0 position of 07h 41m 53.6s, -27deg 06' 38". Charts showing the nova, together with comparison stars have been made available on the web.

Since the discovery, I have made 22 visual observations of the nova, from 25 November until 31 December, through my 6" reflector, and I will continue making magnitude estimates until it fades below the limit of the telescope. Over this period, the magnitude of the nova has varied from 8.0 to 10.4, with almost daily fluctuations.

Bruce Tregaskis

# Astro News

## Armageddon – well not yet . .

Until recently, asteroid 2004 MN4 had been given a small chance of colliding with the Earth on 13<sup>th</sup> April 2029. Discovered on June 19<sup>th</sup> 2004, the 400m object had been given a 1 in 300 chance of impacting with the Earth. This corresponds to a 4 out of 10 on the Torino (Impact Hazard) Scale, a scale used to assess Earth-Asteroid close approaches.



(Marty Rudd)

### 4 on the Torino Scale

A close encounter, meriting attention by astronomers. Current calculations give a 1% or greater chance of collision capable of regional devastation. Most likely, new telescopic observations will lead to re-assignment to Level 0. Attention by public and by public officials is merited if the encounter is less than a decade away.

More recent observations and the successful search for pre-discovery observations of 2004 MN4 have extended the observed time interval from six months to nine months, allowing for better orbital calculations to be made. These new calculations now rule out an Earth impact on April 13 2029.

As is often the case, the possibility of future Earth impacts for some near-Earth objects cannot be entirely ruled out until the uncertainties associated with their trajectories are reduced as a result of either future position observations, or in this case, unrecognized, pre-discovery observations. When these additional observations were used to update the orbit of 2004 MN4, the uncertainties associated with this object's future positions in space were reduced to such an extent that none of the object's possible trajectories can impact the Earth (or Moon) in 2029.

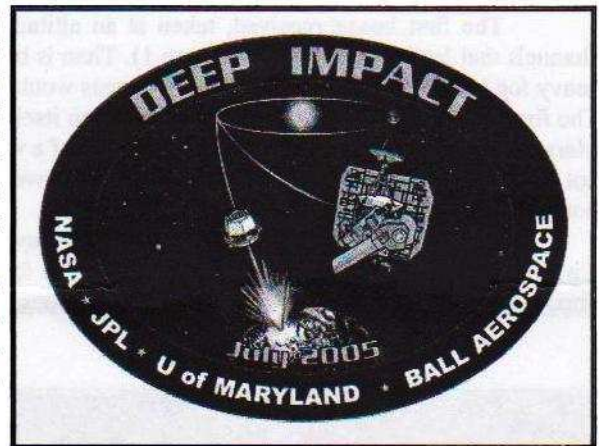
In the accompanying diagram, the most likely position of asteroid 2004 MN4 is shown at the end of the line near the Earth on 13 April 2029. However, since the asteroid's position in space is not perfectly known at that time, the thick line at right angles to the asteroid's line are possible alternate positions of the asteroid. Neither the nominal position of the asteroid, nor any of its possible alternative positions, touches the Earth, indicating that an Earth impact in 2029 is ruled out.

## Deep Impact on July 4<sup>th</sup>

On July 4<sup>th</sup>, NASA scientists get to smash a space probe into a comet at 37,000 km/h, and if all goes well it will be the first spacecraft to touch the surface of a comet. The spacecraft, called Deep Impact, will be launched on January 12<sup>th</sup>, and will travel 431,000,000km before it intersects with Comet Tempel 1, just beyond the orbit of Mars. When it arrives at its destination, Deep Impact will release the "Impactor", a probe consisting mainly of a 144kg solid copper disc, which will manoeuvre itself into the comet's path for impact. A camera on "Impactor" will photograph the comet almost to the point of impact. Cameras on Deep Impact will, at a safe distance of 500 km, image the collision and resulting eruption.

Deep Impact will then analyse the ice and dust ejected from the impact site. Ground based observations will also be made. Scientists currently know little about comets, their core and nuclei. Data from the mission will give scientists an idea of the composition, density, porosity and surface and sub-surface structure of the comet.

(Marty Rudd)



## Quake may have made the Earth wobble

Scientists believe that the devastating earthquake that caused the tsunami and so much destruction recently, may have also permanently accelerated the Earth's rotation, resulting in days to be shorter by a fraction of a second as well also causing the planet to wobble on its axis.

Richard Goss, a geophysicist with NASA's Jet Propulsion Laboratory, has theorised that when one of the tectonic plates beneath the Indian Ocean was forced under the other, the effect was to make the Earth more compact and so spin slightly faster. The shift of mass towards the Earth's centre may have resulted in the planet spinning three microseconds faster and to tilt about an inch on its axis but the predicted changes are too tiny to be detected by global positioning satellites which routinely measure changes in the Earth's spin.

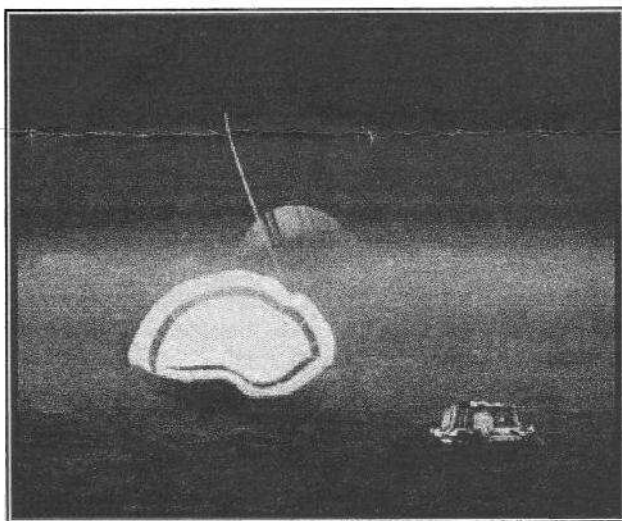
## Three largest stars discovered

Astronomers have found three red supergiant stars which are huge; bigger than anything previously discovered. The three stars are called KW Sagittarii (9,800 light-years away), V354 Cephei (9,000 light-years away), and KY Cygni (5,200 light-years away). Even though each of these stars has only 25 times the mass of our sun, each one is 1,500 times bigger. With diameters of more than a billion miles across, they would extend out midway between Jupiter and Saturn if they were in our Solar System.

They were discovered during a study of 74 red supergiants in the Milky Way. The study yielded the most accurate temperatures yet found for this type of object. The temperatures of the coolest red supergiants are about 3450 Kelvins, or about 10 percent warmer than previously thought. Combined with modern estimates of the distances of these stars, the group was able to determine the stellar sizes as well.

This research is significant in finally reconciling theory and observation for these stars. Red supergiants, massive stars nearing the ends of their lifetimes, are extremely cool and luminous – and very large.

## Huygens space probe touches down on Titan



Some time after midday on 14<sup>th</sup> January, after a seven year journey, the European Space Agency's Huygens probe landed on the surface of Titan, Jupiter's largest moon.

Titan, believed to be the only moon in the solar system with an atmosphere, is larger than Mercury and Pluto. One of the main reasons for sending Huygens to Titan is that its nitrogen atmosphere, rich in methane, and its surface may contain many chemicals and chemical processes that resemble the processes that gave rise to life on Earth four billion years ago.

Titan's atmosphere is mostly nitrogen, like Earth's, but its surface temperatures of about minus 180 degrees Celsius make it inhospitable to life.

In late December, the Saturn explorer Cassini released Huygens for a three-week journey toward Titan, culminating in the probe's two and a half hour parachute-slowed plunge to the moon's surface. Defying expectations of a quick death, Huygens continued to transmit for at least two hours after it had landed.

At the time of printing 'Scorpius', Huygens had successfully landed on Titan and the first few raw images sent back from the probe had just been received.

The first image received, taken at an altitude of 16kms with a resolution of 40m per pixel, shows short drainage channels that lead to a shore line (Figure 1). Titan is believed to have liquid methane and ethane on its surface, but the moon's heavy fog blanket made it unclear what Huygens would encounter when it reached its landing site.

The first image received from the surface of Titan itself (Figure 2) might as well have been sent by one of the rovers from Mars as the similarities are uncanny, with a view of a wide open plain strewn with rocky objects. "We think probably they're not silicate rocks," said Marty Tomasko, principal investigator for one of the descent instruments, "They may well be large ice boulders."

Combined with the Cassini observations, Huygens will afford an unprecedented view of Saturn's mysterious moon.

Up to date information and the latest pictures can be found on the following web site :

<http://www.esa.int/SPECIALS/Cassini-Huygens/index.html>

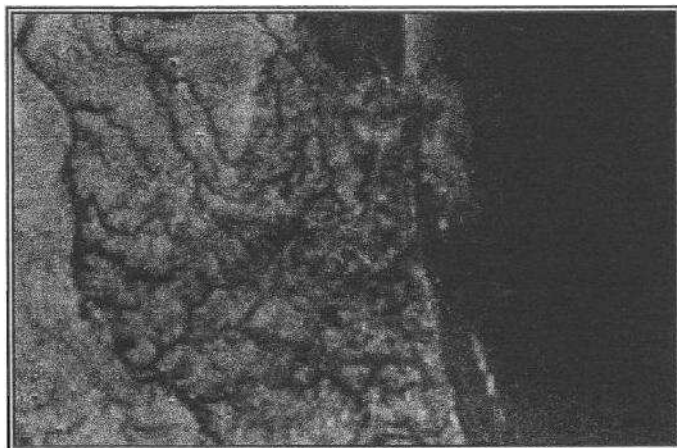


Figure 1

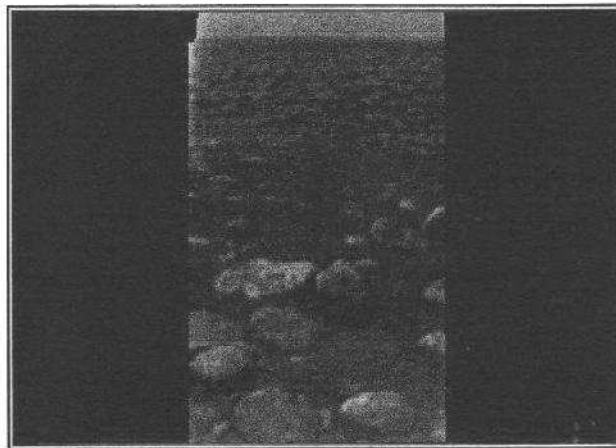


Figure 2

## Spirit rover completes a year on Mars

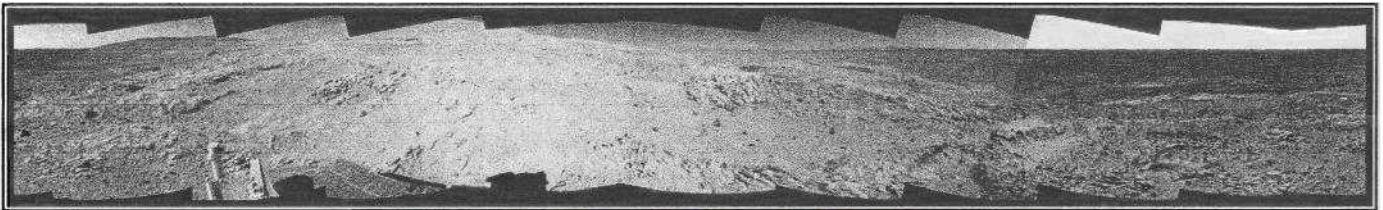
Spirit landed on Mars on January 3<sup>rd</sup>, 2004 and its sister rover Opportunity landed on January 24<sup>th</sup>, 2004. The rovers were hopefully going to complete their three month missions in April 2004 and maybe last a little longer if all went well. The rovers continue to astound their designers and engineers at how well they continue to operate. Their unanticipated longevity has allowed both rovers to reach and explore additional destinations and to continue making discoveries.

At present, Spirit is exploring and analysing a new kind of rock on Columbia Hills in the Gusev Crater, whilst, on the other side of Mars, Opportunity is examining its own heat shield, which protected it during its descent through the Martian atmosphere. By studying the shield, NASA engineers hope to improve their capabilities of delivering robots to Mars in the future.

The next mission to Mars, the Mars Reconnaissance Orbiter, is due for launch in August. Mars launch opportunities come every two years and NASA intends to go to Mars at every one of them in the foreseeable future.



Opportunity's heat shield

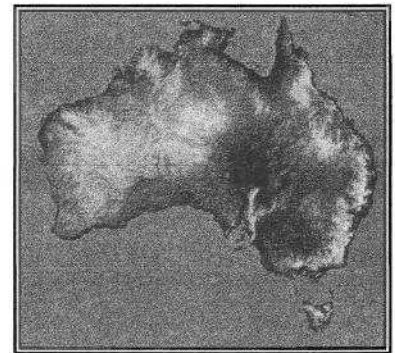


Spirit's Surroundings on 'West Spur' of the Columbia Hills

## Topography Mission Wraps Up With Australia

After four years of data crunching, NASA and the National Geospatial-Intelligence Agency have completed a comprehensive topographical map of 80% of the Earth's surface. Australia, New Zealand and the South Pacific were the final areas released to the public this week. Many of the smaller islands have never been properly mapped because of their remoteness, often being obscured by persistent clouds. It's these smaller islands which are at great risk to weather and long-term sea level rise, so being able to predict where water levels will go will be very helpful to mitigating future disasters like the Asian Tsunami.

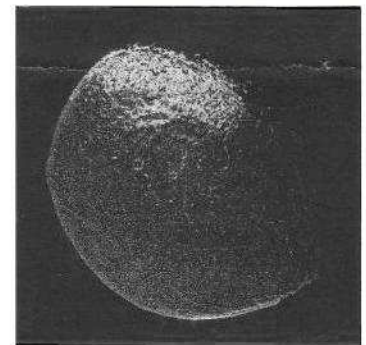
To view a selection of new images from the Shuttle Radar Topography Mission's latest data set on the Internet, visit <http://photojournal.jpl.nasa.gov/mission/SRTM>.



## Iapetus - a divided moon

Saturn's moon Iapetus was always considered unusual, because of its strange two-toned appearance; one hemisphere is dark, while the other is bright. But new images from Cassini show an even more unusual mystery: it has a seam. It's 20 km (12 miles) high and runs 1,300 km (808 miles) directly around Iapetus' equator. In some places, this ridge is so high it rivals Olympus Mons, which is unusual for an object which is 1/5th the mass of Mars. Researcher will have to wait until September 2007 for Cassini's next pass, when it will provide pictures 100x better resolution.

With a diameter of about 1,400 kilometers (890 miles), Iapetus is Saturn's third largest moon. It was discovered by Jean-Dominique Cassini in 1672. It was Cassini, for whom the Cassini-Huygens mission is named, who correctly deduced that one side of Iapetus was dark, while the other was white.



contrast enhanced to aid visibility of surface features.

Cassini took this image of Rhea, one of Saturn's moons, which shows the bright rays from a relatively fresh crater on its eastern limb. This image was taken on November 10, 2004, when the spacecraft was 3.6 million km (2.2 million miles) away from Rhea. Cassini will make a much closer approach to the moon on November 25, 2005.

This view is centered on the side of Rhea that faces away from Saturn as the moon orbits. The image was taken in visible light with the Cassini spacecraft narrow angle camera on Nov. 10, 2004, at a distance of 3.6 million kilometers (2.2 million miles) from Rhea and at a Sun-Rhea-spacecraft, or phase, angle of 86 degrees. North is up. The image scale is 21 kilometers (13 miles) per pixel. The image has been magnified by a factor of two and

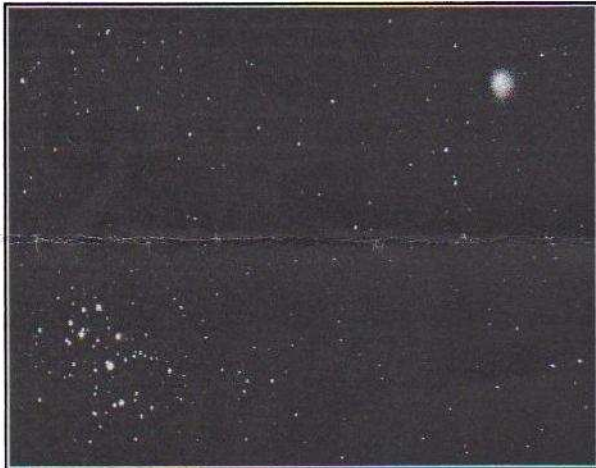
# Skywatchers Events

## January

10 <sup>th</sup>	New Moon
14 <sup>th</sup>	Huygens probe lands on Titan
17 <sup>th</sup>	First quarter Moon
24 <sup>th</sup>	Comet C/2004 Q2 (Machholz) Perihelion (1.203 AU)
25 <sup>th</sup>	Full Moon

## February

2 <sup>nd</sup>	Last quarter Moon
9 <sup>th</sup>	New Moon
16 <sup>th</sup>	First quarter Moon
24 <sup>th</sup>	Full Moon
27 <sup>th</sup>	Moon passes above Jupiter (closest at 10.55 pm A.E.S.T.)



Moving rapidly north during January, comet C/2004 Q2 Machholz passed close by the Pleiades on January 8-9. It will enter the constellation of Perseus and by the end of January will be at +60 declination and out of range for Australian observers.

By the middle of January, though, the comet is expected to reach a magnitude of as bright as 4.5. The comet is currently quite easy to see without any visual aids.

Finder charts can be found at the following address :

<http://encke.jpl.nasa.gov/charts.html>

Another visible comet is C/2003 K4 (Linear). During January it travels up through Pictor into Eridanus then through Fornax and back into Eridanus by February's end. During this period the comet will fade from 5.5 at the start of January to 8 magnitude by February's end.

Finder charts can be found at the following address :

<http://www.rasnz.org.nz/comets/C2003K4.htm>

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## WEB SITES

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

Parkes Radio Telescope	: <a href="http://www.parkes.atnf.csiro.au/">http://www.parkes.atnf.csiro.au/</a>
The Torino Scale	: <a href="http://neo.jpl.nasa.gov/torino_scale1.html">http://neo.jpl.nasa.gov/torino_scale1.html</a>
The Deep Impact Mission	: <a href="http://deepimpact.jpl.nasa.gov/index.html">http://deepimpact.jpl.nasa.gov/index.html</a>
Stellar Life Cycle	: <a href="http://cse.ssl.berkeley.edu/bmendez/ay10/2000/cycle/cycle.html">http://cse.ssl.berkeley.edu/bmendez/ay10/2000/cycle/cycle.html</a>
	: <a href="http://home.cwru.edu/~sjr16/stars_lifedeath.html">http://home.cwru.edu/~sjr16/stars_lifedeath.html</a>
Cassini and the Huygens Probe	: <a href="http://www.esa.int/SPECIALS/Cassini-Huygens/index.html">http://www.esa.int/SPECIALS/Cassini-Huygens/index.html</a>
	: <a href="http://saturn.jpl.nasa.gov/home/index.cfm">http://saturn.jpl.nasa.gov/home/index.cfm</a>
Mars rovers and their images	: <a href="http://marsrovers.jpl.nasa.gov/home/index.html">http://marsrovers.jpl.nasa.gov/home/index.html</a>
	: <a href="http://www.nasa.gov/vision/universe/solarsystem/mer_main.html">http://www.nasa.gov/vision/universe/solarsystem/mer_main.html</a>
Topographical map of the Earth	: <a href="http://www.jpl.nasa.gov/srtm">http://www.jpl.nasa.gov/srtm</a>

Other great web sites :

Royal Astronomical Soc. of N.Z.	: <a href="http://www.rasnz.org.nz/">http://www.rasnz.org.nz/</a>
Links for NASA TV live feeds	: Real Media <a href="http://www.nasa.gov/ram/35037main_portal.ram">http://www.nasa.gov/ram/35037main_portal.ram</a>
	: Windows Media Player <a href="http://www.nasa.gov/55644main_NASATV_Windows.asx">http://www.nasa.gov/55644main_NASATV_Windows.asx</a>

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## TIDBITS

### VASTROC 2005

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

## Office bearers

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

## Meetings

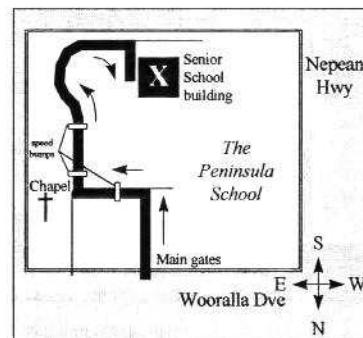
Meeting Venue: *Peninsula School*, Wooralla Drive, Mt. Eliza (Melways map 105/F5) in the Senior School at 8pm on the 3<sup>rd</sup> Wednesday of each month except December.

Phone: 0419 253 252

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

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

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



## Subscriptions

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

## Loan Equipment

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

Contact a committee member to arrange the loan of equipment.

The Society also has books and videos for loan from its library, made available during General Meetings.

## Viewing Nights

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

# Future Events

- 19<sup>th</sup> Jan, Wednesday
- Monthly General Meeting at The Peninsula School
  - Session 1 : Speaker
  - Session 2 : Video
  - Session 3 : Open forum and *Sky for the Month*
- 21<sup>st</sup> Jan, Friday
- Briars Public Viewing Night
- 22<sup>nd</sup> Jan, Saturday
- Astronomy Classes held by Ian Sullivan.
  - Library in Vancouver St, Mornington (Melways 104 D10), from 1:00-4:00 pm
  - If you wish to attend, please contact Ian at the meeting, or by phone (03) 9555 6913.
- 27<sup>th</sup> Jan, Friday
- Briars Public Viewing Night
- 4<sup>th</sup> Feb, Friday
- Briars Public Viewing Night
- 16<sup>th</sup> Feb, Wednesday
- Annual General Meeting at The Peninsula School
  - Session 1 : Speaker
  - Session 2 : Video
  - Session 3 : Open forum and *Sky for the Month*

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

## Merry Christmas an Happy New Year

And I thought weekends went by too fast. The Christmas break has come and gone for another year.

On behalf of the MPAS I hope everyone had a great Christmas and I wish everyone a wonderful and prosperous New Year.

*Marty Rudd - Editor*

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

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

} must be current financial members

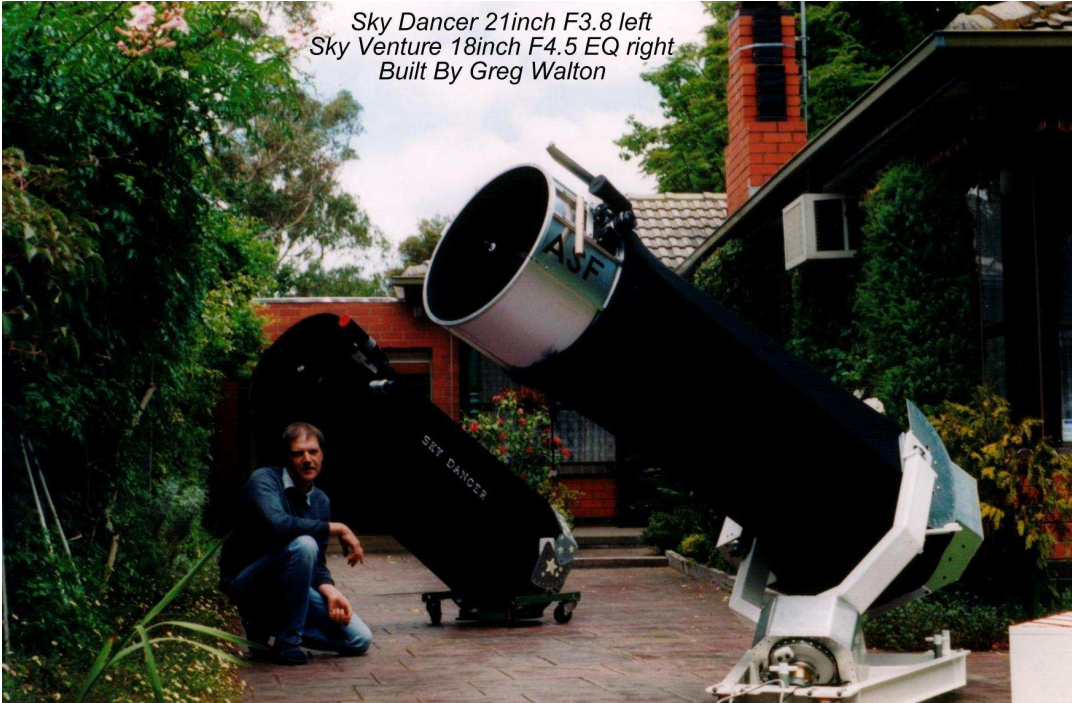
Position (tick 1 or more \*\*\*):

- Office Bearers:  President    Vice President    Treasurer    Secretary
- Ordinaries:    Public Officer      Ordinary Committee Member (5 of these)

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

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

Sky Dancer 21inch F3.8 left  
 Sky Venture 18inch F4.5 EQ right  
 Built By Greg Walton



Left - Sky Dancer & Sky Venture ready for action

Photo - By Greg Walton



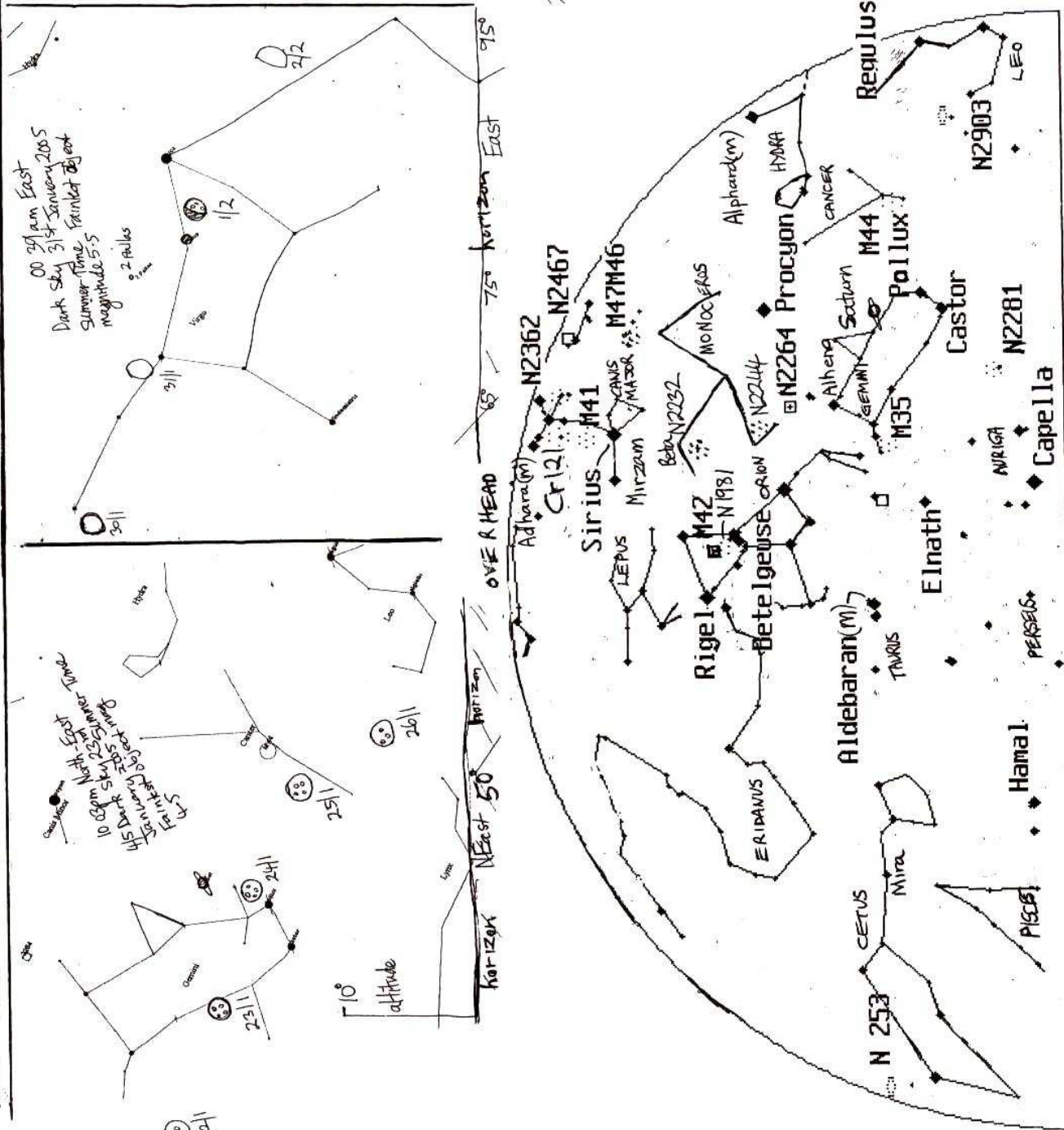
Left - Briars site a mess after excavation work for the big shed.

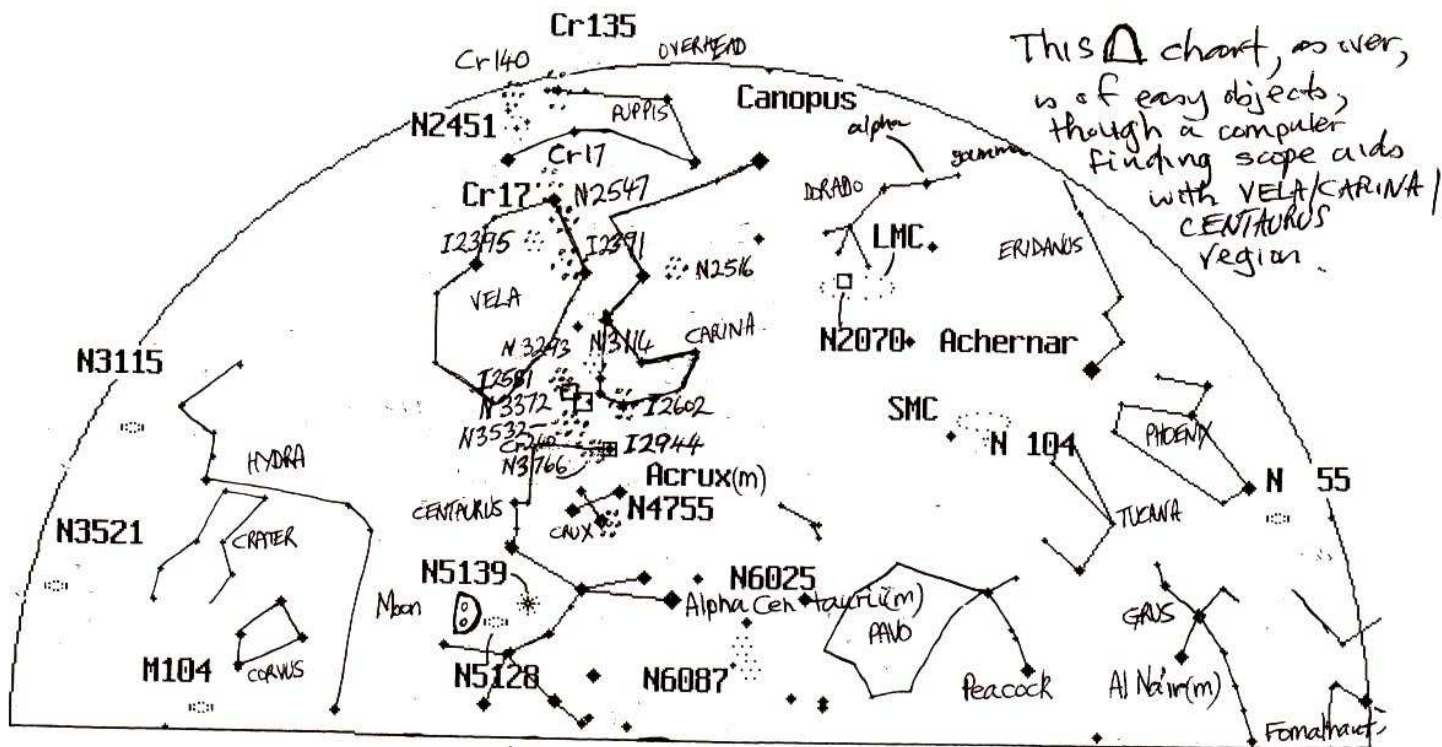
Photo - By Peter Lowe

SKY FOR THE MONTH 19th JANUARY 2005 TO 15th FEBRUARY 2005 MORNINGTON PENINSULA

All objects on chart bottom left  
 ex 54 (faintest object mag 6 stars 3-7.5 - except N253, symbol □ is a bright nebula, usually associated with an open cluster or multiple star-

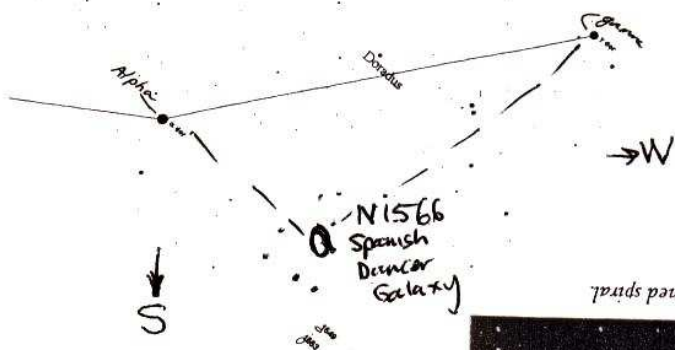
Bob Heale MPAS  
 13/1/2005





This chart, as ever, is of easy objects, though a computer finding scope aids with VELA/CARINA/CENTAURUS region.

10:45 pm 2nd February SSE Night Sky 2005 Summer Time also 19th January 2005 11:45pm, 15th February 9:45pm (not Moon) Summer Times



Spanish Dancer galaxy  
 Finder chart at left and view below (optimistically) through large binoculars - hence South is ↓ and is bright and easy, forming a right triangle with Alpha & Gamma Dorados

The Spanish Dancer galaxy is a delicate, classic two-armed spiral.



Bob Heale MPAS  
 13/1/2005